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BEFORE THE ARIZONA CORPORATION COM

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

AZ CORPORATION
DOCKET CONTROL

2012 DEC 31 PM 2 30

IN THE MATTER OF THE APPLICATION
OF RIO RICO UTILITIES, INC. FOR A
RATE INCREASE.

DOCKET NO. WS-02676A-12-0196

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

The Utilities Division ("Staff") of the Arizona Corporation Commission ("ACC") hereby files the Direct Testimony (except rate design and cost of service) of Staff witnesses Mary J. Rimback, John A. Cassidy, James R. Armstrong, and Jian W. Liu in the above-referenced matter.

RESPECTFULLY SUBMITTED this 31st day of December, 2012.

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Original and thirteen (13) copies
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31st day of December, 2012 with:

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BEFORE THE ARIZONA CORPORATION COMMISSION

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

IN THE MATTER OF THE APPLICATION OF) DOCKET NO. WS-02676A-12-0196
RIO RICO UTILITIES, INC. FOR A)
DETERMINATION OF THE FAIR VALUE)
OF ITS UTILITY PLANT AND PROPERTY)
AND FOR INCREASES IN ITS WATER AND)
WASTEWATER RATES AND CHARGES FOR)
UTILITY SERVICE THEREON.)
_____)

DIRECT
TESTIMONY
OF
MARY J. RIMBACK
PUBLIC UTILITIES ANALYST
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

DECEMBER 31, 2012

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**EXECUTIVE SUMMARY
RIO RICO UTILITIES, INC.
DOCKET NO. WS-02676A-12-0196**

Rio Rico Utilities, Inc. ("RRUI" or "Company") is a for-profit, Class B public service corporation serving potable water to approximately 6,303 customers and Wastewater service to approximately 2,037 customers in and near the community of Rio Rico, Arizona, in Santa Cruz County, Arizona.

On May 31, 2012, the Company filed a rate application with a test year ending February 29, 2012. On June 28, 2012, the Company filed an amendment to the application. On July 3, 2012, Staff issued a Letter of Sufficiency. Current rates based on a 2008 test year became effective on February 1, 2011, pursuant to Decision No. 72059 (January 6, 2011).

RATE APPLICATION:

Water Division

The Company-proposed rates, as filed, produce total operating revenue of \$3,458,917, an increase of \$604,079 (21.16 percent), over the test year revenue of \$2,854,838, to provide a \$740,072 operating income and a 9.7 percent rate of return on a proposed \$7,629,607 fair value rate base ("FVRB") which is also the proposed original cost rate base ("OCRB").

The Utilities Division ("Staff") recommends total operating revenue of \$3,199,993, an increase of \$345,155 (12.09 percent) over the Staff-adjusted test year revenue of \$2,854,838, to provide a \$643,889 operating income and an 8.4 percent return on the \$7,665,342 Staff-adjusted FVRB and OCRB.

Wastewater Division

The Company-proposed rates, as filed, produce total operating revenue of \$1,754,195, an increase of \$393,612 (28.93 percent) over the test year revenue of \$1,360,583, to provide a \$446,201 operating income and a 9.7 percent rate of return on a proposed \$4,600,012 FVRB which is its OCRB.

Staff recommends total operating revenue of \$1,535,236, an increase of \$141,635 (10.16 percent) over the Staff-adjusted test year revenue of \$1,393,601 to provide a \$394,311 operating income and an 8.4 percent return on the \$4,694,175 Staff-adjusted FVRB and OCRB.

1 **I. INTRODUCTION**

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

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

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

8 A. In my capacity as a Public Utilities Analyst, I analyze and examine accounting, financial,
9 statistical and other information and prepare reports based on my analyses that present
10 Staff’s recommendations to the Commission on utility revenue requirements, rate design
11 and other issues.

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

14 A. I graduated from Arizona State University with a Bachelor of Science in Accounting and I
15 am a Certified Public Accountant with the Arizona State Board of Accountancy. I have
16 been employed with the Arizona Corporation Commission since June 2012.

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

19 A. I am presenting Staff’s analysis and recommendations regarding Rio Rico Utilities, Inc.’s
20 (“RRUI” or “Company”) Water and Wastewater Division applications for a permanent
21 rate increase. I am presenting testimony and schedules addressing rate base, operating
22 revenues and expenses, revenue requirement and rate design (to be filed separately). Mr.
23 John Cassidy is presenting the Staff’s Analysis and recommendations for the Cost of
24 Capital analysis. Mr. James Armstrong is presenting the Staff Analysis and
25 recommendations for the proposed Sustainable Water Loss Improvement Program

1 (“SWIP”). Mr. Jian Liu is presenting Staff’s engineering analysis and related
2 recommendations.

3
4 **Q. What is the basis of your testimony in this case?**

5 A. I performed a regulatory audit of the Company’s application and records. The regulatory
6 audit consisted of examining and testing financial information, accounting records, and
7 other supporting documentation and verifying that the accounting principles applied were
8 in accordance with the Commission-adopted National Association of Regulatory Utility
9 Commissioners (“NARUC”) Uniform System of Accounts (“USOA”).

10
11 **Q. How is your testimony organized?**

12 A. My testimony is presented in eight sections. Section I is this Introduction. Section II
13 provides a background of the Company. Section III is a summary of Consumer Service
14 Issues. Section IV presents Compliance Status. Section V is a summary of the
15 Company’s Filing and Staff’s Revenue Requirement. Section VI summarizes Staff’s Rate
16 Base and Operating Income Adjustments. Section VII presents Staff’s Rate Base
17 Recommendations. Section VIII presents Staff’s Operating Income Recommendations.

18
19 **II. BACKGROUND**

20 **Q. Please review the background of this application.**

21 A. RRUI is organized under the Liberty Utilities (South) segment of Algonquin Power &
22 Utilities Corp (“APUC”). APUC is an incorporated entity under the Canada Business
23 Corporations Act. APUC’s principal activity is the ownership of power generation
24 facilities and water, gas and energy utilities, through investments in securities of
25 subsidiaries including corporations, limited partnerships and trusts which carry on these

1 businesses. The activities of the subsidiaries may be financed through equity
2 contributions, interest bearing notes and third party project debt.

3
4 APUC's power generation business unit conducts business under the name Algonquin
5 Power Co. ("APCo"). APCo owns or has interests in renewable energy facilities and
6 thermal energy facilities representing more than 450 MW of installed electrical generation
7 capacity.

8
9 APUC's Utility Services business unit conducts business under the name of Liberty
10 Utilities Co. in the United States of America ("Liberty Utilities"). In December 2005
11 RRUI became a wholly-owned subsidiary of Algonquin Water Resources of America, Inc.
12 ("AWRA"). AWRA later became known as Liberty Water, Inc. ("Liberty Water").
13 Liberty Water was a wholly-owned subsidiary of Algonquin Power Income Fund
14 ("APIF"). In October of 2009, APIF became Algonquin Power and Utilities Corp.
15 ("APUC").

16
17 As of December 31, 2011, Liberty Utilities businesses operated under two separately
18 managed regions in the United States: Liberty Utilities (South) (formerly known as
19 Liberty Water) and Liberty Utilities (West) (formerly known as Liberty Energy –
20 Calpeco).

21
22 Liberty Utilities (South) currently owns a portfolio of utilities in the United States of
23 America providing water or wastewater services in the states of Arizona, Texas, Missouri
24 and Illinois. Liberty Utilities (South) as of December 31, 2011, provided rate regulated
25 water and wastewater utility services to approximately 76,000 customers in those states.

1 The Rio Rico Facility services approximately 6,300 water and 2,036 wastewater
2 customers.

3
4 Liberty Utilities (South) Arizona Facilities include:

5 Litchfield Park Service Company

6 Gold Canyon Sewer Company

7 Black Mountain Sewer Corporation

8 Entrada Del Oro Sewer Company

9 Northern Sunrise Water Company, Inc.

10 Southern Sunrise Water Company, Inc.

11 Bella Vista Water Company

12 Rio Rico Utilities Inc.

13

14 **Rio Rico Utilities**

15 RRUI's Current Rates were established in Decision No. 72059 (January 6, 2011).
16 Decision No. 72732, issued on January 6, 2012, granted an extension of RRUI's
17 Certificate of Convenience and Necessity ("CC&N") to include the provision of water
18 service to the Windward Development in Santa Cruz County. The CC&N includes 345
19 acres comprising approximately 79 lots in Santa Cruz County. The subdivision is
20 tentatively called Palo Parado. RRUI and Windward executed a Waterline Extension
21 Agreement on December 6, 2010. The projected total cost of the Windward
22 development's plant is \$2,755,039 to be funded by the developer and a bank loan.

1 **III. CONSUMER SERVICES**

2 **Q. Please provide a brief history of customer complaints received by the Commission**
3 **regarding the Company. Additionally, please discuss customer responses to the**
4 **Company's proposed rate increase.**

5 A. A review of the Commission's Consumer Services database for the Company from
6 January 1, 2009, to November 21, 2012, revealed the following:

7
8 **2012** – Zero complaints, two inquiries (one rates, one other); and one opinion opposing
9 the rate application.

10
11 **2011** – Four complaints (three billing and one rates) and one opinion (deposits).

12
13 **2010** – Thirteen complaints (four billing, two deposits, one service, two quality of service,
14 two terminations, one rates and one other).

15
16 **2009** – Twenty-two complaints (six billing, two new service, one service, five quality of
17 service, seven disconnects and one repair).

18
19 All complaints have been resolved and closed.

20
21 **IV. COMPLIANCE**

22 **Q. Please provide a summary of the compliance status of the Company.**

23 A. A review of the Commission's Compliance database indicates that there are currently no
24 delinquencies for the Company.

25

1 **V. SUMMARY OF COMPANY FILING AND STAFF REVENUE**
2 **RECOMMENDATIONS**

3 **Q. What test year did the Company use in this filing?**

4 A. The Company's rate filing is based on the twelve months ending February 29, 2012 ("test
5 year").

6
7 **Q. Please summarize the Company's proposals for the Water Division ("Water") and**
8 **Wastewater Division ("Wastewater") in this filing.**

9 A. The Company proposes the following for each of its divisions.

10
11 *Water Division*

12 The Company-proposed rates, as filed, produce total operating revenue of \$3,458,917, an
13 increase of \$604,079, or 21.16 percent, over test year revenue of \$2,854,838 to provide a
14 \$740,072 operating income and a 9.7 percent rate of return on its proposed \$7,629,607 fair
15 value rate base ("FVRB") which is its original cost rate base ("OCRB").

16
17 *Wastewater Division*

18 The Company-proposed rates, as filed, produce total operating revenue of \$1,754,195, an
19 increase of \$393,612, or 28.93 percent, over test year revenue of \$1,360,583 to provide a
20 \$446,201 operating income and a 9.7 percent rate of return on its proposed \$4,600,012 fair
21 value rate base FVRB which is its OCRB.

22
23 **Q. Please summarize Staff's recommendations.**

24 A. Staff recommends the following for each of the Company's divisions.
25

1 *Water Division*

2 Staff recommends total operating revenue of \$3,199,993, an increase of \$345,155 (12.09
3 percent) over the Staff-adjusted test year revenue of \$2,854,838, to provide a \$643,889
4 operating income and an 8.4 percent return on the \$7,665,342 Staff-adjusted FVRB and
5 OCRB.

6
7 *Wastewater Division*

8 Staff recommends total operating revenue of \$1,535,236, an increase of \$141,635 (10.16
9 percent) over the Staff-adjusted test year revenue of \$1,393,601 to provide a \$394,311
10 operating income and an 8.4 percent return on the \$4,694,175 Staff-adjusted FVRB and
11 OCRB.

12
13 **VI. SUMMARY OF STAFF'S RATE BASE AND OPERATING INCOME**
14 **ADJUSTMENTS**

15 **Q. Please summarize the rate base adjustments addressed in your testimony.**

16 A. My testimony addresses the following issues for the water and wastewater divisions:

17
18 *Water Division*

19 Reclassification of Plant from Water to Wastewater - This adjustment decreases Water
20 plant by \$15,362 and accumulated depreciation by \$1,415 to remove Wastewater plant
21 included in Water rate base.

22
23 Removal of a portion of an office building allocated to Wastewater - This adjustment
24 decreases plant by \$121,438 and accumulated depreciation by \$337 to remove portion of
25 an office building allocated to Wastewater rate base.
26

1 Removal of 2012 Affiliate Profit - This adjustment decreases plant by \$1,708 and
2 accumulated depreciation by \$34 to remove affiliated profit recorded in 2012 included in
3 Water rate base.

4
5 Accumulated Deferred Income Taxes ("ADIT") - This adjustment decreases rate base by
6 \$16,184 to recognize adjustments in Water net plant.

7
8 Accumulated Depreciation – Fully Depreciated Plant - This adjustment increases rate base
9 by \$290,873 by removing depreciation on fully depreciated plant.

10
11 Accumulated Amortization of Contributions-In-Aid-of-Construction ("CIAC") - This
12 adjustment increases rate base by \$104,741, resulting from the application of annually
13 computed composite amortization rates to gross CIAC balance in the intervening years
14 since the test year in the prior rate case.

15
16 Affiliate Profit - Accumulated Depreciation - This adjustment removes \$2,513 of
17 accumulated depreciation recorded by RRUI on affiliate profit for the years 2009 through
18 2011.

19
20 Plant Retirement – This adjustment removes \$9,757 from plant and \$9,757 from
21 accumulated depreciation to reflect the retirement of pumping equipment.

22
23 *Wastewater Division*

24 Increase account for Nogales International Waste Water Treatment Plant ("NIWWTP") -
25 This adjustment reflects reclassification of \$153,642 from Treatment and Disposal

1 Equipment to NIWWTP, a \$15,362 transfer of plant from Water to Wastewater account
2 NIWWTP and a recalculation resulting in a \$564 decrease to accumulated depreciation.

3
4 Accumulated Depreciation - Fully Depreciated – This adjustment decreases accumulated
5 depreciation by \$3,096 to remove depreciation recorded on fully depreciated plant in
6 Other Plant and Misc. Equipment (Acct. No. 389).

7
8 Plant Retirement – This adjustment removes \$6,866 from plant and \$6,866 from
9 accumulated depreciation to reflect the retirement of pumping equipment.

10
11 ADIT - This adjustment decreases rate base by \$13,752 to recognize an adjustment in
12 Wastewater net plant.

13
14 Removal of 2012 Affiliate Profit - This adjustment decreases plant by \$415 and
15 accumulated depreciation by \$4 to remove affiliated profit recorded in 2012 included in
16 Wastewater rate base.

17
18 Affiliated Profit - Accumulated Depreciation - This adjustment removes \$846 of
19 accumulated depreciation recorded by RRUI on affiliate profit for the years 2009 through
20 2011.

21
22 Accumulated Depreciation – Fully Depreciated Plant - This adjustment increases rate base
23 by \$157,686 by removing depreciation on fully depreciated Plant.

24

1 Accumulated Amortization of CIAC - This adjustment increases rate base by \$69,228
2 resulting from application of annually computed composite amortization rates to gross
3 CIAC balance in the intervening years since the test year in the prior rate case.

4
5 **Q. Please summarize the operating revenue and expense adjustments addressed in your**
6 **testimony.**

7 A. My testimony addresses the following issues:

8
9 *Water Division*

10 Water Testing Expense – This adjustment decreases water testing expense by \$4,410 to
11 reflect the on-going average cost.

12
13 APUC Allocated Capital Taxes - This adjustment decreases allocated corporate costs by
14 \$2,557 to reflect the elimination of a non-recurring cost.

15
16 Depreciation Expense – This adjustment decreases depreciation expense by \$107,176 to
17 reflect application of Staff's recommended depreciation rates to Staff's depreciable plant
18 balances.

19
20 APUC Cost Allocation - This adjustment decreases allocated corporate costs by \$38,083
21 to reflect removal of inadequately supported costs.

22
23 Income Tax Expense – This adjustment increases test year income tax expense by \$92,330
24 to reflect application of statutory state and federal income tax rates to Staff-adjusted
25 taxable income.

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Wastewater Division

Metered Revenues - This adjustment increases metered revenues by \$33,018 to reflect annualization of Commercial 6-inch meters.

APUC Allocated Capital Taxes - This adjustment decreases allocated corporate costs by \$836 to reflect the elimination of a non-recurring cost.

Depreciation Expense – This adjustment decreases depreciation expense by \$135,855 to reflect application of Staff’s recommended depreciation rates to Staff’s depreciable plant balances.

Contractual Services Other - This adjustment reclassifies \$165,896 from Contractual Services - Other to Purchased Wastewater Treatment.

APUC Cost Allocation - This adjustment decreases allocated corporate costs by \$27,931 to reflect removal of inadequately supported costs.

Property Tax Expense - This adjustment increases test year property taxes by \$1,809 to reflect application of the modified version of the Arizona Department of Revenue’s (“ADOR”) property tax methodology which the Commission has consistently adopted.

Income Tax Expense – This adjustment increases test year income tax expense by \$100,725 to reflect application of statutory state and federal income tax rates to Staff-adjusted taxable income.

1 **VII. RATE BASE ADJUSTMENTS**

2 *Fair Value Rate Base*

3 **Q. Did the Company prepare a schedule showing the elements of Reconstruction Cost**
4 **New Rate Base?**

5 A. No, the Company did not. The Company's filing treats the OCRB the same as the FVRB
6 for both the Water and Wastewater divisions.

7
8 *Rate Base Summary – Water Division*

9 **Q. Please summarize Staff's adjustments to the Company's rate base shown in**
10 **Schedules MJR-W3 and MJR-W4.**

11 A. Staff's adjustments to the Company's rate base resulted in a net increase of \$35,738 from
12 \$7,629,604 to \$7,665,342. Staff's recommendations result from the rate base adjustments
13 described below.

14
15 *Rate Base Adjustment No. 1 – Reclassification of Net Plant to Wastewater*

16 **Q. Did the Company include Wastewater Plant in the Water Plant rate base?**

17 A. Yes. The Company erroneously recorded in Water accounts certain plant that should have
18 been recorded in Wastewater account NIWWTP, namely, Water Treatment Plants
19 (\$5,658) and Backflow Prevention Devices (\$9,704) for a total of \$15,362.

20
21 **Q. How is Staff addressing the misclassified amounts?**

22 A. Staff transferred/reclassified the amounts from Water to Wastewater along with the related
23 accumulated depreciation.

24

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

2 A. Staff recommends an aggregate reduction in Water plant in the amount of \$15,362 and in
3 the associated accumulated depreciation of \$1,415,¹ as shown in Schedule MJR-W5.

4

5 *Rate Base Adjustment No. 2 – Removal of a Portion of an Office Building Allocated to*
6 *Wastewater*

7 **Q. Did the Company include in Water rate base a portion of an office building that was**
8 **properly allocable to Wastewater plant?**

9 A. Yes. The Company allocates an office building between Water and Wastewater.
10 Although the Company calculation shows the Wastewater portion of the allocation as
11 being removed from Water, Staff's verification of the mathematical calculation revealed
12 that the Wastewater portion of the allocation was not in fact removed from Water.

13

14 **Q. What is Staff recommending regarding the portion of the Wastewater plant included**
15 **in the Company's proposed Water plant?**

16 A. Staff recommends removing the Wastewater portion of the allocated office building from
17 the Water plant.

18

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

20 A. Staff recommends the reduction of Water plant in the amount of \$121,438, and a
21 corresponding reduction in the associated accumulated depreciation of \$337, as shown in
22 Schedule MJR-W6.²

23

¹ The amount of accumulated depreciation removed from Water (\$1,514) does not equal the amount of accumulated depreciation recognized in Wastewater (\$564) due to differences in the applicable depreciation rates in the various plant accounts.

² The proposed Wastewater plant includes the appropriate allocation of the office building.

1 *Rate Base Adjustment No. 3 – Removal of 2012 Affiliate Profit Included in Rate Base*

2 **Q. Does the Company’s proposed plant include affiliate profits from transactions with**
3 **affiliates in 2012?**

4 A. Yes.

5
6 **Q. Is affiliate profit normally included in the calculation of rate base?**

7 A. No. The Company has not provided any justification to support an exception to the
8 normal ratemaking practice of disallowing affiliate profit in rate base.

9
10 **Q. What is Staff recommending regarding the affiliate profit included in plant?**

11 A. Staff recommends removing the affiliate profit.

12
13 **Q. What is Staff’s recommendation?**

14 A. Staff recommends the reduction of plant in the amount of \$1,708, and a reduction in the
15 associated accumulated depreciation of \$34, as shown in Schedule MJR-W7.

16
17 *Rate Base Adjustment No. 4 – Accumulated Deferred Income Taxes (“ADIT”)*

18 **Q. What is the Company proposing for ADIT?**

19 A. The Company is proposing an amount of \$405,395 for ADIT.

20
21 **Q. What are ADITs?**

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

1 **Q. What is the primary cause of the temporary income tax differences?**

2 A. The primary cause of the income tax difference is the straight line depreciation method
3 used for ratemaking purposes as compared to the accelerated depreciation method used for
4 federal and state income tax reporting purposes.

5
6 The NARUC USOA requires utilities to use straight line depreciation. Straight line
7 depreciation, in the early years of an asset's life, typically results in a lower depreciation
8 expense which, in turn, results in a higher income tax. Conversely, the Internal Revenue
9 Code allows companies to use accelerated depreciation. Accelerated depreciation, in the
10 early years of an asset's life, typically results in a higher depreciation expense which, in
11 turn, results in lower income taxes. In the later years of an asset's life, the relative
12 amounts of book and tax depreciation expense reverse and eventually eliminate the
13 temporary differences when the asset is fully depreciated under straight line depreciation.

14
15 **Q. Is Staff recommending the same ADIT as requested by the Company?**

16 A. No, the ADIT balance changes with adjustments to plant, accumulated depreciation,
17 AIAC and CIAC. Staff has recalculated the ADIT balance to reflect its balances for plant,
18 accumulated depreciation and CIAC.

19
20 **Q. What amount is Staff recommending for the ADIT balance?**

21 A. Staff is recommending an increase in ADIT of \$16,184, from \$405,395 to \$421,579, as
22 shown in MJR-W8.

23

1 *Rate Base Adjustment No. 5 – Accumulated Depreciation – Fully Depreciated Plant*

2 **Q. Does the Accumulated Depreciation balance proposed by the Company for Water**
3 **include depreciation on plant that was fully depreciated?**

4 A. Yes. The Company provided Staff with schedules showing the additions, adjustments,
5 and retirements for the intervening years since the last rate case (i.e. from December 31,
6 2008 through February 29, 2012). Those schedules show recognition of depreciation
7 expense after the balance in accumulated depreciation equals the plant balance. Thus, the
8 Company's accumulated depreciation balance includes depreciation on fully depreciated
9 plant. Recognition of depreciation expense should not continue on plant that is fully
10 depreciated. The Company's recognition of depreciation expense on fully depreciated
11 plant results in an overstatement of accumulated depreciation.

12
13 **Q. Did Staff calculate Accumulated Depreciation eliminating any depreciation on fully**
14 **depreciated plant?**

15 A. Yes. Staff calculated accumulated depreciation beginning with the balance from the prior
16 rate case through February 29, 2012. Staff analysis shows that the Company overstated
17 accumulated depreciation by \$290,873. The excess accumulated depreciation includes
18 \$289,325 for Electric Pumping equipment account (Acct. No. 311) and \$1,548 for
19 Miscellaneous Equipment account (Acct. No. 347).

20
21 **Q. What is Staff's recommendation?**

22 A. Staff recommends a \$290,873 decrease to accumulated depreciation, from \$2,869,270 to
23 \$2,578,397, as shown in MJR W-9.

24

1 *Rate Base Adjustment No. 6 – Accumulated Amortization of CIAC*

2 **Q. How did the Company calculate its Accumulated Amortization of CIAC balance?**

3 A. The Company amortized CIAC annually based on a computation of the ratio of
4 depreciation expense to depreciable plant. Since, the Company overstated its depreciation
5 expense by recognizing depreciation on fully depreciated plant, as discussed above, its
6 CIAC amortization rate, and therefore its accumulated amortization of CIAC, is also
7 overstated.

8
9 **Q. Did Staff calculate Accumulated Amortization of CIAC using a corrected
10 amortization rate?**

11 A. Yes. Staff calculated accumulated amortization of CIAC beginning with the balance from
12 the prior rate case through February 29, 2012. Staff analysis shows that the Company
13 overstated accumulated amortization of CIAC by \$104,741.

14
15 **Q. What is Staff's recommendation?**

16 A. Staff recommends a \$104,741 decrease to accumulated amortization of CIAC, from
17 \$8,797,261 to \$8,692,520, as shown in MJR W-10.

18
19 *Rate Base Adjustment No. 7 – Accumulated Depreciation - Affiliate Profit 2009-11*

20 **Q. Did the Company include in its application an adjustment to remove the
21 accumulated depreciation associated with the plant it removed in a pro forma
22 adjustment (shown in Schedule B-2, Page 3.5) to remove capitalized affiliate profit?**

23 A. No. While the Company's application included an adjustment to remove affiliate profit
24 recorded in the two months of 2012 that are included in the test year, it did not remove the
25 accumulated depreciation associated with the capitalized affiliate profit recorded for the
26 years 2009 through 2011.

1 **Q. Did Staff calculate the amount for the accumulated depreciation on capitalized**
2 **affiliate profit for the years 2009 through 2011?**

3 A. Yes. Staff calculated \$2,513 for the accumulated depreciation on capitalized affiliate
4 profit recorded for the years 2009 through 2011. This represents an overstatement of
5 accumulated depreciation.

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

8 A. Staff recommends a \$2,513 decrease to accumulated depreciation, as shown in MJR W-
9 11.

10
11 *Rate Base Adjustment No. 8 – Plant Retirement*

12 **Q. Do the Company's proposed plant and accumulated depreciation balances properly**
13 **reflect all retirements of plant?**

14 A. No. In response to RUCO data request 11.3, the Company noted that it had not recorded
15 the retirement of \$9,757 from Electric Pumping Equipment (Acct. No. 311).

16
17 **Q. What adjustments are appropriate to recognize this retirement?**

18 A. The balances in Electric Pumping Equipment and Accumulated Depreciation should both
19 be decreased by the original cost of the retired plant.

20
21 **Q. What is Staff's recommendation?**

22 A. Staff recommends a \$9,757 decrease to Electric Pumping Equipment (Acct. No. 311) and
23 a \$9,757 decrease to accumulated depreciation, as shown in MJR W-12.

24

1 *Rate Base Summary – Wastewater Division*

2 **Q. Please summarize Staff's adjustments to the Company's rate base shown in**
3 **Schedules MJR-WW3 and MJR-WW4.**

4 A. Staff's adjustments to the Company's rate base resulted in a net increase of \$94,163 from
5 \$4,600,012 to \$4,694,175.

6
7 *Rate Base Adjustment No. 1 – Reclassification of Plant*

8 **Q. Does the Company's application propose to segregate the NIWWTP from other**
9 **amounts in Treatment and Disposal Equipment (Acct. No. 380)? If so, why is Staff**
10 **recommending this adjustment?**

11 A. Yes. Schedule B-2, Page 3 of the Company's application shows a reclassification of
12 amounts primarily from Treatment and Disposal Equipment (Acct. No. 380) to the
13 Nogales WWTP, i.e., NIWWTP. The purpose of the reclassification is to accommodate
14 the Company's proposal to depreciate the NIWWTP at 4.0 percent and to depreciate other
15 amounts in Acct. No. 380 at 5.0 percent, as shown in Schedule B-2, Page 3.2 of the
16 application.

17
18 **Q. Does the Company's proposed reclassification of amounts to the NIWWTP include**
19 **all capital costs related to it?**

20 A. No. Staff identified \$153,642 of additional costs in Treatment and Disposal Equipment
21 (Acct. No. 380) that pertain to the NIWWTP. Staff recommends consistent treatment of
22 all the NIWWTP costs.

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

25 A. Staff recommends reclassifying \$153,642 from Treatment and Disposal Equipment and an
26 additional \$15,362 transferred/reclassified from Water (see Water Rate Base Adjustment

1 No. 1) for a total of \$169,004 to NIWWTP and adjusting associated accumulated
2 depreciation, as shown in Schedule MJR-WW5.

3
4 *Rate Base Adjustment No. 2 – Accumulated Depreciation – Account No. 389*

5 **Q. Did Staff identify anything unusual regarding the Company’s proposed accumulated**
6 **depreciation balance for Other Sewer Plant and Equipment (Acct. No. 389)?**

7 A. Yes. Schedule B-2, Page 3.5 of the Company’s application shows that the \$68,869
8 balance in accumulated depreciation for this account exceeds the \$64,928 plant balance by
9 \$3,941. Staff rate base adjustment no. 6 reduces the accumulated depreciation balance for
10 this account by \$845 to \$68,024 or \$3,096 greater than the plant balance for Acct. No.
11 389. The accumulated depreciation should not exceed the plant balance.

12
13 **Q. What is Staff’s recommendation?**

14 A. Staff recommends decreasing accumulated depreciation by the amount of \$3,096, as
15 shown in Schedule MJR-WW6.

16
17 *Rate Base Adjustment No. 3 – Plant Retirement*

18 **Q. Do the Company’s proposed plant and accumulated depreciation balances properly**
19 **reflect all retirements of plant?**

20 A. No. In response to RUCO data request 11.3, the Company noted that it had not recorded
21 the retirement of \$6,866 from Pumping Equipment (Acct. No. 371).

22
23 **Q. What adjustments are appropriate to recognize this retirement?**

24 A. The balances in Pumping Equipment and Accumulated Depreciation should both be
25 decreased by the original cost of the retired plant.
26

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

2 A. Staff recommends a \$6,866 decrease to Pumping Equipment (Acct. No. 371) and a \$6,866
3 decrease to accumulated depreciation, as shown in MJR WW-7.

4

5 *Rate Base Adjustment No. 4 – Accumulated Deferred Income Taxes*

6 **Q. What is the Company proposing for ADIT?**

7 A. The Company is proposing an amount of \$244,419 for ADIT.

8

9 **Q. Is staff recommending the same ADIT as requested by the Company?**

10 A. No, the ADIT balance changes with adjustments to plant, accumulated depreciation,
11 AIAC and CIAC. Staff has recalculated the ADIT balance to reflect its balances for plant,
12 accumulated depreciation and CIAC.

13

14 **Q. What amount is staff recommending for the ADIT balance?**

15 A. Staff is recommending an increase in ADIT of \$13,752 to reflect its balances for plant,
16 accumulated depreciation and CIAC, as shown in MJR-WW8.

17

18 *Rate Base Adjustment No. 5 – Remove 2012 Affiliate Profit Included in Rate Base*

19 **Q. Does the Company's proposed plant include affiliate profits from transactions with
20 affiliates in 2012?**

21 A. Yes.

22

23 **Q. Is affiliate profit normally included in the calculation of rate base?**

24 A. No. The Company has not provided any justification to support an exception to the
25 normal ratemaking practice of disallowing affiliate profit in rate base.

26

1 **Q. What is Staff recommending regarding the affiliate profit included in plant?**

2 A. Staff recommends removing the affiliate profit.

3
4 **Q. What is Staff's recommendation?**

5 A. Staff recommends the reduction of plant in the amount of \$415, and a reduction in the
6 associated accumulated depreciation of \$4, as shown in Schedule MJR-WW9.

7
8 *Rate Base Adjustment No. 6 – Accumulated Depreciation - Affiliate Profit 2009-11*

9 **Q. Did the Company include in its application an adjustment to remove the
10 accumulated depreciation associated with the plant it removed in a pro forma
11 adjustment (shown in Schedule B-2, Page 3.5) to remove capitalized affiliate profit?**

12 A. No. While the Company's application included an adjustment to remove affiliate profit
13 recorded in the two months of 2012 that are included in the test year, it did not remove the
14 accumulated depreciation associated with the capitalized affiliate profit recorded for the
15 years 2009 through 2011.

16
17 **Q. Did the Company also remove accumulated depreciation on capitalized affiliate
18 profit for the years 2009 through 2011?**

19 A. No. The Company did not remove the accumulated depreciation on capitalized affiliate
20 profit recorded for the years 2009 through 2011.

21
22 **Q. Did Staff calculate the amount for the accumulated depreciation on capitalized
23 affiliate profit for the years 2009 through 2011?**

24 A. Yes. Staff calculated \$846 for the accumulated depreciation on capitalized affiliate profit
25 recorded for the years 2009 through 2011. This represents an overstatement of
26 accumulated depreciation.

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

2 A. Staff recommends an \$846 decrease to accumulated depreciation, as shown in MJR WW-
3 10.

4
5 *Rate Base Adjustment No. 7 – Accumulated Depreciation – Fully Depreciated Plant*

6 **Q. Does the Accumulated Depreciation balance proposed by the Company for**
7 **Wastewater include depreciation on plant that was fully depreciated?**

8 A. Yes. The Company provided Staff with schedules showing the additions, adjustments,
9 and retirements for the intervening years since the last rate case (i.e. from December 31,
10 2008 through February 29, 2012). Those schedules show recognition of depreciation
11 expense after the balance in accumulated depreciation equals the plant balance. Thus, the
12 Company's accumulated depreciation balance includes depreciation on fully depreciated
13 plant. Recognition of depreciation expense should not continue on plant that is fully
14 depreciated. The Company's recognition of depreciation expense on fully depreciated
15 plant results in an overstatement of accumulated depreciation.

16
17 **Q. Did Staff calculate Accumulated Depreciation eliminating any depreciation on fully**
18 **depreciated plant?**

19 A. Yes. Staff calculated accumulated depreciation beginning with the balance from the prior
20 rate case through February 29, 2012. Staff's analysis shows that the Company overstated
21 accumulated depreciation by \$157,686. The excess accumulated depreciation is in
22 Pumping Equipment (Acct. No. 371).

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

25 A. Staff recommends a \$157,686 decrease to accumulated depreciation, from \$1,687,580 to
26 \$1,529,894, as shown in MJR WW-11.

1 *Rate Base Adjustment No. 8 – Accumulated Amortization of CIAC*

2 **Q. How did the Company calculate its Accumulated Amortization of CIAC balance?**

3 A. The Company amortized CIAC annually based on a computation of the ratio of
4 depreciation expense to depreciable plant. Since, as discussed above, the Company
5 overstated its depreciation expense by recognizing depreciation on fully depreciated plant,
6 its CIAC amortization rate, and therefore its accumulated amortization of CIAC, is also
7 overstated.

8
9 **Q. Did Staff calculate Accumulated Amortization of CIAC using a corrected
10 amortization rate?**

11 A. Yes. Staff calculated accumulated amortization of CIAC beginning with the balance from
12 the prior rate case through February 29, 2012. Staff's analysis shows that the Company
13 overstated accumulated amortization of CIAC by \$69,228.

14
15 **Q. What is Staff's recommendation?**

16 A. Staff recommends a \$69,228 decrease to accumulated amortization of CIAC, from
17 \$2,509,975 to \$2,440,747, as shown in MJR WW-12.

18
19 **VIII. OPERATING INCOME ADJUSTMENTS**

20 *Operating Income Summary – Water Division*

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

23 A. As shown in Schedules MJR-W13 and MJR-W14, Staff's analysis resulted in test year
24 revenues of \$2,854,838, expenses of \$2,419,010 and operating income of \$435,828.

25

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

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

3 A. The Company proposed \$ 28,231.

4
5 **Q. What adjustment did Staff make?**

6 A. Staff adjusted the water testing expense downward by \$4,410, from \$28,231 to \$23,821, to
7 reflect the on-going average cost.

8
9 **Q. What is Staff's recommendation?**

10 A. Staff recommends decreasing water testing expense by \$4,410, as shown in Schedule
11 MJR-W15.

12
13 *Operating Income Adjustment No. 2 – APUC Allocated Capital Taxes*

14 **Q. Did the Company include capital taxes in Management Services – Corporate as an
15 allocation from APUC?**

16 A. Yes.

17
18 **Q. Are the Capital Taxes an on-going expense?**

19 A. No. In response to RUCO data request 6.2, the Company noted that since the test year the
20 capital tax, a Canadian provincial tax, has been eliminated and that the portions allocated
21 to Water and Wastewater can be removed.

22
23 **Q. What is Staff recommendation?**

24 A. Staff recommends decreasing Management Services – Corporate by \$2,557 to remove
25 capital taxes, as shown in Schedule MJR W-16.

26

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

2 **Q. How did Staff calculate depreciation expense?**

3 A. Staff recomputed depreciation expense on a going-forward basis by applying Staff's
4 recommended depreciation rates by account to Staff's recommended plant-in-service
5 balances and reducing that result by the amortization of contributions-in-aid-of-
6 construction ("CIAC"), as shown in Schedule MJR-W17.

7
8 **Q. Did Staff's calculation for depreciation expense agree with the Company's proposed
9 depreciation expense?**

10 A. No. Since Staff's plant values differ from the Company's plant values, Staff's
11 depreciation is different.

12
13 **Q. What is Staff's recommendation?**

14 A. Staff recommends reducing depreciation expense by \$107,176, as shown in Schedule
15 MJR-W17.

16
17 *Operating Income Adjustment No. 4 – APUC Cost Allocation*

18 **Q. Did the Company provide adequate support for the \$133,975 of APUC cost allocation
19 proposed in its application?**

20 A. No. The Company provided detail for approximately \$5.1 (Canadian Dollars) in APUC
21 costs from which the Company attributed certain costs to APUC, resulting in an APUC
22 cost pool of \$4,408,412. The Company allocated the APUC cost pool to APCO
23 (\$2,658,416), Liberty Energy (\$656,205) and Liberty South (\$1,093,791). Then, using a
24 conversion factor of 1.05 Canadian Dollars to 1.00 U.S. Dollars, the Company calculated
25 a Liberty (South) allocation amount of \$1,041,705 of which \$95,892 was allocated to
26 Water. Removing \$2,557 pertaining to non-recurring capital taxes (see operating

1 adjustment no. 2 above) results in \$93,335 of APUC cost allocations for which the
2 Company has provided support to Staff.

3
4 The Company asserts that it has provided support to Staff for the \$412,723 it recorded for
5 the test year, as shown in Schedule C-1 of the application, to which it has made
6 adjustment nos. 11 and 12 resulting in the \$133,975 amount requested for recovery and
7 that the allocated amounts (the amount Staff recognizes as having been supported) are a
8 subset of total claimed APUC cost. However, the Company has not separately identified
9 the items of cost that represent the difference between the total requested APUC cost
10 allocation (\$133,975) and the amount Staff recognizes as having been supported
11 (\$93,335). The NARUC USOA states:

12
13 Each utility shall keep its books of account, and all other books, records, and
14 memoranda with support the entries in such books of accounts so as to be
15 able to furnish readily full information as to any item included in any
16 account. Each entry shall be supported by such detailed information as will
17 permit a ready identification, analysis, and verification of all facts relevant
18 thereto.³

19
20 The same standard that applies to recorded amounts is appropriately applicable to pro
21 forma adjustments proposed by the Company. Although the Company has support for its
22 recorded amount, some of those costs are not recoverable, and the Company's inability to
23 segregate the items it is requesting to recover from those it is not requesting to recover
24 renders the ability to review the requested items impossible. Despite multiple Staff data
25 requests and discussions with Company personnel, the Company has yet to provide Staff
26 with adequate support for the Company's full request.

27

³ National Association of Regulatory Utility Commissioners, *Uniform System of Accounts for Class A Water Utilities*,
1996, page 14,

1 **Q. What time period was covered by the pool of costs?**

2 A. The costs in the pool are from the twelve-month period December 1, 2010, through
3 November 30, 2011, i.e., the costs are offset by two months from the test year. Staff does
4 not take exception with the two-month variance from the test year since overhead
5 expenses from APUC are unlikely to have changed significantly in that short period.

6
7 **Q. What does Staff recommend?**

8 A. Staff recommends a reduction in the proposed APUC Allocated Corporate cost by
9 \$38,083, as shown in MJR W-18.

10

11 *Operating Income - Test Year Property Tax Expense – No Adjustment*

12 **Q. What method has the Commission typically adopted to determine property tax
13 expense for ratemaking purposes for Class C and above water utilities?**

14 A. The Commission's practice in recent years has been to use a modified ADOR
15 methodology for water and wastewater utilities.

16

17 **Q. Did Staff calculate property taxes using the modified ADOR method?**

18 A. Yes. As shown in Schedule MJR-W19, Staff calculated property tax expense using the
19 modified ADOR method for both test year and Staff-recommended revenues. Since the
20 modified ADOR method is revenue dependent, the property tax is different for
21 recommended revenues. Staff has included a factor for property taxes in the gross revenue
22 conversion factor that automatically adjusts the revenue requirement for changes in
23 revenue in the same way that income taxes are adjusted for changes in operating income.

24

1 **Q. What does Staff recommend for test year property tax expense?**

2 A. Staff recommends no adjustment to property tax expense for the test year, as shown in in
3 MJR-W19.

4

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

6 **Q. How did Staff calculate income tax expense for the Company?**

7 A. Staff applied the statutory state and federal income tax rates to Staff's taxable income.
8 Income tax expenses for the test year and recommended revenues are shown in Schedule
9 MJR-W2. Staff's test year income tax expense is different from the Company's due to
10 differences in taxable income resulting from differences in operating expenses and
11 synchronized interest.

12

13 **Q. What adjustment does Staff recommend for test year income tax expense for the
14 Company?**

15 A. Staff recommends increasing test year income tax expense by \$92,330, as shown in
16 Schedule MJR-W20.

17

18 *Operating Income Summary – Wastewater Division*

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

21 A. As shown in Schedules MJR-WW14 and MJR-WW15, Staff's analysis resulted in test
22 year revenues of \$1,393,601, expenses of \$1,084,668 and operating income of \$308,933.

23

1 *Operating Income Adjustment No. 1 – Metered Revenues*

2 **Q. Has the Company indicated that the adjusted test year Operating Revenues of**
3 **\$1,360,583 should be revised?**

4 A. Yes. In response to RUCO data requests 4.2 and 9.1, the Company states that its total
5 adjusted test year revenues will increase by \$33,018, from \$1,360,583 to \$1,393,601. The
6 revenue revision results from an error that occurred in its records while updating those
7 records after a broken meter was replaced for its only 6-inch commercial customer. The
8 error resulted in a \$20,805 understatement of revenues generated by the billing
9 determinants and an increase in its “Revenue Accrual Fix, Adjustment No. 5 from \$41,889
10 to \$62,694. In turn, the Company’s revenue annualization increases by \$12,213, from
11 negative \$5,207 to positive \$7,006.

12
13 **Q. Does Staff agree with the Company’s revisions?**

14 A. Yes.

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

17 A. Staff recommends increasing test year by \$33,018, as shown in MJR WW-15.

18
19 *Operating Income Adjustment No. 2 – APUC Allocated Capital Taxes*

20 **Q. Did the Company include capital taxes in Contractual Services – Corporate as an**
21 **allocation from APUC?**

22 A. Yes.

23

1 **Q. Are the Capital Taxes an on-going expense?**

2 A. No. In response to RUCO data request 6.2, the Company noted that since the test year the
3 capital tax, a Canadian provincial tax, has been eliminated and that the portions allocated
4 to Water and Wastewater can be removed.

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

7 A. Staff recommends decreasing Contractual Services – Corporate by \$836 to remove capital
8 taxes, as shown in MJR WW-16.

9
10 *Operating Income Adjustment No. 3 -- Depreciation Expense*

11 **Q. How did Staff calculate depreciation expense?**

12 A. Staff recomputed depreciation expense on a going-forward basis by applying Staff's
13 recommended depreciation rates by account to Staff's recommended plant-in-service
14 balances and reducing that result by the amortization of contributions-in-aid-of-
15 construction ("CIAC"), as shown in Schedule MJR-WW17.

16
17 **Q. Did Staff's calculation for depreciation expense agree with the Company's proposed
18 depreciation expense?**

19 A. No. Since Staff's plant values differ from the Company's plant values, Staff's
20 depreciation is different.

21
22 **Q. What is Staff's recommendation?**

23 A. Staff recommends reducing depreciation expense by \$135,855, as shown in MJR WW-17.
24

1 *Operating Income Adjustment No. 4 – Reclassification of Expenses*

2 **Q. Did Staff's review reveal any expenses that were recorded in incorrect expense**
3 **accounts?**

4 A. Yes, the Company recorded \$165,896 of costs incurred for wastewater treatment by the
5 City of Nogales in the account Contractual Services - Other. The amount is more
6 appropriately recorded in the account Purchased Wastewater Treatment.⁴

7
8 **Q. What does Staff recommend?**

9 A. Staff recommends reclassifying \$165,896 from Contractual Services - Other to Purchased
10 Wastewater Treatment, as shown in MJR WW-18.

11
12 *Operating Income Adjustment No. 5 – APUC Cost Allocation*

13 **Q. Did the Company provide adequate support for the \$59,292 of APUC cost allocation**
14 **proposed in its application?**

15 A. No. The Company provided detail for approximately \$5.1 (Canadian Dollars) in APUC
16 costs from which the Company attributed certain cost to APUC resulting in an APUC cost
17 pool of \$4,408,412. The Company allocated the APUC cost pool to APCO (\$2,658,416),
18 Liberty Energy (\$656,205) and Liberty South (\$1,093,791). Then, using a conversion
19 factor of 1.05 Canadian Dollars to 1.00 U.S. Dollars, the Company calculated a Liberty
20 (South) allocation amount of \$1,041,705 of which \$59,292 was allocated to Wastewater.
21 Removing \$836 pertaining to non-recurring capital taxes (See operating adjustment no. 2
22 above) results in \$58,456 of APUC cost allocations for which the Company has provided
23 support to Staff.

24

⁴ According to the Company's responses to RUCO data requests 2.7 and 2.8, it is in agreement with this reclassification.

1 The Company asserts that it has provided support to Staff for the \$191,738 it recorded for
2 the test year, as shown in Schedule C-1 of the application, to which it has made
3 Adjustment Nos. 11 and 12 resulting in the \$59,292 amount requested for recovery and
4 that the allocated amounts (the amount Staff recognizes as having been supported) are a
5 subset of total claimed APUC cost. However, the Company has not separately identified
6 the items of cost that represent the difference between the total requested APUC cost
7 allocation (\$59,292) and the amount Staff recognizes as having been supported (\$30,525).

8 The NARUC USOA states:

9
10 Each utility shall keep its books of account, and all other books, records, and
11 memoranda with support the entries in such books of accounts so as to be
12 able to furnish readily full information as to any item included in any
13 account. Each entry shall be supported by such detailed information as will
14 permit a ready identification, analysis, and verification of all facts relevant
15 thereto.⁵

16
17 The same standard that applies to recorded amounts is appropriately applicable to pro
18 forma adjustments proposed by the Company. Although the Company has support for its
19 recorded amount, some of those costs are not recoverable, and the Company's inability to
20 segregate the items it is requesting to recover from those it is not requesting to recover
21 renders the ability to review the requested items impossible. Despite multiple Staff data
22 requests and discussions with Company personnel, the Company has yet to provide Staff
23 with adequate support for the Company's full request.

24
25 **Q. What time period was covered by the pool of costs?**

26 A. The costs in the pool are from the twelve-month period December 1, 2010, through
27 November 30, 2011, i.e., the costs are offset by two months from the test year. Staff does

⁵ National Association of Regulatory Utility Commissioners, *Uniform System of Accounts for Class A Water Utilities*, 1996, page 14,

1 not take exception with the two-month variance from the test year since overhead
2 expenses from APUC are unlikely to have changed significantly in that short period.

3

4 **Q. What does Staff Recommend?**

5 A. Staff recommends a reduction in the proposed APUC Allocated Corporate cost by
6 \$27,931, as shown in MJR WW-19.

7

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

9 **Q. What method has the Commission typically adopted to determine property tax
10 expense for ratemaking purposes for Class C and above water utilities?**

11 A. The Commission's practice in recent years has been to use a modified ADOR
12 methodology for water and wastewater utilities.

13

14 **Q. Did Staff calculate property taxes using the modified ADOR method?**

15 A. Yes. As shown in Schedule MJR-WW20, Staff calculated property tax expense using the
16 modified ADOR method for both test year and Staff-recommended revenues. Since the
17 modified ADOR method is revenue dependent, the property tax is different for test year
18 and recommended revenues. Staff has included a factor for property taxes in the gross
19 revenue conversion factor that automatically adjusts the revenue requirement for changes
20 in revenue in the same way that income taxes are adjusted for changes in operating
21 income.

22

23 **Q. What does Staff recommend for test year property tax expense?**

24 A. Staff recommends an increase in property tax expense for the test year of \$1,809, as
25 shown in MJR-W20.

26

1 *Operating Income Adjustment No. 7 – Income Tax Expense*

2 **Q. How did Staff calculate income tax expense for the Company?**

3 A. Staff applied the statutory state and federal income tax rates to Staff's taxable income.
4 Income tax expenses for the test year and recommended revenues are shown in Schedule
5 MJR-WW2. Staff's test year income tax expense is different from the Company's due to
6 differences in taxable income resulting from differences in operating expenses and
7 synchronized interest.

8
9 **Q. What adjustment does Staff recommend for test year income tax expense for the**
10 **Company?**

11 A. Staff recommends increasing test year income tax expense by \$100,725, as shown in
12 Schedule MJR-WW21.

13
14 **Q. Does this conclude your Direct Testimony?**

15 A. Yes, it does.

Rio Rico Utilities, Inc. - Water Division
Docket No. WS-02676A-12-0196
Test Year Ended February 29, 2012

Direct Testimony of Mary J. Rimback

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REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	(A) COMPANY FAIR VALUE	(B) STAFF FAIR VALUE
1	Adjusted Rate Base	\$ 7,629,607	\$ 7,665,342
2	Adjusted Operating Income (Loss)	\$ 375,933	\$ 435,828
3	Current Rate of Return (L2 / L1)	4.93%	5.69%
4	Required Rate of Return	9.70%	8.40%
5	Required Operating Income (L4 * L1)	\$ 740,072	\$ 643,889
6	Operating Income Deficiency (L5 - L2)	\$ 364,139	\$ 208,061
7	Gross Revenue Conversion Factor	1.6589	1.6589
8	Required Revenue Increase (L7 * L6)	\$ 604,078	\$ 345,155
9	Adjusted Test Year Revenue	\$ 2,854,838	\$ 2,854,838
10	Proposed Annual Revenue	\$ 3,458,916	\$ 3,199,993
11	Required Increase in Revenue (%)	21.16%	12.09%

References:

Column (A): Company Schedule A-1

Column (B): Staff Schedules MJR-W3 and MJR-W12

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
<i>Calculation of Gross Revenue Conversion Factor:</i>					
1	Revenue	100.0000%			
2	Uncollectible Factor	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Income Tax and Property Tax Rate (Line 18)	39.7197%			
5	Subtotal (L3 - L4)	60.2803%			
6	Revenue Conversion Factor (L1 / L5)	1.658917			
<i>Calculation of Uncollectible Factor:</i>					
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 23)	38.5989%			
9	One Minus Combined Income Tax Rate (L7 - L8)	61.4011%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 * L10)	0.0000%			
<i>Calculation of Effective Tax Rate:</i>					
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L7 - L8)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 48)	34.0000%			
16	Effective Federal Income Tax Rate (L9 x L10)	31.6309%			
17	Combined Federal and State Income Tax Rate (L8 +L11)		38.5989%		
<i>Calculation of Effective Property Tax Factor</i>					
18	Unity	100.0000%			
19	Combined Federal and State Income Tax Rate (L12)	38.5989%			
20	One Minus Combined Income Tax Rate (L13-L14)	61.4011%			
21	Property Tax Factor (MJR-W17, L27)	1.8254%			
22	Effective Property Tax Factor (L15*L16)		1.1208%		
23	Combined Federal and State Income Tax and Property Tax Rate (L12+L17)			39.7197%	
24	Required Operating Income (Schedule MJR-W1, Line 5)	\$ 643,889			
25	Adjusted Test Year Operating Income (Loss) (MJR-W13, L40)	435,828			
26	Required Increase in Operating Income (L19 - L20)		\$ 208,061		
27	Income Taxes on Recommended Revenue (Col. [C], L52)	\$ 404,771			
28	Income Taxes on Test Year Revenue (Col. [C], L52)	273,977			
29	Required Increase in Revenue to Provide for Income Taxes (L22 - L23)		130,794		
30	Recommended Revenue Requirement (Schedule MJR-W1, Line 10)	\$ 3,199,993			
31	Uncollectible Rate	0.0000%			
32	Uncollectible Expense on Recommended Revenue (L25*L26)	\$ -			
33	Adjusted Test Year Uncollectible Expense	\$ -			
34	Required Increase in Revenue to Provide for Uncollectible Exp. (L27-L28)				
35	Property Tax with Recommended Revenue (Schedule MJR-W18, L21)	\$ 162,106			
36	Property Tax on Test Year Revenue (Schedule MJR-W18, Line 17)	155,805			
37	Increase in Property Tax Due to Increase in Revenue (L30-31)		6,300		
38	Total Required Increase in Revenue (L21 + L24 + L29 + L32)		\$ 345,155		
<i>Calculation of Income Tax:</i>					
39	Revenue (Schedule MJR-W1, Col. [B], Line 9 & Sch. MJR-W1, Col. [B] Line 10)	\$ 2,854,838	\$ 345,155	\$ 3,199,993	
40	Operating Expenses Excluding Income Taxes	\$ 2,145,033		\$ 2,151,333	
41	Synchronized Interest (L57)	\$ -		\$ -	
42	Arizona Taxable Income (L34 - L35 - L36)	\$ 709,805		\$ 1,048,660	
43	Arizona State Income Tax Rate	6.9680%		6.9680%	
44	Arizona Income Tax (L37 x L38)	\$ 49,459		\$ 73,071	
45	Federal Taxable Income (L37- L39)	\$ 660,346		\$ 975,589	
46	Federal Tax on First Income Bracket (\$1 - \$50,000) @ 15%	\$ 7,500		\$ 7,500	
47	Federal Tax on Second Income Bracket (\$51,001 - \$75,000) @ 25%	\$ 6,250		\$ 6,250	
48	Federal Tax on Third Income Bracket (\$75,001 - \$100,000) @ 34%	\$ 8,500		\$ 8,500	
49	Federal Tax on Fourth Income Bracket (\$100,001 - \$335,000) @ 39%	\$ 91,650		\$ 91,650	
50	Federal Tax on Fifth Income Bracket (\$335,001 - \$10,000,000) @ 34%	\$ 110,618		\$ 217,800	
51	Total Federal Income Tax	\$ 224,518		\$ 331,700	
52	Combined Federal and State Income Tax (L39 + L46)	\$ 273,977		\$ 404,771	
53	Applicable Federal Income Tax Rate [Col. [C], L46 - Col. [A], L46] / [Col. [C], L40 - Col. [A], L40]			34.0000%	
54	Synchronized Interest Calculation				
55	Rate Base			\$ 7,665,342	
56	Weighted Average Cost of Debt			0.00%	
57	<u>Synchronized Interest</u>			\$ -	

RATE BASE - ORIGINAL COST

LINE NO.	(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	(C) STAFF AS ADJUSTED	
1	Plant in Service	\$ 36,146,217	\$ (148,265)	\$ 35,997,952
2	Less: Accumulated Depreciation	15,784,381	(304,928)	15,479,453
3	Net Plant in Service	<u>\$ 20,361,836</u>	<u>\$ 156,664</u>	<u>\$ 20,518,500</u>
<u>LESS:</u>				
4	Contributions in Aid of Construction (CIAC)	\$ 20,179,119	\$ -	\$ 20,179,119
5	Less: Accumulated Amortization	8,797,261	(104,741)	8,692,520
6	Net CIAC	<u>11,381,858</u>	<u>104,741</u>	<u>\$ 11,486,599</u>
7	Advances in Aid of Construction (AIAC)	660,955	-	660,955
8	Customer Deposits	284,024	-	284,024
9	Deferred Income Tax Credits	405,395	16,184	421,579
<u>ADD:</u>				
10	Working Capital Allowance	-	-	-
11	Deferred Regulatory Assets	-	-	-
12	Original Cost Rate Base	<u>\$ 7,629,604</u>	<u>\$ 35,738</u>	<u>\$ 7,665,342</u>

References:

Column [A]: Company Application Schedule B-1

Column [B]: Testimony MJR

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

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	PLANT IN SERVICE	(A) COMPANY AS FILED	(B) Reclassification to Wastewater Plant	(C) ADJ #2 Alloc Bldg to Wastewater	(D) ADJ #3 2012-Attitude Profit	(E) ADJ #4 ADIT	(F) ADJ #5 Accum Deprec Fully Deprec Plant	(G) ADJ #6 Accumulated Amortization of CIAC	(H) ADJ #7 Affiliate Profit 2009-11 Accum Dep	(I) ADJ #8 Refire Plant	(J) STAFF ADJUSTED
			\$	Ref. Sch MJR-W5	Ref. Sch MJR-W6	Ref. Sch MJR-W7	Ref. Sch MJR-W8	Ref. Sch MJR-W9	Ref. Sch MJR-W10	Ref. Sch MJR-W11	Ref. Sch MJR-W12	\$
1	301.0	Organization Cost.	5,785									5,785
2	302.0	Franchise Cost	417									417
3	303.0	Land and Land Rights	44,104									44,104
4	304.0	Structures and Improvements	3,432,930		(121,438)	(35)						3,311,492
5	305.0	Collecting and Impounding Res.										
6	306.0	Lake River and Other Intakes										
7	307.0	Wells and Springs										
8	308.0	Infiltration Galleries and Tunnels	562,944			(7)						562,937
9	309.0	Supply Mains	279,157									279,157
10	310.0	Power Generation Equipment	219,360									219,360
11	311.0	Electric Pumping Equipment	3,147,011									3,136,951
12	320.1	Water Treatment Plants	369,100	(5,668)		(303)						363,432
13	320.2	Solution Chemical Feeders										
14	330.0	Distribution Reservoirs & Standpipes	759,881									759,881
15	330.1	Storage Tanks										
16	331.0	Pressure Tanks										
17	332.0	Transmission and Distribution Mains	22,339,256									22,337,893
18	333.0	Services	2,788,122			(1,363)						2,786,759
19	334.0	Meters	1,010,366									1,010,366
20	335.0	Hydrants	572,321									572,321
21	336.0	Backflow Prevention Devices	15,955									15,955
22	339.0	Other Plant and Miscellaneous Equipment	123,778	(9,704)								114,074
23	340.0	Office Furniture and Fixtures	29,265									29,265
24	340.1	Computers and Software	6,918									6,918
25	341.0	Transportation Equipment	142,188									142,188
26	342.0	Stores Equipment										
27	343.0	Tools and Work Equipment	18,203									18,203
28	344.0	Laboratory Equipment	3,061									3,061
29	345.0	Power Operated Equipment										
30	348.0	Communications Equipment	212,966									212,966
31	347.0	Miscellaneous Equipment	13,128									13,128
32	348.0	Other Tangible Plant										
33		Total Plant in Service - Actual	\$ 36,146,217	(15,362)	(121,438)	(1,708)						35,967,652
34		Post Test-Year Plant										
35		Total Plant in Service	\$ 36,146,217	(15,362)	(121,438)	(1,708)						35,967,652
36		Less: Accumulated Depreciation	15,784,381	(1,415)	(337)	(34)		(290,873)		(2,513)		13,476,453
37		Net Plant in Service	\$ 20,361,836	(13,947)	(121,101)	(1,674)		200,873		2,513		20,518,500
38		LESS:										
39		Contributions in Aid of Construction (CIAC)	\$ 20,179,119									20,179,119
40		Less: Accumulated Amortization	8,707,261						(104,741)			8,602,520
41		Net CIAC (L-42 - L-43)	11,381,858						104,741			11,486,599
42		Advances in Aid of Construction (AIAAC)	660,955									660,955
43		Customer Deposits	284,024									284,024
44		Deferred Income Taxes	405,395				16,184					421,579
45		Working Capital Allowance										
46		Deferred Regulatory Assets										
47		Original Cost Rate Base	\$ 7,629,604	(13,947)	(121,101)	(1,674)	(16,184)	290,873	(104,741)	2,513	0	7,665,342

RATE BASE ADJUSTMENT NO. 1 - RECLASSIFICATION OF NET PLANT TO WASTEWATER

LINE NO.	ACCT NO.	DESCRIPTION	[A]	[B]	[C]
			COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED (Col A + Col B)
1	320	Water Treatment Plants	\$ 369,100	\$ (5,658)	\$ 363,442
2	336	Backflow Prevention Devices	\$ 15,855	\$ (9,704)	\$ 6,151
3		Total	<u>\$ 384,955</u>	<u>\$ (15,362)</u>	<u>\$ 369,593</u>
4		Accumulated Depreciation	<u>1415</u>	<u>\$ (1,415)</u>	<u>0</u>

References:

Column [A]: Company Application Schedule B.2, Page 3.5
Column [B]: Testimony MJR
Column [C]: Column [A] + Column [B]

Accum Depreciation Adjustment for Plant Transferred to NIWWTP		2009	2010	2011	2012 Acc Dep 2 Mos.
2009	320 Water Treatment Plant 3.33% Depreciation	\$ (5,658)	\$ (94)	\$ (188)	\$ (31)
2010	336 Back Flow Prevention Devices 6.67 % Depreciation	\$ (7,210)	\$ (240)	\$ (481)	\$ (80)
2011	336 Back Flow Prevention Devices 6.67 % Depreciation	\$ (2,494)	\$	\$ (83)	\$ (28)
	Subtotal	\$ (15,362)			\$ (1,415)

RATE BASE ADJUSTMENT NO. 2 - REMOVE A PORTION OF A BUILDING ALLOCATED TO WASTEWATER

LINE NO.	ACCT NO.	DESCRIPTION	[A]	[B]	[C]
			Plant in Service Per Company	Staff Adjustment	Plant in Service Per Staff (Col A + Col B)
1	304	Structures and Improvements	\$ 3,432,930	\$ (121,438)	\$ 3,311,492
2		Accumulated Depreciation		\$ (337)	

References:

- Column [A]: Company Application Schedule B.2, Page 3.5
- Column [B]: Company Testimony
- Column [C]: Column [A] + Column [B]

304 Structures and Improvements	\$	121,438	Depreciation rate	3.33%	1 month Acc Dep	\$	337
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RATE BASE ADJUSTMENT NO. 3 - REMOVE 2012 AFFILIATE PROFIT

LINE NO.	DESCRIPTION	[A]		[B]	
		Included in Plant Service Per Company		STAFF ADJUSTMENTS	
1	304 Structures and Improvements	35	\$	(35)	
2	307 Wells and Springs	7	\$	(7)	
3	311 Electric Pumping Equipment	303	\$	(303)	
4	331 Transmission and Distribution Mains	1363	\$	(1,363)	
	Total Plant Adj	\$ 1,708	\$	(1,708)	
Accumulated Depreciation Adj 1/2 year					
		Depr Rate			
5	304 Structures and Improvements	3.33%	\$ 1	\$	(1)
6	307 Wells and Springs	3.33%		\$	-
7	311 Electric Pumping Equipment	12.50%	\$ 19	\$	(19)
8	331 Transmission and Distribution Mains	2.00%	\$ 14	\$	(14)
	Total Accum Deprec Adj	\$	34	\$	(34)

References:

Column [A]: Company Schedule B-2, Page 3.4
 Column [B]: Company Response to Staff DRs MJR 1.15 and 2.10

RATE BASE ADJUSTMENT NO. 4 - ADIT ADJUSTMENT

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	ADIT	\$ 405,395	\$ 16,184	\$ 421,579

References:

Column [A]: Company Schedule B.1, Page 1

Column [B]: Column [C] less Column [A]

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

RATE BASE ADJUSTMENT NO. 5 - Accumulated Depreciation - Fully Depreciated Plant

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Accumulated Depreciation	\$ 2,869,270	\$ (290,873)	\$ 2,578,397

References:

Column [A]: Company Schedule B-2, Page 3.5

Column [B]: Testimony MJR

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

RATE BASE ADJUSTMENT NO. 6 - ACCUMULATED AMORTIZATION OF CIAC

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	CIAC Amortization	\$ 8,797,261	\$ (104,741)	8,692,520

References:

Columns [A]: Company Schedule B-2, Page 5.1

Column [B]: Column [C] less Column [A]

Column [C]: Testimony MJR

RATE BASE ADJUSTMENT NO. 7 - ACCUMULATED DEPRECIATION AFFILIATE PROFIT 2009-11

		[A]	[B]	[C]	[D]
LINE NO.	DESCRIPTION	Deprec Rate	Prior Rate Case	Depreciation 2009-2011 3 Years	Staff Adjustment Acc Dep
1	307 Wells & Springs	3.33%	\$ (4,372)	\$ 437	
2	311 Electric Pumping Equipment	12.50%	(170)	64	
3	331 Transmission and Distribution Mains	2.00%	(5,568)	334	
4	339 Other Plant & Misc Equip	6.67%	(8,386)	1,678	
5	Total Plant Adj		<u>\$ (18,496)</u>	<u>\$ 2,513</u>	<u>\$ (2,513)</u>

References:

- Column [A]: Company Schedule B-2, Page 3.5
- Column [B]: Company Schedule B-2, Page 3.6
- Column [A] x Column [B] x 3
- Column [D]: Testimony MJR

RATE BASE ADJUSTMENT NO. 8 - PLANT RETIREMENT

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Acct. No. 311	\$ 3,147,011	\$ (9,757)	\$ 3,137,254
2	Accumulated Depreciation	\$ 9,757	\$ (9,757)	\$ -

References:

- Column [A]: Company Schedule B-2, Page 3.5
- Column [B]: Company Reponse to RUCO DR 11.3
- Column [C]: Column [A] + Column [B]

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	<u>REVENUES:</u>					
2	Metered Water Sales	\$ 2,811,949	\$ -	\$ 2,811,949	\$ 345,155	\$ 3,157,104
3	Water Sales-Unmetered	-	-	-	-	-
4	Other Water Revenue	42,889	-	42,889	-	42,889
5	Intentionally Left Blank	-	-	-	-	-
6	Total Operating Revenues	\$ 2,854,838	\$ -	\$ 2,854,838	\$ 345,155	\$ 3,199,993
7						
8	<u>OPERATING EXPENSES:</u>					
9	Salaries and Wages	\$ 426,012	\$ -	\$ 426,012	\$ -	\$ 426,012
10	Purchased Water	-	-	-	-	-
11	Purchased Power	371,378	-	371,378	-	371,378
12	Fuel for Power Production	-	-	-	-	-
13	Chemicals	3,884	-	3,884	-	3,884
14	Materials and Supplies	27,517	-	27,517	-	27,517
15	Office Supplies and Expense	-	-	-	-	-
16	Management Services-Liberty Water	257,367	-	257,367	-	257,367
17	Management Services-Corporate	133,975	(40,640)	93,335	-	93,335
18	Management Services-Other	15,903	-	15,903	-	15,903
19	Outside Services-Accounting	167	-	167	-	167
20	Outside Services-Engineering	-	-	-	-	-
21	Outside Services - Other	14,205	-	14,205	-	14,205
22	Outside Services - Legal	4,690	-	4,690	-	4,690
23	Water Testing	28,231	(4,410)	23,821	-	23,821
24	Rents-Building	-	-	-	-	-
25	Rents-Equipment	3,208	-	3,208	-	3,208
26	Transportation Expenses	89,305	-	89,305	-	89,305
27	Insurance - General Liability	34,100	-	34,100	-	34,100
28	Insurance - Vehicle	7,733	-	7,733	-	7,733
29	Regulatory Commission Expense	-	-	-	-	-
30	Regulatory Commission Expense - Rate Case	87,500	-	87,500	-	87,500
31	Miscellaneous Expense	85,057	-	85,057	-	85,057
32	Bad Debt Expense	-	-	-	-	-
33	Depreciation Expense	551,222	(107,176)	444,046	-	444,046
34	Amortization of CIAC (incl in Dep Exp)	-	-	-	-	-
35	Taxes Other than Income	-	-	-	-	-
36	Property Taxes	155,805	0	155,805	6,300	162,106
37	Income Taxes	181,647	92,330	273,977	130,794	404,771
38	Interest on Customer Deposits	-	-	-	-	-
39	Total Operating Expenses	\$ 2,478,906	\$ (59,896)	\$ 2,419,010	\$ 137,095	\$ 2,556,104
40	Operating Income (Loss)	\$ 375,932	\$ 59,896	\$ 435,828	\$ 208,061	\$ 643,889

References:

Column (A): Company Schedule C-1
Column (B): Schedule MJR-W14
Column (C): Column (A) + Column (B)
Column (D): Schedules MJR-W1, MJR-W2 and MJR-W19
Column (E): Column (C) + Column (D)

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Water Testing Expenses ADJ #1 Ref. Sch MJR-W15	[C] APUC Allocated Capital Taxes ADJ #2 Ref. Sch MJR-W16	[D] Depreciation Expense ADJ #3 Ref. Sch MJR-W17	[E] APUC Allocated Corporate Costs ADJ #4 Ref. Sch MJR-W18	[F] Property Tax Expense No Adjustment Ref. Sch MJR-W19	[G] Income Tax Expense ADJ #5 Ref. Sch MJR-W20	[H] STAFF ADJUSTED
1	REVENUES:								
2	Metered Water Sales	\$ 2,811,949							\$ 2,811,949
3	Water Sales-Unmetered								
4	Other Water Revenue	42,889							42,889
5	Intentionally Left Blank								
6	Total Operating Revenues	\$ 2,854,838							\$ 2,854,838
7	OPERATING EXPENSES:								
8	Salaries and Wages	\$ 426,012							\$ 426,012
9	Purchased Water								
10									
11	Purchased Power	371,378							371,378
12	Fuel for Power Production								
13	Chemicals	3,884							3,884
14	Materials and Supplies	27,517							27,517
15	Office Supplies and Expense								
16	Management Services-Liberty Water	257,367							257,367
17	Management Services-Corporate	133,975							133,975
18	Management Services-Other	15,903		(2,557)					15,903
19	Outside Services-Accounting	167							167
20	Outside Services-Engineering								
21	Outside Services - Other	14,205							14,205
22	Outside Services - Legal	4,690							4,690
23	Water Testing	28,231	(4,410)						23,821
24	Rents-Building								
25	Rents-Equipment	3,208							3,208
26	Transportation Expenses	89,305							89,305
27	Insurance - General Liability	34,100							34,100
28	Insurance - Vehicle	7,733							7,733
29	Regulatory Commission Expense-Other								
30	Regulatory Commission Expense - Rate Case	87,500							87,500
31	Miscellaneous Expense	85,057							85,057
32	Bad Debt Expense								
33	Depreciation Expense	551,222			(107,176)				444,046
34	Amortization of CIAC (incl in Dep Exp)								
35	Taxes Other than Income								
36	Property Taxes	155,805							155,805
37	Income Taxes	181,647						92,330	273,977
38	Interest on Customer Deposits								
39	Total Operating Expenses	\$ 2,478,906	(4,410)	(2,557)	(107,176)	(38,083)	0	92,330	\$ 2,419,010
40	Operating Income (Loss)	\$ 375,932	4,410	2,557	107,176	38,083	(0)	(92,330)	\$ 436,828

OPERATING ADJUSTMENT NO. 1 - WATER TESTING EXPENSE

Line No.	Description	[A]	[B]	[C]
		COMPANY PROPOSED	STAFF ADJUSTMENTS	STAFF RECOMMENDED
1	Water Testing	\$ 28,231	\$ (4,410)	\$ 23,821

References:

- Column [A]: Company Schedule C-1, Page 1
- Column [B]: Testimony Staff Engineering Testimony
- Column [C]: Column [A] + Column [B]

OPERATING ADJUSTMENT NO. 2 - APUC ALLOCATED CAPITAL TAXES

Line No.	Description	[A]	[B]	[C]
		COMPANY PROPOSED	STAFF ADJUSTMENTS	STAFF RECOMMENDED
1	Management Services-Corporate	\$ 133,975	\$ (2,557)	\$ 131,418

References:

Column [A]: Company Schedule C-1, Page 1

Column [B]: MJR Testimony

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

OPERATING ADJUSTMENT NO. 3 - DEPRECIATION EXPENSE

LINE NO.	ACCT NO.	DESCRIPTION	[A]	[B]	[C]	[D]	[E]
			PLANT In SERVICE Per Staff	NonDepreciable or Fully Depreciated PLANT	DEPRECIABLE PLANT (Col A - Col B)	DEPRECIATION RATE	DEPRECIATION EXPENSE (Col C x Col D)
1	301	Organization Cost	\$ 5,785	\$ 5,785	\$ -	0.00%	\$ -
2	302	Franchise Cost	417	417	-	0.00%	-
3	303	Land and Land Rights	44,194	44,194	-	0.00%	-
4	304	Structures and Improvements	3,311,457	-	3,311,457	3.33%	110,272
5	305	Collecting and Impounding Res.	-	-	-	2.50%	-
6	306	Lake River and Other Intakes	-	-	-	2.50%	-
7	307	Wells and Springs	562,937	-	562,937	3.33%	18,746
8	308	Infiltration Galleries and Tunnels	-	-	-	6.67%	-
9	309	Supply Mains	279,157	-	279,157	2.00%	5,583
10	310	Power Generation Equipment	219,360	-	219,360	5.00%	10,968
11	311	Electric Pumping Equipment	3,136,951	1,504,181	1,632,770	12.50%	204,096
12	320	Water Treatment Equipment	363,442	-	363,442	3.33%	12,103
13	320	Water Treatment Plant	-	-	-	20.00%	-
14	330	Distribution Reservoirs & Standpipe	759,861	-	759,861	2.22%	16,869
15	330.1	Storage Tanks	-	-	-	2.22%	-
16	330.2	Pressure Tanks	-	-	-	5.00%	-
17	331	Transmission and Distribution Mains	22,337,893	-	22,337,893	2.00%	446,758
18	333	Services	2,768,122	-	2,768,122	3.33%	92,178
19	334	Meters	1,010,366	-	1,010,366	8.33%	84,163
20	335	Hydrants	572,321	-	572,321	2.00%	11,446
21	336	Backflow Prevention Devices	6,151	-	6,151	6.67%	410
22	339	Other Plant and Miscellaneous Equipment	123,778	-	123,778	6.67%	8,256
23	340	Office Furniture and Fixtures	29,265	-	29,265	6.67%	1,952
24	340.1	Computers and Software per Company C-2*	76,919	76,919	-	20.00%	-
25	341	Transportation Equipment	142,188	-	142,188	20.00%	28,438
26	342	Stores Equipment	-	-	-	4.00%	-
27	343	Tools and Work Equipment	18,203	-	18,203	5.00%	910
28	344	Laboratory Equipment Per Company C-2*	3,061	3,061	-	10.00%	-
29	345	Power Operated Equipment	-	-	-	5.00%	-
30	346	Communications Equipment	212,996	-	212,996	10.00%	21,300
31	347	Miscellaneous Equipment	13,128	-	13,128	10.00%	1,313
32	348	Other Tangible Plant	-	-	-	10.00%	-
33		Total Plant	<u>\$ 35,997,952</u>	<u>\$ 1,634,557</u>	<u>\$ 34,363,395</u>		<u>\$ 1,075,761</u>
38		CIAC = Depreciation Expense/Depreciable Plant				3.13%	
39		CIAC Balance	\$ 20,179,119				
40		Depreciation Expense Before Amortization of CIAC:	\$ 1,075,761				
41		Less Amortization of CIAC:	\$ 631,716				
42		Test Year Depreciation Expense - Staff:	\$ 444,045				
43		Depreciation Expense - Company:	\$ 551,221				
44		Staff's Total Adjustment:	\$ (107,176)				

Note:

* Indicates items that were fully depreciated per Company Schedule C-2.

References:

- Column [A]: Schedule MJR-W4
- Column [B]: Testimony MJR From Column [A]
- Column [C]: Column [A] - Column [B]
- Column [D]: Staff Engineering Testimony
- Column [E]: Column [C] x Column [D]

OPERATING ADJUSTMENT NO. 4 - APUC COST ALLOCATION

		[A]	[B]	[C]
Line No.	Description	COMPANY PROPOSED	STAFF ADJUSTMENTS	STAFF RECOMMENDED
1	Management Services-Corporate	\$ 133,975		
2	Less Adjustment No. 2 Capital Taxes	(2,557)		
3	Subtotal	<u>\$ 131,418</u>	<u>\$ (38,083)</u>	<u>\$ 93,335</u>

References:

Column [A]: Company Schedule C-1, Page 1

Column [B]: MJR Testimony

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

OPERATING INCOME - PROPERTY TAX EXPENSE - NO ADJUSTMENT

LINE NO.		[A] STAFF AS ADJUSTED	[B] STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues	\$ 2,854,838	\$ 2,854,838
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	5,709,676	\$ 5,709,676
4	Staff Recommended Revenue, Per Schedule JMM-1	2,854,838	\$ 3,199,993
5	Subtotal (Line 4 + Line 5)	8,564,514	8,909,669
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	2,854,838	\$ 2,969,890
8	Department of Revenue Multiplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	5,709,676	\$ 5,939,779
10	Plus: 10% of CWIP -	-	-
11	Less: Net Book Value of Licensed Vehicles	20,364	\$ 20,364
12	Full Cash Value (Line 9 + Line 10 - Line 11)	5,689,312	\$ 5,919,415
13	Assessment Ratio	20.0%	20.0%
14	Assessment Value (Line 12 * Line 13)	1,137,862	\$ 1,183,883
15	Composite Property Tax Rate (Per Company Schedule)	13.6927%	13.6927%
16			\$ -
17	Staff Test Year Adjusted Property Tax (Line 14 * Line 15)	\$ 155,805	
18	Company Proposed Property Tax	155,805	
19			
20	Staff Test Year Adjustment (Line 17-Line 18)	\$ 0	
21	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		\$ 162,106
22	Staff Test Year Adjusted Property Tax Expense (Line 17)		\$ 155,805
23	Increase in Property Tax Expense Due to Increase in Revenue Requirement		\$ 6,300
24			
25	Increase to Property Tax Expense		\$ 6,300
26	Increase in Revenue Requirement		345,155
27	Increase to Property Tax per Dollar Increase in Revenue (Line 25/Line 26)		1.825404%

References:

Column [A]: Company Schedule C-2, Page 3
Column [B]: Testimony MJR
Column [C]: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT NO. 5 - TEST YEAR INCOME TAXES

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY TEST YEAR	STAFF ADJUSTMENTS	STAFF RECOMMENDED
1	Income Tax Expense	\$ 181,647	\$ 92,330	\$ 273,977

References:

- Column (A): Company Schedule C-1
- Column (B): Column [C] - Column [A]
- Column (C): Schedule MJR-W2

Rio Rico Utilities, Inc. - WasteWater Division
Docket No. WS-02676A-12-0196
Test Year Ended February 29,012

Direct Testimony of Mary J. Rimback

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REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	(A) COMPANY FAIR VALUE	(B) STAFF FAIR VALUE
1	Adjusted Rate Base	\$ 4,600,012	\$ 4,694,175
2	Adjusted Operating Income (Loss)	\$ 213,826	\$ 308,933
3	Current Rate of Return (L2 / L1)	4.65%	6.58%
4	Required Rate of Return	9.70%	8.40%
5	Required Operating Income (L4 * L1)	\$ 446,201	\$ 394,311
6	Operating Income Deficiency (L5 - L2)	\$ 232,375	\$ 85,378
7	Gross Revenue Conversion Factor	1.6939	1.6589
8	Required Revenue Increase (L7 * L6)	\$ 393,612	\$ 141,635
9	Adjusted Test Year Revenue	\$ 1,360,583	\$ 1,393,601
10	Proposed Annual Revenue	\$ 1,754,195	\$ 1,535,236
11	Required Increase in Revenue (%)	28.93%	10.16%

References:

Column (A): Company Schedule A-1

Column (B): Staff Schedules MJR-WW3 and MJR-WW13

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
----------	-------------	-----	-----	-----	-----

Calculation of Gross Revenue Conversion Factor:

1	Revenue	100.0000%
2	Uncollectible Factor	0.0000%
3	Revenues (L1 - L2)	100.0000%
4	Combined Federal and State Income Tax and Property Tax Rate (Line 18)	39.7199%
5	Subtotal (L3 - L4)	60.2801%
6	Revenue Conversion Factor (L1 / L5)	1.658922

Calculation of Uncollectible Factor:

7	Unity	100.0000%
8	Combined Federal and State Tax Rate (Line 23)	38.5989%
9	One Minus Combined Income Tax Rate (L7 - L8)	61.4011%
10	Uncollectible Rate	0.0000%
11	Uncollectible Factor (L9 * L10)	0.0000%

Calculation of Effective Tax Rate:

7	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%
8	Arizona State Income Tax Rate	6.9680%
9	Federal Taxable Income (L7 - L8)	93.0320%
10	Applicable Federal Income Tax Rate (Line 48)	34.0000%
11	Effective Federal Income Tax Rate (L9 x L10)	31.6309%
12	Combined Federal and State Income Tax Rate (L8 + L11)	38.5989%

Calculation of Effective Property Tax Factor

13	Unity	100.0000%
14	Combined Federal and State Income Tax Rate (L12)	38.5989%
15	One Minus Combined Income Tax Rate (L13-L14)	61.4011%
16	Property Tax Factor (JMM-WW20, L27)	1.8257%
17	Effective Property Tax Factor (L15*L16)	1.1210%
18	Combined Federal and State Income Tax and Property Tax Rate (L12+L17)	39.7199%

19	Required Operating Income (Schedule MJR-WW1, Line 5)	\$ 394,311
20	Adjusted Test Year Operating Income (Loss) (MJR-WW14, L35)	308,933
21	Required Increase in Operating Income (L19 - L20)	\$ 85,378

22	Income Taxes on Recommended Revenue (Col. [C], L47)	\$ 247,877
23	Income Taxes on Test Year Revenue (Col. [A], L47)	194,206
24	Required Increase in Revenue to Provide for Income Taxes (L22 - L23)	53,671

25	Recommended Revenue Requirement (Schedule MJR-WW1, Line 10)	\$ 1,535,236
26	Uncollectible Rate	0.0000%
27	Uncollectible Expense on Recommended Revenue (L25*L26)	\$ -
28	Adjusted Test Year Uncollectible Expense	\$ -
29	Required Increase in Revenue to Provide for Uncollectible Exp. (L27-L28)	-

30	Property Tax with Recommended Revenue (Schedule MJR-WW20, L21)	\$ 78,914
31	Property Tax on Test Year Revenue (Schedule MJR-WW20 Line 17)	76,329
32	Increase in Property Tax Due to Increase in Revenue (L30-31)	2,586
33	Total Required Increase in Revenue (L21 + L24 + L29 + L32)	\$ 141,635

Calculation of Income Tax:

	Test Year		Staff Recommended	
34	Revenue (Schedule MJR-WW1, Col. [B], Line 9 & Sch. MJR-WW1, Col. [B] Line 10)	\$ 1,393,601	\$ 141,635	\$ 1,535,236
35	Operating Expenses Excluding Income Taxes	890,462		893,048
36	Synchronized Interest (L51)	-		-
37	Arizona Taxable Income (L34 - L35 - L36)	\$ 503,139		\$ 642,188
38	Arizona State Income Tax Rate	6.9680%		6.9680%
39	Arizona Income Tax (L37 x L38)	\$ 35,059		\$ 44,748
40	Federal Taxable Income (L37- L39)	\$ 468,080		\$ 597,440
41	Federal Tax on First Income Bracket (\$1 - \$50,000) @ 15%	7,500		7,500
42	Federal Tax on Second Income Bracket (\$51,001 - \$75,000) @ 25%	6,250		6,250
43	Federal Tax on Third Income Bracket (\$75,001 - \$100,000) @ 34%	8,500		8,500
44	Federal Tax on Fourth Income Bracket (\$100,001 - \$335,000) @ 39%	91,650		91,650
45	Federal Tax on Fifth Income Bracket (\$335,001 - \$10,000,000) @ 34%	45,247		89,230
46	Total Federal Income Tax	159,147		203,130
47	Combined Federal and State Income Tax (L39 + L46)	\$ 194,206		\$ 247,877

48 Applicable Federal Income Tax Rate [Col. [C], L46 - Col. [A], L46] / [Col. [C], L40 - Col. [A], L40] 34.0000%

Synchronized Interest Calculation

Rate Base Adjusted to date: \$ 4,694,175

RATE BASE - ORIGINAL COST

LINE NO.	(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	(C) STAFF AS ADJUSTED
1	Plant in Service	\$ 14,241,190	\$ 14,249,271
2	Less: Accumulated Depreciation	6,437,304	6,268,242
3	Net Plant in Service	<u>\$ 7,803,886</u>	<u>\$ 7,981,029</u>
<u>LESS:</u>			
4	Contributions in Aid of Construction (CIAC)	\$ 5,152,673	\$ 5,152,673
5	Less: Accumulated Amortization	2,509,975	2,440,747
6	Net CIAC	<u>2,642,698</u>	<u>\$ 2,711,926</u>
7	Advances in Aid of Construction (AIAC)	293,794	293,794
8	Customer Deposits	22,963	22,963
9	Deferred Income Tax Credits	244,419	258,171
<u>ADD:</u>			
10	Working Capital Allowance	-	-
11	Deferred Regulatory Assets	-	-
12	Original Cost Rate Base	<u>\$ 4,600,012</u>	<u>\$ 4,694,175</u>

References:

Column [A]: Company Application Schedule B-1
Column [B]: Testimony MJR
Column [C]: Column [A] + Column [B]

RATE BASE ADJUSTMENT NO. 1 - RECLASSIFICATION OF PLANT

LINE NO.	ACCT NO.	DESCRIPTION	[A]	[B]	[C]
			COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED (Col A + Col B)
1		NIWWTP	\$ 2,255,600	\$ 169,004	\$ 2,424,604
2	380	Treatment and Disposal Equipment	1,128,675	(153,642)	975,033
3		Total Increase in Plant	<u>\$ 3,384,275</u>	<u>\$ 15,362</u>	<u>\$ 3,399,637</u>

Accumulated
Depreciation
Adjustment

LINE NO.	ACCT NO.	DESCRIPTION	[A]	[B]	[C]
			COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED (Col A + Col B)
4	NIWWTP	NIWWTP From Water	\$ -	\$ 1,151	\$ 1,151
5		NIWWTP from acct 380	-	9,466	9,466
6	380	Treatment and Disposal	11,181	(11,181)	0
7		Total Increase in A/D	<u>\$ -</u>	<u>\$ (564)</u>	<u>\$ 10,617</u>

References:

Column [A]: Company Application Schedule B.2, Page 3.5

Column [B]: MJR Testimony

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

RATE BASE ADJUSTMENT NO. 2 - ACCUMULATED DEPRECIATION - ACCT. NO. 389

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Other Plant and Misc. Equipment - Acct. No. 389*	\$ 68,024	\$ (3,096)	\$ 64,928

*After removal of 2008-2012 Affiliate Profit Accum Dep

Company Schedule B-2, Page 3.5	68,869
Staff Rate Base Adjustment No. 6	845
Sub-total	<u>68,024</u>

References:

Column [A]: Company Application Schedule B.2, Page 3.5

Column [B]: Testimony MJR

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

RATE BASE ADJUSTMENT NO. 3 - PLANT RETIREMENT

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Acct. No. 371	\$ 1,712,940	\$ (6,866)	\$ 1,706,074
2	Accumulated Depreciation	\$ 6,866	\$ (6,866)	\$ -

References:

Column [A]: Company Application Schedule B.2, Page 3.5 and Response to Staff DR MJR 1.34.

Column [B]: Testimony MJR

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

RATE BASE ADJUSTMENT NO. 4 - ACCUMULATED DEFERRED INCOME TAXES

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	ADIT	\$ 244,419	\$ 13,752	258,171

References:

Column [A]: Company Schedule B.1, Page 1

Column [B]: Testimony MJR

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

RATE BASE ADJUSTMENT NO. 5 - REMOVE 2012 AFFILIATE PROFIT

		[A]	[B]
LINE NO.	DESCRIPTION	Included in Plant Service Per Company	STAFF ADJUSTMENTS
1	361 Collection Sewers - Gravity	\$ 415	<u><u>\$ (415)</u></u>
2	361 Accumulated Depreciation (1/2 year @ 2.00)		<u><u>\$ (4)</u></u>

References:

Column [A]: Company Schedule B-2, Page 3.4

Column [B]: Company Response to Staff DRs MJR 1.15 and 2.10

RATE BASE ADJUSTMENT NO. 6 - ACCUMULATED DEPRECIATION AFFILIATE PROFIT 2009-11

		[A]	[B]	[C]	[D]
LINE NO.	DESCRIPTION	Deprec Rate	Prior Rate Case	Depreciated 2009-2011 3 Years	Staff Adjustment Acc Dep
1	363 Customer Services	2.00%	\$ (16)	\$ 1	
2	389 Other Sewer and Plant	6.67%	(4,221)	845	
3	Total Plant Adj		<u>\$ (4,237)</u>	<u>\$ 846</u>	<u>\$ (846)</u>

References:

Column [A]: Company Schedule B-2, Page 3.5

Column [B]: Testimony MJR

RATE BASE ADJUSTMENT NO. 7 - ACCUMULATED DEPRECIATION - FULLY DEPRECIATED PLANT

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	ACCUMULATED DEPRECIATION	\$ 1,687,580	\$ (157,686)	\$ 1,529,894

REFERENCES:

- Column [A]: Company Schedule B-2, Page 4
- Column [B]: Column [C] less Column [A]
- Column [C]: Testimony MJR

RATE BASE ADJUSTMENT NO. 8 - ACCUMULATED AMORTIZATION OF CIAC

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	2009-2012 COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	CIAC Amortization	\$ 2,509,975	\$ (69,228)	\$ 2,440,747

REFERENCES:

Column [A]: Company Schedule B-2, Page 5.1

Column [B]: Column [C] less Column [A]

Column [C]: See testimony MJR

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	<u>REVENUES:</u>					
2	Flat Rate Revenues	\$ -	\$ -	\$ -	\$ -	\$ -
3	Measured Revenues	1,360,583	33,018	1,393,601	141,635	1,535,236
4	Other Wastewater Revenues	-	-	-	-	-
5	Intentionally Left Blank	-	-	-	-	-
6	Total Operating Revenues	<u>\$ 1,360,583</u>	<u>\$ 33,018</u>	<u>\$ 1,393,601</u>	<u>\$ 141,635</u>	<u>\$ 1,535,236</u>
7						
8	<u>OPERATING EXPENSES:</u>					
9	Salaries and Wages	\$ 131,547	\$ -	\$ 131,547	\$ -	\$ 131,547
10	Purchased Wastewater Treatment	-	165,896	165,896	-	165,896
11	Sludge Removal Expense	-	-	-	-	-
12	Purchased Power	61,290	-	61,290	-	61,290
13	Fuel for Power Production	-	-	-	-	-
14	Chemicals	4,907	-	4,907	-	4,907
15	Materials and Supplies	4,473	-	4,473	-	4,473
16	Management Services Liberty Water	83,038	-	83,038	-	83,038
17	Contractual Services - Corporate	59,292	(28,767)	30,525	-	30,525
18	Contractual Services - Other	172,270	(165,896)	6,374	-	6,374
19	Contractual Services-Engineering	-	-	-	-	-
20	Water Testing Expense	330	-	330	-	330
21	Contractual Services Other	638	-	638	-	638
22	Contractual Services-Legal	585	-	585	-	585
23	Equipment Rental	400	-	400	-	400
24	Rents-Building	-	-	-	-	-
25	Transportation Expense	18,066	-	18,066	-	18,066
26	Insurance Expense General Liability	11,302	-	11,302	-	11,302
27	Insurance expense Vehicle	2,516	-	2,516	-	2,516
28	Regulatory Expense	-	-	-	-	-
29	Regulatory Expense-Rate Case	29,167	-	29,167	-	29,167
30	Miscellaneous Expense	16,111	-	16,111	-	16,111
31	Bad Debt Expense	23,194	-	23,194	-	23,194
32	Depreciation Expense	359,629	(135,855)	223,774	-	223,774
33	Taxes Other than Income	-	-	-	-	-
29	Property Taxes	74,520	1,809	76,329	2,586	78,914
30	Income Taxes	93,481	100,725	194,206	53,671	247,877
31	Interest on Customer Deposits	-	-	-	-	-
32	Total Operating Expenses	<u>\$ 1,146,756</u>	<u>\$ (62,088)</u>	<u>\$ 1,084,668</u>	<u>\$ 56,257</u>	<u>\$ 1,140,925</u>
33	Operating Income (Loss)	<u>\$ 213,827</u>	<u>\$ 95,106</u>	<u>\$ 308,933</u>	<u>\$ 85,378</u>	<u>\$ 394,311</u>

References:

Column (A): Company Schedule C-1
Column (B): Schedule MJR-WW14
Column (C): Column (A) + Column (B)
Column (D): Schedules MJR-WW1, MJR-WW2 and MJR-WW20
Column (E): Column (C) + Column (D)

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) Metered Revenues ADJ #1 Ref. Sch MJR-WW15	(C) APUC Allocated Capital Taxes ADJ #2 Ref. Sch MJR-WW16	(D) Depreciation Expenses ADJ #3 Ref. Sch MJR-WW17	(E) Reclassification of Expenses ADJ #4 Ref. Sch MJR-WW18	(F) APUC Cost Allocation ADJ #5 Ref. Sch MJR-WW19	(G) Property Tax Expense ADJ #6 Ref. Sch MJR-WW20	(H) Income Tax Expense ADJ #7 Ref. Sch MJR-WW21	(I) STAFF ADJUSTED
1	REVENUES:									
2	Fiat Rate Revenues	\$ 1,360,583	\$ 33,018							\$ 1,393,601
3	Measured Revenues									
4	Other Wastewater Revenues									
5	Intentionally Left Blank									
6	Total Operating Revenues	\$ 1,360,583	\$ 33,018							\$ 1,393,601
7	OPERATING EXPENSES:									
8	Salaries and Wages	\$ 131,547								\$ 131,547
9	Purchased Wastewater Treatment									
10	Sludge Removal Expense					165,896				165,896
11	Purchased Power	61,290								61,290
12	Fuel for Power Production									
13	Chemicals	4,907								4,907
14	Materials and Supplies	4,473								4,473
15	Management Services Liberty Water	83,038								83,038
16	Contractual Services - Corporate	59,292								59,292
17	Contractual Services - Other	172,270	(836)				(27,931)			30,525
18	Contractual Services-Engineering					(165,896)				6,374
19	Water Testing Expense	330								330
20	Contractual Services Other	638								638
21	Contractual Services-Legal	585								585
22	Equipment Rental	400								400
23	Rentis-Building									
24	Transportation Expense	18,066								18,066
25	Insurance Expense General Liability	11,302								11,302
26	Insurance expense Vehicle	2,516								2,516
27	Regulatory Expense									
28	Regulatory Expense-Rate Case	29,167								29,167
29	Miscellaneous Expense	16,111								16,111
30	Bad Debt Expense	23,194								23,194
31	Depreciation Expense	359,629								359,629
32	Taxes Other than Income									
33	Property Taxes	74,520								74,520
34	Income Taxes	93,481								93,481
35	Interest on Customer Deposits							100,725		100,725
36	Total Operating Expenses	\$ 1,146,756	\$ (836)	\$ (135,855)	\$ (27,931)	\$ (1,809)	\$ (1,809)	\$ (100,725)	\$ (1,084,668)	\$ 308,933
37	Operating Income (Loss)	\$ 213,827	\$ 836	\$ 135,855	\$ 27,931	\$ (1,809)	\$ (1,809)	\$ (100,725)	\$ (1,084,668)	\$ 308,933

OPERATING ADJUSTMENT NO. 1 - METERED REVENUES

	[A]	[B]	[C]	
LINE NO.	Description	Test Year Submitted Company Bill Counts	RUCO 4.2 After 6" Meter Correction	STAFF ADJUSTMENTS
1	Residential 5/8 x 3/4"	\$ 1,001,239	\$ 1,001,239	
2	Residential 5/8 x 3/4" Low Income	26,948	26,948	
3	Residential 3/4"	5,182	5,182	
4	Residential 1"	7,304	7,304	
5	Residential 1" Low Income	494	494	
6	Residential 1 1/2"	-	-	
7	Residential 2"	132	132	
8	Commercial 5/8 x 3/4"	45,467	45,467	
9	Commercial 1"	54,994	54,994	
10	Commercial 1 1/2"	17,712	17,712	
11	Commercial 2"	93,658	93,658	
12	Commercial 3"	4,304	4,304	
13	Commercial 4"	89,951	89,951	
14	Commercial 6"	12,213	33,018	20,805
15	Industrial 5/8 x 3/4"			
16	Industrial 2"			
17	Multi-family 5/8 x 3/4"	4,780	4,780	
18	Multi-family 1 1/2"	1,411	1,411	
19	Bulk	-		
20	Fire Lines up to 8 Inches	-		
21	Revenue Annualization	(5,207)	7,006	12,213
22	Bill Count Revenue	\$ 1,360,582	\$ 1,393,600	\$ 33,018

References:

Column [A]: Company Schedules H-1, Pages 1 and 2

Column [B]: Testimony MJR

OPERATING ADJUSTMENT NO. 2 - APUC ALLOCATED CAPITAL TAXES

		[A]	[B]	[C]
Line No.	Description	COMPANY PROPOSED	STAFF ADJUSTMENTS	STAFF RECOMMENDED
1	Contractual Services - Corporate	\$ 59,292	\$ (836)	\$ 58,456

References:

Column [A]: Company Schedule C-1, Page 1

Column [B]: DR RUCO 6.2

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

OPERATING INCOME ADJUSTMENT NO. 3 - DEPRECIATION EXPENSE

LINE NO.	ACCT NO.	DESCRIPTION	[A]	[B]	[C]	[D]	[E]
			PLANT In SERVICE Per Staff	NonDepreciable PLANT	DEPRECIABLE PLANT (Col A - Col B)	DEPRECIATION RATE	DEPRECIATION EXPENSE (Col C x Col D)
1	351	Organization Cost	\$ 5,785	\$ 5,785	\$ -	0.00%	\$ -
2	352	Franchise Cost	417	417	-	0.00%	-
3	353	Land and Land Rights	7,545	7,545	-	0.00%	-
4	354	Structures and Improvements	150,294	-	150,294	3.33%	5,005
5	355	Power Generation Equipment	-	-	-	5.00%	-
6	360	Collection Sewers - Force	636,023	-	636,023	2.00%	12,720
7	361	Collection Sewers - Gravity	5,991,239	-	5,991,239	2.00%	119,825
8	362	Special Collecting Structures	-	-	-	2.00%	-
9	363	Services to Customers	1,204,113	-	1,204,113	2.00%	24,082
10	364	Flow Measuring Devices	66,339	-	66,339	10.00%	6,634
11	365	Flow Measuring Installations	-	-	-	10.00%	-
12	370	Receiving Wells	867,120	-	867,120	3.33%	28,875
13	371	Pumping Equipment	1,706,074	1,497,314	208,760	12.50%	26,095
14	375	Resuse T&D	-	-	-	2.50%	-
15	380	Treatment and Disposal Equipment	975,033	-	975,033	5.00%	48,752
16	381	Plant Sewers	13,690	-	13,690	5.00%	685
17	382	Outfall Sewer Lines	-	-	-	3.33%	-
18	389	Other Plant and Misc. Equipment per company C-2*	64,928	64,928	-	6.67%	-
19	390	Office Furniture and Equipment	116,937	-	116,937	6.67%	7,800
20	390	Computers & Software per company C-2*	4,025	4,025	-	20.00%	-
21	391	Transportation Equipment	117	-	117	20.00%	23
22	393	Tools, Shop and Garage Equipment per	5,139	5,139	-	5.00%	-
23	394	Laboratory Equipment	-	-	-	0.00%	-
24	396	Communication Equipment per Company C-2*	5,936	5,936	-	10.00%	-
25	398	Other Tangible Plant	3,913	3,913	-	10.00%	-
26	380	Nogales WW	2,424,604	-	2,424,604	4.00%	96,984
27		Total Plant	\$ 14,249,271	\$ 1,595,002	\$ 12,654,269		\$ 377,480
28		Ratio Depreciation Expense/Depreciable Plant		2.983%			
30		CIAC	\$ 5,152,673				
31		Depreciation Expense Before Amortization of CIAC:	\$ 377,480				
32		Less Amortization of CIAC:	\$ 153,705				
33		Test Year Depreciation Expense - Staff:	\$ 223,774				
34		Depreciation Expense - Company:	\$ 359,629				
35		Staff's Total Adjustment:	\$ (135,855)				

Note:

* Indicates items that were fully depreciated per Company Schedule C-2.

References:

- Column [A]: Schedule MJR-WW4
- Column [B]: From Column [A]
- Column [C]: Column [A] - Column [B]
- Column [D]: Staff Engineering Testimony
- Column [E]: Column [C] x Column [D]

OPERATING ADJUSTMENT NO. 4 - RECLASSIFICATION OF EXPENSES

Line No.	Description	[A]	[B]	[C]
		COMPANY PROPOSED	STAFF ADJUSTMENTS	STAFF RECOMMENDED
1	Management Services Other	\$ 172,270	(165,896)	\$ 6,374
2	Purchased Waste Water Treatment	-	165,896	165,896

References:

Column [A]: Company Schedule C-1, Page 1

Column [B]: Testimony MJR

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

OPERATING ADJUSTMENT NO. 5 - APUC COST ALLOCATION

	[A]	[B]	[C]
Line No. Description	COMPANY PROPOSED	STAFF ADJUSTMENTS	STAFF RECOMMENDED
1 Contractual Services - Corporate	\$ 58,456	\$ (27,931)	\$ 30,525

Company Proposed is after
 adjustment # 2 which removed
 Capital taxes from Allocations.

References:

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

OPERATING INCOME ADJUSTMENT NO. 6 - PROPERTY TAX EXPENSE

LINE NO.	Property Tax Calculation	[A] STAFF AS ADJUSTED	[B] STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues	\$ 1,393,601	\$ 1,393,601
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	2,787,202	\$ 2,787,202
4	Staff Recommended Revenue, Per Schedule JMM-1	1,393,601	\$ 1,535,236
5	Subtotal (Line 4 + Line 5)	4,180,803	4,322,438
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	1,393,601	\$ 1,440,813
8	Department of Revenue Multiplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	2,787,202	\$ 2,881,625
10	Plus: 10% of CWIP -	-	-
11	Less: Net Book Value of Licensed Vehicles	-	\$ -
12	Full Cash Value (Line 9 + Line 10 - Line 11)	2,787,202	\$ 2,881,625
13	Assessment Ratio	20.0%	20.0%
14	Assessment Value (Line 12 * Line 13)	557,440	\$ 576,325
15	Composite Property Tax Rate (Per Company Schedule)	13.6927%	13.6927%
16			\$ -
17	Staff Test Year Adjusted Property Tax (Line 14 * Line 15)	\$ 76,329	
18	Company Proposed Property Tax	74,520	
19			
20	Staff Test Year Adjustment (Line 17-Line 18)	\$ 1,809	
21	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		\$ 78,914
22	Staff Test Year Adjusted Property Tax Expense (Line 17)		\$ 76,329
23	Increase in Property Tax Expense Due to Increase in Revenue Requirement		\$ 2,586
24			
25	Increase to Property Tax Expense		\$ 2,586
26	Increase in Revenue Requirement		141,635
27	Increase to Property Tax per Dollar Increase in Revenue (Line 25/Line 26)		1.825693%

References:

Column [A]: Company Schedule C-2, Page 3

Column [B]: Testimony MJR

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

OPERATING INCOME ADJUSTMENT NO. 7 - TEST YEAR INCOME TAXES

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY TEST YEAR	STAFF ADJUSTMENTS	STAFF RECOMMENDED
1	Income Tax Expense	\$ 93,481	\$ 100,725	\$ 194,206

References:

Column (A), Company Schedule C-1, Page 1
 Column (B): Column [C] - Column [A]
 Column (C): Schedule MJR-WW2

BEFORE THE ARIZONA CORPORATION COMMISSION

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

IN THE MATTER OF THE APPLICATION OF) DOCKET NO. WS-02676A-12-0196
RIO RICO UTILITIES, INC., AN ARIZONA)
CORPORATION, FOR A DETERMINATION)
OF THE FAIR VALUE OF ITS UTILITY)
PLANTS AND PROPERTY AND FOR)
INCREASES IN ITS WATER AND)
WASTEWATER RATES AND CHARGES FOR)
UTILITY SERVICE BASED THEREON.)
_____)

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

DECEMBER 31, 2012

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**EXECUTIVE SUMMARY
RIO RICO UTILITIES, INC.
DOCKET NO. WS-02676A-12-0196**

The Direct Testimony of Staff witness John A. Cassidy addresses the following issues:

Capital Structure – Staff recommends that the Commission adopt a capital structure for Rio Rico Utility Company (“Company”) for this proceeding consisting of 0.0 percent debt and 100.00 percent equity.

Cost of Equity – Staff recommends that the Commission adopt an 8.4 percent return on equity (“ROE”) for the Company. Staff’s estimated ROE for the Company is based on the average of its discounted cash flow (“DCF”) method and capital asset pricing model (“CAPM”) cost of equity methodology estimates for the sample companies of 8.8 percent for the CAPM and 8.8 percent for the DCF. To this 8.8 percent preliminary figure, Staff made an upward adjustment of 60 basis points, bringing its overall cost of equity estimate to 9.4 percent. Staff then made a downward financial risk adjustment of 100 basis points to arrive at its recommended 8.4 percent cost of equity.

Cost of Debt – Staff recommends that the Commission adopt a 0.0 percent cost of debt for the Company, as Rio Rico has no debt in its capital structure.

Overall Rate of Return – Staff recommends that the Commission adopt an 8.4 percent overall rate of return.

Mr. Bourassa’s Testimony – The Commission should reject the Company’s proposed 10.7 percent ROE for the following reasons:

Mr. Bourassa’s Future Growth DCF estimates rely exclusively on analysts’ forecasts of earnings per share growth. When calculating the dividend growth (g) component, he overstates his estimate of dividend growth by imputing a higher forecasted growth rate for one sample company than is justified by his analysis. This overstatement also flows through to the dividend growth estimate in his Past and Future Growth DCF model. In both DCF models, he overstates the current dividend yield (D_0/P_0) by using a 12-month average stock price value for (P_0). Mr. Bourassa’s CAPM estimates are inflated due to use of a forecasted risk-free rate.

1 **I. INTRODUCTION**

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

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

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

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

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

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

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

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

1 **Q. Please provide a brief description of Rio Rico.**

2 A. Rio Rico is a public service corporation engaged in providing water and wastewater utility
3 services in portions of Santa Cruz County, Arizona pursuant to certificates of convenience
4 and necessity granted by the Arizona Corporation Commission. During the Test Year, Rio
5 Rico served approximately 6,303 water and 2,037 wastewater service customers.

6
7 *Summary of Testimony and Recommendations*

8 **Q. Briefly summarize how Staff's Cost of Capital Testimony is organized.**

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

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

21 A. Yes. I prepared nine schedules (JAC-1 to JAC-9) that support Staff's cost of capital
22 analysis.

23
24 **Q. What is Staff's recommended rate of return for Rio Rico?**

25 A. Staff recommends an 8.4 percent overall ROR, as shown in Schedule JAC-1. Staff's ROR
26 recommendation is based on cost of equity estimates for the sample companies of 8.8

1 percent for both the capital asset pricing method (“CAPM”) and the discounted cash flow
2 method (“DCF”). Staff recommends adoption of a 100 basis point downward financial
3 risk adjustment and a 60 basis point upward Economic Assessment Adjustment resulting
4 in an 8.4 percent overall ROR.

5
6 *Rio Rico’s Proposed Overall Rate of Return*

7 **Q. Briefly summarize Rio Rico’s proposed capital structure, cost of debt, ROE and**
8 **overall ROR for this proceeding.**

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

11
12 **Table 1**

	Weight	Cost	Weighted Cost
Long-term Debt	20.0%	5.7%	1.1%
Common Equity	80.0%	10.7%	8.6%
Cost of Capital/ROR			9.7%

13
14 Rio Rico is proposing an overall rate of return of 9.7 percent.

15
16 **II. THE WEIGHTED AVERAGE COST OF CAPITAL**

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

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

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

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

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

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

10 Equation 1.

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

13

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

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

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

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

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

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

25

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

4
5 **III. CAPITAL STRUCTURE**

6 *Background*

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

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

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

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

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

20

1

Table 2

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

2

3

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

4

5

6

Rio Rico's Capital Structure

7

Q. What capital structure does Rio Rico propose?

8

A. The Company proposes a pro forma capital structure composed of 20.0 percent debt and 80.0 percent common equity. Rio Rico's proposed capital structure reflects the hypothetical capital structure approved of in the Company's last rate case.¹

9

10

11

12

Q. How was the hypothetical capital structure used in the Company's last rate case determined?

13

14

A. At open meeting,² Rio Rico committed to file a financing application with the Commission in 2011, wherein debt equivalent to 20 percent of its capital structure would be infused into the Company by Rio Rico's parent company (Algonquin Power and Utilities Corporation), with the debt having a cost of 5.7 percent.³

15

16

17

18

¹Docket No. WS-02676A-09-0257.

² Held December 14 and 15, 2010.

³ Decision No. 72059, dated January 6, 2011.

1 **Q. Did Rio Rico follow up on its commitment to file a financing application in 2011 to**
2 **effectuate the infusion of 20 percent debt into its capital structure at a cost of 5.7**
3 **percent from its parent company?**

4 A. No. A check of Docket Control records shows that Rio Rico has not filed a financing
5 application requesting approval for the debt infusion as contemplated in the prior docket.
6

7 **Q. Does this mean that the Company's actual capital structure currently consists of 100**
8 **percent equity?**

9 A. Yes, at present, Rio Rico's actual capital structure consists of 100 percent equity.
10

11 **Q. How does Rio Rico's pro forma capital structure compare to capital structures of**
12 **publicly-traded water utilities?**

13 A. Schedule JAC-4 shows the capital structures of six publicly-traded water companies
14 ("sample water companies" or "sample water utilities") as of December 2011. The
15 average capital structure for the sample water utilities is comprised of approximately 51.6
16 percent debt and 48.4 percent equity.
17

18 *Staff's Capital Structure*

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

20 A. Staff recommends a capital structure composed of 0.0 percent debt and 100.0 percent
21 equity. Staff's recommended capital structure reflects the Company's actual capital
22 structure as of the February 29, 2012, test year end.
23

1 **Q. Does Staff consider the use of a hypothetical pro forma capital structure to be**
2 **appropriate in this proceeding?**

3 A. No. As discussed below, Staff recommends a financial risk adjustment to the ROE to
4 appropriately address Rio Rico's use of an equity-rich, uneconomical capital structure.
5 Staff's financial risk adjustment is calculated based on financial theory; therefore, it is
6 preferred over use of a subjectively derived hypothetical capital structure.

7

8 **IV. COST OF DEBT**

9 **Q. What is the basis for the Company's proposed 5.7 percent cost of debt?**

10 A. The Company's proposed 5.7 percent cost of debt is the cost of debt approved of in Rio
11 Rico's prior rate case.

12

13 **Q. Does the Company have any debt outstanding?**

14 A. No. As noted previously, Rio Rico has no outstanding debt. The Company's proposed
15 debt and 5.7 percent cost are hypothetical and based on the Commission-adopted amounts
16 in the prior rate case predicated on a commitment by Rio Rico to file a financing
17 application in 2011, requesting authorization for a debt infusion by its parent equal to 20
18 percent of its capital structure at a cost of 5.7 percent. However, Rio Rico never filed the
19 anticipated financing application, and its parent made no debt infusion. Accordingly, the
20 Company's actual capital structure presently consists of 100 percent equity.

21

22 **V. RETURN ON EQUITY**

23 *Background*

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

25 A. The cost of equity is the rate of return that investors expect to earn on their investment in a
26 business entity given its risk. In other words, the cost of equity to the entity is the

1 investors' expected rate of return on other investments of similar risk. As investors have a
2 wide selection of stocks to choose from, they will choose stocks with similar risks but
3 higher returns. Therefore, the market determines the entity's cost of equity.

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

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

10

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

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

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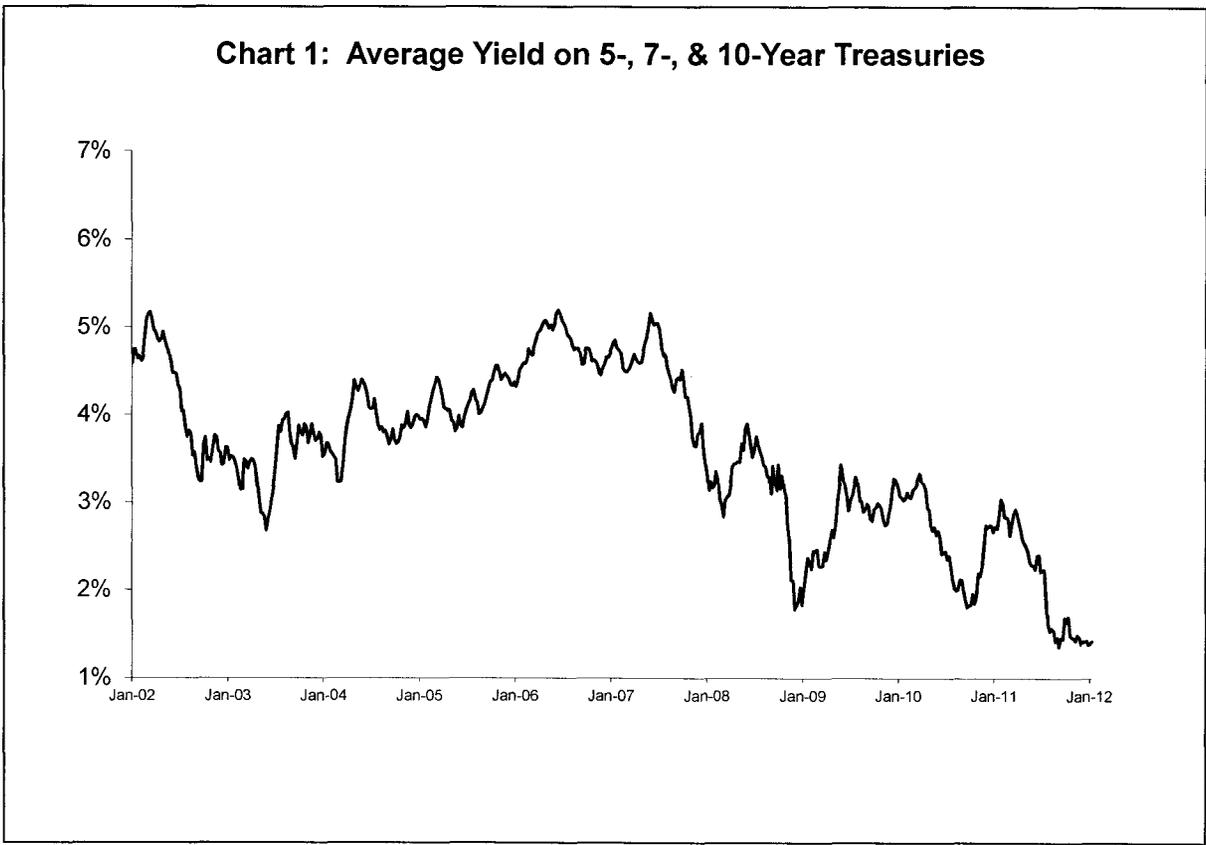


Chart 1 shows that intermediate-term interest rates trended downward from 2002 to mid-2003, trended upward through early-2008, trended downward through early-2009, trended upward through mid-2010, trended downward through late 2010, trended upward to mid-2011, and are currently trending down from the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

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

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

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Source: Federal Reserve

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

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

Q. Do actual returns represent the cost of equity?

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

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

A. Yes. A comparison of betas, a component of the CAPM discussed in Section VI, for the water utility industry and the market, provide insight into this relationship. In theory, the

1 market has a beta value of 1.0, with stocks bearing greater risk (less risk) than the market
2 having beta values higher than (lower than) 1.0, respectively. Furthermore, in accordance
3 with the CAPM, the cost of equity capital moves in the same direction as beta. Therefore,
4 because the average beta value (0.71)⁴ for a water utility is less than 1.0, the required
5 return on equity for a regulated water utility is below that of the market as a whole.
6

7 *Risk*

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

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

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

16 A. Market risk or systematic risk is the risk of an investment that cannot be reduced through
17 diversification. Market risk stems from factors that affect all securities, such as
18 recessions, war, inflation and high interest rates. Since these factors affect the entire
19 market they cannot be eliminated through diversification. Market risk does not impact
20 each security to the same degree. The degree to which a given security's return is affected
21 by market fluctuations can be measured using Beta. Beta reflects the business risk and the
22 financial risk of a security.
23

⁴ See Schedule JAC-7.

1 **Q. Please define business risk.**

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

6
7 **Q. Please define financial risk.**

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

11
12 **Q. Do business risk and financial risk affect the cost of equity?**

13 A. Yes.

14
15 **Q. Is a firm subject to any other risk?**

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

20
21 **Q. How does Rio Rico's financial risk exposure compare to that of Staff's sample group
22 of water companies?**

23 A. JAC-4 shows the capital structures of the six sample water companies as of December 31,
24 2011, and Rio Rico's adjusted capital structure as of the end of the test year, February 29,
25 2012. As shown, the sample water utilities were capitalized with approximately 51.6
26 percent debt and 48.4 percent equity, while Rio Rico's capital structure consists of 0.0

1 percent debt and 100.0 percent equity. Thus, unlike Staff's sample companies, Rio Rico
2 has no debt in its capital structure and, accordingly, has no exposure to financial risk.

3
4 **Q. Is firm-specific risk measured by beta?**

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

6
7 **Q. Is the cost of equity affected by firm-specific risk?**

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

10
11 **Q. Can investors expect additional returns for firm-specific risk?**

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

16
17 **VI. ESTIMATING THE COST OF EQUITY**

18 *Introduction*

19 **Q. Did Staff directly estimate the cost of equity for Rio Rico?**

20 A. No. Since Rio Rico is not a publicly-traded company, Staff is unable to directly estimate
21 its cost of equity due to the lack of firm-specific market data. Instead, Staff estimated the
22 Company's cost of equity indirectly, using a representative sample group of publicly
23 traded water utilities as a proxy, taking the average of the sample group to reduce the
24 sample error resulting from random fluctuations in the market at the time the information
25 is gathered.

1 **Q. What companies did Staff select as proxies or comparables for Rio Rico?**

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

6
7 **Q. What models did Staff implement to estimate Rio Rico's cost of equity?**

8 A. Staff used two market-based models to estimate the cost of equity for Rio Rico: the DCF
9 model and the CAPM.

10
11 **Q. Please explain why Staff chose the DCF and CAPM models.**

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

15
16 *Discounted Cash Flow Model Analysis*

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

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

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

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

6
7 *The Constant-Growth DCF*

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

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

10
Equation 2 :

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

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

11
12 Equation 2 assumes that the entity has a constant earnings retention rate and that its
13 earnings are expected to grow at a constant rate. According to Equation 2, a stock with a
14 current market price of \$10 per share, an expected annual dividend of \$0.45 per share and
15 an expected dividend growth rate of 3.0 percent per year has a cost of equity to the entity
16 of 7.5 percent reflected by the sum of the dividend yield (\$0.45/ \$10 = 4.5 percent) and the
17 3.0 percent annual dividend growth rate.
18

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

3 A. Staff calculated the expected yield component of the DCF formula by dividing the
4 expected annual dividend (D_1) by the spot stock price (P_0) after the close of market on
5 December 5, 2012, as reported by *MSN Money*.

6
7 **Q. Why did Staff use the December 5, 2012, spot price rather than a historical average**
8 **stock price to calculate the dividend yield component of the DCF formula?**

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

15
16 **Q. How did Staff estimate the dividend growth (g) component of the constant-growth**
17 **DCF model represented by Equation 2?**

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

22

⁵ Derived from information provided by *Value Line*.

⁶ Derived from information provided by *Value Line*.

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

3 A. Historic and projected EPS growth are used because dividends are related to earnings.
4 Dividend distributions may exceed earnings in the short run, but cannot continue
5 indefinitely. In the long term, dividend distributions are dependent on earnings.
6

7 **Q. How did Staff estimate historical DPS growth?**

8 A. Staff estimated historical DPS growth by calculating a compound annual DPS growth rate
9 for each of its sample companies over the 10-year period, 2002-2011. As shown in
10 Schedule JAC-5, the average historical DPS growth rate for the sample was 3.2 percent.
11

12 **Q. How did Staff estimate projected DPS growth?**

13 A. Staff calculated an average of the projected DPS growth rates for the sample water utilities
14 from *Value Line* through the period, 2015-2017. The average projected DPS growth rate
15 is 4.1 percent, as shown in Schedule JAC-5.
16

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

18 Staff estimated historical EPS growth by calculating a compound annual EPS growth rate
19 for each of its sample companies over the 10-year period, 2002-2011. As shown in
20 Schedule JAC-5, the average historical EPS growth rate for the sample was 4.2 percent.
21

22 **Q. How did Staff estimate projected EPS growth?**

23 A. Staff calculated an average of the projected EPS growth rates for the sample water utilities
24 from *Value Line* through the period, 2015-2017. The average projected EPS growth rate
25 is 6.2 percent, as shown in Schedule JAC-5.
26

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

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

5
6 **Q. What is retention growth?**

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

11
12 **Q. What is the formula for the retention growth rate?**

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

15

Equation 3 :

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

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

16

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

19 A. Staff calculated the mean of the 10-year average historical retention rate for each sample
20 company over the period, 2002-2011. As shown in Schedule JAC-6, the historical
21 average retention (*br*) growth rate for the sample is 2.9 percent.

22

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

3 A. Staff used the retention growth projections for the sample water utilities for the period,
4 2015-2017, from *Value Line*. As shown in Schedule JAC-6, the projected average
5 retention growth rate for the sample companies is 4.3 percent.

6
7 **Q. When can retention growth provide a reasonable estimate of future dividend**
8 **growth?**

9 A. The retention growth rate is a reasonable estimate of future dividend growth when the
10 retention ratio is reasonably constant and the entity's market price to book value ("market-
11 to-book ratio") is expected to be 1.0. The average retention ratio has been reasonably
12 constant in recent years. However, the market-to-book ratio for the sample water utilities
13 is 2.0, notably higher than 1.0, as shown in Schedule JAC-7.

14
15 **Q. Is there any financial implication of a market-to-book ratio greater than 1.0?**

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

1 market will bid up the price of the entity's stock to provide the required return of 9
2 percent.

3
4 **Q. How has Staff generally recognized a market-to-book ratio exceeding 1.0 in its cost of
5 equity analyses in recent years?**

6 A. Staff has assumed that investors expect the market-to-book ratio to remain greater than
7 1.0. Given that assumption, Staff has added a stock financing growth rate (vs) term to the
8 retention ratio (br) term to calculate its historical and projected sustainable growth rates.

9
10 **Q. Do the historical and projected sustainable growth rates Staff uses to develop its
11 DCF cost of equity in this case continue to include a stock financing growth rate
12 term?**

13 A. Yes.

14
15 **Q. What is stock financing growth?**

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

22
23 **Q. What is the mathematical formula for the stock financing growth rate?**

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

⁷ Gordon, Myron J. *The Cost of Capital to a Public Utility*. MSU Public Utilities Studies, Michigan, 1974. pp 31-35.

1

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

2

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

4 A. Variable v is calculated as follows:

Equation 5:

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

5

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

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

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

8

In this example, v is equal to 0.33.

9

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

11 A. Variable s is calculated as follows:

12

13 Equation 6:

14

15

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

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

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

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

3 In this example, s is equal to 20.0 percent.

4
5 **Q. What is the vs term when the market-to-book ratio is equal to 1.0?**

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

12
13 **Q. What is the effect of the vs term when the market-to-book ratio is greater than 1.0?**

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

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

2 A. Staff estimated an average stock financing growth of 1.9 percent for the sample water
3 utilities, as shown in Schedule JAC-6.

4
5 **Q. What would occur if an entity had a market-to-book ratio greater than 1.0 as a result
6 of investors expecting earnings to exceed its cost of equity, and subsequently
7 experienced newly-authorized rates equal only to its cost of equity?**

8 A. *Ceteris paribus*, holding all other factors constant, one would expect market forces to
9 move the company's stock price lower, closer to a market-to-book ratio of 1.0, to reflect
10 investor expectations of reduced expected future cash flows.

11
12 **Q. If the average market-to-book ratio of Staff's sample water utilities were to fall to 1.0
13 due to authorized ROEs equaling their cost of equity, would inclusion of the vs term
14 be necessary to Staff's constant-growth DCF analysis?**

15 A. No. As discussed above, when the market-to-book ratio is equal to 1.0, none of the funds
16 raised from the sale of stock by the entity accrues to the benefit of existing shareholders
17 because the *v* term equals to zero and, consequently, the *vs* term also equals zero. When
18 the market-to-book ratio equals 1.0, dividend growth depends solely on the *br* term.
19 Staff's inclusion of the *vs* term assumes that the market-to-book ratio continues to exceed
20 1.0 and that the water utilities will continue to issue and sell stock at prices above book
21 value with the effect of benefitting existing shareholders.

22
23 **Q. What are Staff's historical and projected sustainable growth rates?**

24 A. Staff's estimated historical sustainable growth rate is 4.8 percent based on an analysis of
25 earnings retention for the sample water companies. Staff's projected sustainable growth

1 rate is 6.3 percent based on retention growth projected by *Value Line*. Schedule JAC-6
2 presents Staff's estimates of the sustainable growth rate.

3
4 **Q. What is Staff's expected infinite annual growth rate in dividends?**

5 A. Staff's expected dividend growth rate (g) is 4.8 percent, which is the average of historical
6 and projected DPS, EPS, and sustainable growth estimates. Staff's calculation of the
7 expected infinite annual growth rate in dividends is shown in Schedule JAC-8.

8
9 **Q. What is Staff's constant-growth DCF estimate for the sample utilities?**

10 A. Staff's constant-growth DCF estimate is 8.0 percent, as shown in Schedule JAC-3.

11
12 *The Multi-Stage DCF*

13 **Q. Why did Staff implement the multi-stage DCF model to estimate Rio Rico's cost of**
14 **equity?**

15 A. Staff generally uses the multi-stage DCF model to consider the assumption that dividends
16 may not grow at a constant rate. The multi-stage DCF uses two stages of growth, the first
17 stage (near-term) having a four-year duration, followed by the second stage (long-term) of
18 constant growth.

19
20 **Q. What is the mathematical formula for the multi-stage DCF?**

21 A. The multi-stage DCF formula is shown in the following equation:
22

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

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

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

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

A. The stage-1 growth rate is based on *Value Lines*'s projected dividends for the next twelve months, when available, and on the average dividend growth (g) rate of 4.8 percent, calculated in Staff's constant DCF analysis for the remainder of the stage.

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

2 A. Staff calculated the stage-2 growth rate using the arithmetic mean rate of growth in Gross
3 Domestic Product (“GDP”) from 1929 to 2011.⁸ Using the GDP growth rate assumes that
4 the water utility industry is expected to grow at the same rate as the overall economy.

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

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

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

10 A. Staff’s multi-stage DCF estimate is 9.6 percent, as shown in Schedule JAC-3.

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

13 A. Staff’s overall DCF estimate is 8.8 percent. Staff calculated the overall DCF estimate by
14 averaging the constant growth DCF (8.0%) and multi-stage DCF (9.6%) estimates, as
15 shown in Schedule JAC-3.

16
17 *Capital Asset Pricing Model*

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

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

⁸ www.bea.doc.gov.

1 their investments to eliminate any non-systematic or unique risk.⁹ In 1990, Professors
2 Harry Markowitz, William Sharpe, and Merton Miller earned the Nobel Prize in
3 Economic Sciences for their contribution to the development of the CAPM.
4

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

7 A. Yes. Staff's CAPM cost of equity estimation analysis uses the same sample water
8 companies as its DCF cost of equity estimation analysis.
9

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

11 A. The mathematical formula for the CAPM is:
12

Equation 8 :

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

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

13
14 The equation shows that the expected return (K) on a risky asset is equal to the risk-free
15 interest rate (R_f) plus the product of the market risk premium ($R_m - R_f$) multiplied by beta
16 (β) where beta represents the riskiness of the investment relative to the market.
17

⁹ The CAPM makes the following assumptions: 1) single holding period; 2) perfect and competitive securities market; 3) no transaction costs; 4) no restrictions on short selling or borrowing; 5) the existence of a risk-free rate; and 6) homogeneous expectations.

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

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

3

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

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

13

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

15 A. Beta is a measure of a security's price volatility, or systematic risk, relative to the market
16 as a whole. Since systematic risk cannot be diversified away, it is the only risk that is
17 relevant when estimating a security's required return. Using a baseline market beta
18 coefficient of 1.0, a security having a beta value less than 1.0 will be less volatile (i.e., less
19 risky) than the market. A security with a beta value greater than 1.0 will be more volatile
20 (i.e., more risky) than the market.

21

22 **Q. How did Staff estimate Rio Rico's beta?**

23 A. Staff used the average of the *Value Line* betas for the sample water utilities as a proxy for
24 the Company's beta. Schedule JAC-7 shows the *Value Line* betas for each of the sample
25 water utilities. The 0.71 average beta coefficient for the sample water utilities is Staff's

1 estimated beta value for Rio Rico. A security with a beta value of 0.71 has less volatility
2 than the market.

3
4 **Q. What is the market risk premium ($R_m - R_f$)?**

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

7
8 **Q. What did Staff use for the market risk premium?**

9 **A.** Staff uses separate calculations for the market risk premium in its historical and current
10 market risk premium CAPM methods.

11
12 **Q. How did Staff calculate an estimate for the market risk premium in its historical
13 market risk premium CAPM method?**

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

20
21 **Q. How did Staff calculate an estimate for the market risk premium in its current
22 market risk premium CAPM method?**

23 **A.** Staff solves equation 8 above to arrive at a market risk premium using a DCF-derived
24 expected return (K) of 14.77 (2.3 + 12.47¹⁰) percent using the expected dividend yield (2.3
25 percent over the next twelve months) and the annual per share growth rate (12.47 percent)

¹⁰ The three to five year price appreciation is 60%. $1.60^{0.25} - 1 = 12.47\%$.

1 that *Value Line* projects for all dividend-paying stocks under its review¹¹ along with the
2 current long-term risk-free rate (30-year Treasury note at 2.78 percent) and the market's
3 average beta of 1.0. Staff calculated the current market risk premium as 12.00 percent,¹²
4 as shown in Schedule JAC-3.

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

8 A. Staff's cost of equity estimates are 6.2 percent using the historical market risk premium
9 CAPM and 11.3 percent using the current market risk premium CAPM.

10
11 **Q. What is Staff's overall CAPM estimate for the sample utilities?**

12 A. Staff's overall CAPM cost of equity estimate is 8.8 percent which is the average of the
13 historical market risk premium CAPM (6.2 percent) and the current market risk premium
14 CAPM (11.3 percent) estimates, as shown in Schedule JAC-3.

15
16 **VII. SUMMARY OF STAFF'S COST OF EQUITY ANALYSIS**

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

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

21
22
$$k = 3.2\% + 4.8\%$$

23
24
$$k = \mathbf{8.0\%}$$

25

¹¹ December 7, 2012 issue date.

¹² $14.77\% = 2.78\% + (1) (11.99\%)$.

1 Staff's constant-growth DCF estimate of the cost of equity for the sample water utilities is
2 8.0 percent.

3
4 **Q. What is the result of Staff's multi-stage DCF analysis to estimate of the cost of equity
5 for the sample utilities?**

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

8

9	Company	Equity Cost Estimate (k)
10		
11	American States Water	9.3%
12	California Water	10.0%
13	Aqua America	9.1%
14	Connecticut Water	9.5%
15	Middlesex Water	10.4%
16	SJW Corp	<u>9.5%</u>
17		
18	Average	9.6%

19
20 Staff's multi-stage DCF estimate of the cost of equity for the sample water utilities is 9.6
21 percent.

22
23 **Q. What is Staff's overall DCF estimate of the cost of equity for the sample utilities?**

24 A. Staff's overall DCF estimate of the cost of equity for the sample utilities is 8.8 percent.
25 Staff calculated an overall DCF cost of equity estimate by averaging Staff's constant
26 growth DCF (8.0 percent) and Staff's multi-stage DCF (9.6 percent) estimates, as shown
27 in Schedule JAC-3.

28

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

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

5
6
$$k = 1.1\% + 0.71 * 7.2\%$$

7
$$k = 6.2\%$$

8
9 Staff's CAPM estimate (using the historical market risk premium) of the cost of equity to
10 the sample water utilities is 6.2 percent.

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

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

16
$$k = 2.8\% + 0.71 * 12.0\%$$

17
$$k = 11.3\%$$

18
19 Staff's CAPM estimate (using the current market risk premium) of the cost of equity to the
20 sample water utilities is 11.3 percent.

21
22 **Q. What is Staff's overall CAPM estimate of the cost of equity for the sample utilities?**

23 A. Staff's overall CAPM estimate for the sample utilities is 8.8 percent. Staff's overall
24 CAPM estimate is the average of the historical market risk premium CAPM (6.2 percent)
25 and the current market risk premium CAPM (11.3 percent) estimates, as shown in
26 Schedule JAC-3.

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

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

3
4 **Table 2**

Method	Estimate
Average DCF Estimate	8.8%
Average CAPM Estimate	8.8%
Overall Average	8.8%

5
6 Staff's average estimate of the cost of equity to the sample water utilities is 8.8 percent.

7
8 **VIII. FINAL COST OF EQUITY ESTIMATES FOR RIO RICO**

9 **Q. Please compare Rio Rico's capital structure to that of the six sample water**
10 **companies.**

11 A. The average capital structure for the sample water utilities is composed of 48.4 percent
12 equity and 51.6 percent debt, as shown in Schedule JAC-4. Rio Rico's capital structure is
13 composed of 100.0 percent equity and 0.0 percent debt. In this case, since Rio Rico's
14 capital structure is less leveraged than that of the average sample water utilities' capital
15 structure, its stockholders bear less financial risk than the sample water utilities.

16
17 **Q. Does Rio Rico's reduced financial risk affect its cost of equity?**

18 A. Yes. As previously discussed, financial risk is a component of market risk and investors
19 require compensation for market risk. Since Rio Rico's financial risk is less than that of
20 the average sample water companies, its cost of equity is lower than that of the sample
21 water companies.

22

1 **Q. Has Staff quantified the effect of difference in financial risk between Rio Rico and**
2 **the sample water utilities on its cost of equity?**

3 A. Yes. Staff used the methodology developed by Professor Robert Hamada of the
4 University of Chicago, which incorporates capital structure theory with the CAPM, to
5 estimate the effect of Rio Rico's capital structure on its cost of equity. Staff calculated a
6 financial risk adjustment for Rio Rico of negative 100 basis points. Rio Rico's cost of
7 equity adjusted for financial risk (7.8 percent) can be determined by subtracting this 1.0
8 percent financial risk adjustment from Staff's average estimate of the cost of equity to the
9 sample water utilities (8.8 percent).

10
11 **Q. Does Staff have established criteria for determining when to apply a downward**
12 **financial risk adjustment?**

13 A. Yes. Staff normally applies two criteria in assessing whether application of a downward
14 financial risk adjustment is appropriate. The first consideration is whether the utility has a
15 reasonably economical capital structure. Staff considers a capital structure composed of
16 no more than 60 percent equity to meet this condition. If equity exceeds 60 percent, as it
17 does for Rio Rico, Staff considers application of a downward financial risk adjustment to
18 be appropriate if the utility meets the second criteria. The second condition is whether the
19 utility has access to equity capital markets. Because Rio Rico's parent, Algonquin Power
20 and Utilities Corporation, is publicly-traded, Rio Rico is assumed to have access to the
21 equity capital markets; accordingly, Staff recommends a downward financial risk
22 adjustment to Rio Rico's cost of equity. Staff's methodology for applying a downward
23 financial risk adjustment encourages a utility with access to the equity capital markets to
24 use that access to manage its capital structure with economic efficiency and encourages a
25 utility that lacks access to the equity capital markets to maintain a healthy capital
26 structure.

1 **Q. Did Staff consider factors other than the results of its technical models in its cost of**
2 **equity analysis?**

3 A. Yes. In consideration of the relatively uncertain status of the economy and the market that
4 currently exists, Staff is proposing an Economic Assessment Adjustment to the cost of
5 equity. In this case, Staff recommends a 60 basis point (0.6 percent) upward Economic
6 Assessment Adjustment, as shown in Schedule JAC-3.

7
8 **Q. What is Staff's ROE estimate for Rio Rico?**

9 A. Staff determined an ROE estimate of 8.8 percent for Rio Rico based on cost of equity
10 estimates for the sample companies of 8.8 percent for both the CAPM and the DCF. Staff
11 recommends adoption of a 100 basis point downward financial risk adjustment and a 60
12 basis point upward Economic Assessment Adjustment resulting in an 8.4 percent Staff-
13 recommended cost of equity, as shown in Schedule JAC-3.

14
15 **IX. RATE OF RETURN RECOMMENDATION**

16 **Q. What overall rate of return did Staff determine for Rio Rico?**

17 A. Staff determined an 8.4 percent ROR for the Company, as shown in Schedule JAC-1 and
18 the following table:

19
20 **Table 3**

21

	Weight	Cost	Weighted Cost
Long-term Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	8.4%	<u>8.4%</u>
Overall ROR			<u>8.4%</u>

22

1 **X. STAFF RESPONSE TO COMPANY'S COST OF CAPITAL WITNESS MR.**
2 **THOMAS J. BOURRASSA**

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

4 A. Mr. Bourassa recommends a 10.70 percent ROE based on estimates derived from two
5 constant growth DCF analyses, two CAPM analyses, and two Build-up risk premium
6 models designed as a check for reasonableness to his DCF and CAPM results, using a
7 proxy sample of six publicly-traded water companies. He proposes a hypothetical capital
8 structure consisting of 20.0 percent long-term debt and 80.0 percent equity, with his
9 proposed cost of debt being 5.7 percent. Mr. Bourassa's recommended ROE includes a
10 downward 80 basis point financial risk adjustment, offset by an upward 80 basis point
11 small company risk premium. His overall recommended rate of return for the Company is
12 9.7 percent.

13
14 For purposes of his constant growth DCF analyses, Mr. Bourassa gives a 50 percent
15 weight to the estimates derived from his Future Growth DCF model and a 50 percent
16 weight to the estimates derived from his Past and Future Growth DCF Model. In his
17 primary Future Growth DCF model, Mr. Bourassa relies exclusively on analysts' forecasts
18 for EPS growth to estimate the dividend growth (g) component. Additionally, for
19 purposes of calculating his sample average dividend growth (g) rate, he assumes that the
20 4.55 percent analyst estimate obtained for one sample company (Connecticut Water)
21 should be equal to his overall 7.9 percent sample average dividend growth estimate. In his
22 Past and Future Growth DCF model, Mr. Bourassa estimates his dividend growth (g) rate
23 by giving 50 percent weight to historical measures of growth in annual share price, BVPS,
24 EPS and DPS over a five-year period, and 50 percent weight to the dividend growth rate
25 obtained from his primary Future Growth DCF model (See TJB Schedule D-4.4). In each
26 of his two constant growth DCF analyses, Mr. Bourassa uses a 12-month average stock

1 price to calculate an average annual current dividend yield (D_0/P_0) (See TJB Schedule D-
2 4.7).¹³

3
4 For purposes of his CAPM analyses, Mr. Bourassa presents estimates based upon both
5 historical and current market risk premia. In both, however, he uses a 3.4 percent
6 forecasted risk free (R_f) rate based, in part, upon estimates from Value Line and Blue
7 Chip Consensus Forecasts for the 30-year long-term Treasury yield covering the period,
8 2012-2013 (See TJB Schedule D-4.12).

9
10 **Q. Does Staff have any comments on Mr. Bourassa's sole reliance on analysts' forecasts**
11 **of EPS growth rates to estimate dividend growth rate (g) in his Future Growth DCF**
12 **analysis?**

13 A. Yes. Exclusive reliance on analysts' forecasts of earnings growth to forecast DPS is
14 inappropriate because it assumes that investors do not look at other relevant information
15 such as historical dividend and earnings growth. Generally, analysts' forecasts are known
16 to be overly optimistic. Sole use of analysts' forecasts to calculate the expected dividend
17 growth rate, (g), serves to inflate that component of the DCF model and, consequently, the
18 estimated cost of equity. The appropriate growth rate to use in the DCF model is the
19 dividend growth rate expected by *investors*, not by analysts. Investors are assumed to be
20 rational, and as such will want to take into consideration all relevant available information
21 prior to making an investment decision. Therefore, it is reasonable to assume that
22 investors would consider both historical measures of past growth, as well as analysts'
23 forecasts of future growth.

24

¹³ For purposes of his calculations, Mr. Bourassa understates the annual dividend (D_0) paid for five of his six sample companies (all except Connecticut Water), using the annual per share dividend paid in 2010 rather than the updated 2011 dividend.

1 **Q. Does the narrative of Mr. Bourassa's Direct Testimony state the fact that he relies**
2 **exclusively on analysts' forecasts of EPS growth to estimate the expected dividend**
3 **growth rate (g) in his Future Growth DCF model?**

4 A. No. Mr. Bourassa states only that "I have used analyst growth forecasts, where
5 available,"¹⁴ and that "I use as a primary estimate of growth analysts' forecasts of
6 growth."¹⁵ Only when referring to TJB Schedule D-4.6 does one learn that he has relied
7 exclusively on analysts' forecasts of EPS growth to estimate (g).

8
9 **Q. Does Staff have evidence to support its assertion that exclusive reliance on analysts'**
10 **forecasts of earnings growth in the DCF model would result in inflated cost of equity**
11 **estimates?**

12 A. Yes. Experts in the financial community have commented on the optimism in analysts'
13 forecasts of future earnings.¹⁶ A study cited by David Dreman in his book *Contrarian*
14 *Investment Strategies: The Next Generation* found that *Value Line* analysts were
15 optimistic in their forecasts by 9 percent annually, on average for the 1987 – 1989 period.
16 Another study conducted by David Dreman found that between 1982 and 1997, analysts
17 overestimated the growth of earnings of companies in the S&P 500 by 188 percent.

18 Burton Malkiel, of Princeton University, conducted a study of the 1- and 5-year earnings
19 forecasts made by some of the most respected names in the investment business. His
20 results showed that when compared with actual earnings growth rates, the 5-year forecasts
21 made by professional analysts were far less accurate than estimates derived from several
22 naïve forecasting models, such as the long-run growth rate in national income. In the

¹⁴ Direct testimony of Mr. Thomas J. Bourassa, page 30, lines 18-19.

¹⁵ Direct testimony of Mr. Thomas J. Bourassa, page 31, lines 6-7.

¹⁶ See Seigel, Jeremy J. *Stocks for the Long Run*. 2002. McGraw-Hill. New York. p. 100. Dreman, David. *Contrarian Investment Strategies: The Next Generation*. 1998. Simon & Schuster. New York. pp. 97-98. Malkiel, Burton G. *A Random Walk Down Wall Street*. 2003. W.W. Norton & Co. New York. p. 175. Testimony of Professors Myron J. Gordon and Lawrence I. Gould, consultant to the Trial Staff (Common Carrier Bureau), FCC Docket 79-63, p. 95.

1 following excerpt from his book, *A Random Walk Down Wall Street*, Professor Malkiel
2 discusses the results of his study:

3
4 When confronted with the poor record of their five-year growth
5 estimates, *the security analysts honestly, if sheepishly, admitted*
6 *that five years ahead is really too far in advance to make reliable*
7 *projections.* They protested that although long-term projections
8 are admittedly important, they really ought to be judged on their
9 ability to project earnings changes one year ahead. Believe it or
10 not, it turned out that their one-year forecasts were even worse than
11 their five-year projections.

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

21
22 **Q. Are investors aware of the problems related to analysts’ forecasts?**

23 A. Yes. In addition to books, there are numerous published articles appearing in *The Wall*
24 *Street Journal* and other financial publications that cast doubt on the accuracy of research
25 analysts’ forecasts.¹⁸ Investors, being keenly aware of these inherent biases in forecasts,
26 will use other methods to assess future growth.

27
¹⁷ Malkiel, Burton G. *A Random Walk Down Wall Street*. 2003. W.W. Norton & Co. New York. p. 175

¹⁸ See Smith, Randall & Craig, Suzanne. “Big Firms Had Research Ploy: Quiet Payments Among Rivals.” *The Wall Street Journal*. April 30, 2003. Brown, Ken. “Analysts: Still Coming Up Rosy.” *The Wall Street Journal*. January 27, 2003. p. C1. Karmin, Craig. “Profit Forecasts Become Anybody’s Guess.” *The Wall Street Journal*. January 21, 2003. p. C1. Gasparino, Charles. “Merrill Lynch Investigation Widens.” *The Wall Street Journal*. April 11, 2002. p. C4. Elstein, Aaron. “Earnings Estimates Are All Over the Map.” *The Wall Street Journal*. August 2, 2001. p. C1. Dreman, David. “Don’t Count on those Earnings Forecasts.” *Forbes*. January 26, 1998. p. 110.

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

2 A. Yes. As previously stated in Section VI of this testimony, the current market price of a
3 stock is equal to the present value of all expected future dividends, not future earnings.

4 Professor Jeremy Siegel from the Wharton School of Finance stated:

5
6 Note that the price of the stock is always equal to the present value
7 of all future *dividends* and not the present value of future earnings.
8 Earnings not paid to investors can have value only if they are paid
9 as dividends or other cash disbursements at a later date. Valuing
10 stock as the present discounted value of future earnings is
11 manifestly wrong and greatly overstates the value of the firm.¹⁹
12

13 For valuation purposes, therefore, earnings paid out in the form of a dividend have
14 paramount relevancy to investors. Dividends, unlike earnings, cannot be manipulated or
15 overstated. Thus, historical DPS growth should receive appropriate consideration when
16 estimating the market cost of equity in the DCF model.

17

18 **Q. In addition to his exclusive reliance on analysts' forecasts of EPS growth, has Mr.**
19 **Bourassa done anything else which would further serve to overstate the estimated**
20 **dividend growth rate (g) in his Future Growth DCF model?**

21 A. Yes. In his testimony, Mr. Bourassa states that he obtained analyst growth forecasts from
22 "four different sources,"²⁰ and that they provide "at least two estimates" of growth for
23 each of his sample companies (See Bourassa Direct, p. 30, lines 18-23). However, a
24 review of TJB Schedule D-4.6 shows that he obtained analysts' forecasts of EPS growth
25 from only three sources,²¹ and that in the case of one sample company (Connecticut
26 Water), only one EPS growth estimate was obtained. Nevertheless, for purposes of his

¹⁹ Siegel, Jeremy J. *Stocks for the Long Run*. 2002. McGraw-Hill. New York. P. 93.

²⁰ The four sources named are *Zack's Investment Research*, *Morningstar*, *Yahoo Finance*, and *Value Line*.

²¹ The three sources used are *Zack's Investment Research*, *Yahoo Finance*, and *Value Line*. A review of TJB Schedule D-4.6 indicates that column [5] represents the average of columns 1-4, but that column [2] is missing from the schedule.

1 analysis, Mr. Bourassa has assumed that the forecasted EPS analyst growth estimate for
2 Connecticut Water (4.55%) is equal to that of his overall sample average dividend growth
3 (g) rate (7.90%).²² As a consequence, he overstates his estimated dividend growth (g) rate
4 by 56 basis points, for when properly calculated using the 4.55 percent analyst estimate
5 for Connecticut Water, Mr. Bourassa's Future Growth DCF sample average dividend
6 growth rate would be 7.34 percent (.0790 - .0734 = 56 basis points).

7
8 **Q. How does Mr. Bourassa calculate the expected dividend growth (g) rate used in his**
9 **Past and Future Growth DCF model?**

10 A. Mr. Bourassa estimates the expected dividend growth rate by providing 50 percent weight
11 to historical measures of growth in average annual share price, book value per share,
12 earnings per share and dividends per share for his sample companies over a five-year
13 period and 50 percent weight to the average of analysts' forecasts for EPS growth used in
14 his Future Growth DCF (See TJB Schedule D-4.4).

15
16 **Q. Does the 56 basis point overstatement to Mr. Bourassa's Future Growth DCF**
17 **estimate, noted earlier, result in an overstatement to the dividend growth (g) rate**
18 **derived from Mr. Bourassa's Past and Future Growth DCF model?**

19 A. Yes. As noted above, for purposes of his Past and Future Growth DCF model, Mr.
20 Bourassa assigns a 50 percent weight to the dividend growth estimates obtained from his
21 five-year historical growth analysis and a 50 percent weight to estimates derived from his
22 primary Future Growth DCF model. As a consequence, the 56 basis point overstatement
23 to his Future Growth DCF sample average estimate flows through to his Past and Future
24 Growth DCF estimate as well, resulting in a 28 basis point overstatement to his 6.33
25 percent estimated dividend growth (g) rate. When properly calculated, Mr. Bourassa's

²² See TJB Schedule D-4.6, footnote 2.

1 Past and Future Growth DCF estimate should be 6.05 percent (.0633 - .0605 = 28 basis
2 points).

3
4 **Q. Has Staff quantified the magnitude of the above noted overstatements to Mr.**
5 **Bourassa's DCF dividend growth (g) estimates to his overall DCF cost of equity**
6 **results?**

7 A. Yes. Staff determined that Mr. Bourassa's average DCF cost of equity estimate would fall
8 by 43 basis points from 10.50 percent to 10.07 percent as shown below:

9

	<u>Staff Adjusted</u>	<u>Bourassa</u>
10 DCF – Past and Future Growth	9.40%	9.70%
11 DCF – Future Growth	<u>10.73%</u>	<u>11.30%</u>
12 Average DCF	10.07%	10.50%

13
14

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

18 A. Yes. In and of itself, share price appreciation is not a determinant of dividend growth, and
19 for this reason Staff considers its use as a growth parameter to be inappropriate. However,
20 as Mr. Bourassa has utilized it as a growth parameter by which to estimate dividend
21 growth, Staff would point out that in both his five- and ten-year historical growth DCF
22 analyses, share price growth has exceeded that of dividend growth. Specifically, in his
23 five-year historical growth analysis (See TJB Schedule D-4.4), average share price growth
24 (4.19%) exceeded average DPS growth (3.33%) by 26 percent (((.0419/.0333) - 1) =
25 26%), and in his ten-year historical growth analysis (See TJB Schedule D-4.5), average

1 share price growth (5.27%) exceeded average DPS growth (3.17%) by 66 percent
2 $((.0527/.0317) - 1) = 66\%$.

3
4 **Q. As it relates to the cost of equity, what is the significance of Mr. Bourassa's sample**
5 **water companies having experienced share price growth in excess of DPS growth**
6 **over both the last five- and ten-year periods?**

7 A. Stated simply, it is an indication that the cost of equity for publicly-traded water utilities
8 has fallen over each of the last 5- and 10-year periods. When the market price per share of
9 common stock for a given firm rises faster than does the dividend paid on a per share
10 basis, the dividend yield falls. As dividend yields fall, investors pay more for an
11 equivalent unit of return on their investment, resulting in a lower cost of equity. Markets
12 are efficient, and because prices for publicly traded stocks can rise only if investors are
13 willing to bid up the share price, when share price growth exceeds DPS growth over a
14 five- or ten-year period, the willingness of investors to continue to bid up share prices is
15 reflective of investor expectations that market returns have fallen. Thus, Mr. Bourassa's
16 use of share price growth increases his cost of equity estimate at a time when share price
17 growth actually reflects a decrease in cost of equity. This incongruous outcome is the
18 result of choosing an inappropriate parameter for dividend growth in the DCF model.

19
20 **Q. Does Staff consider Mr. Bourassa's use of a twelve-month average stock price to be**
21 **an optimum choice for purposes of calculating the current dividend yield (D_0/P_0) in**
22 **his two constant growth DCF models?**

23 A. No. The current dividend yield (D_0/P_0) component in the DCF model is better reflected by
24 using a current spot price, not an historical average stock price. Use of average stock
25 prices to calculate the current dividend yield employs stale information and is not
26 reflective of current investor expectations (See TJB Schedule D-4.7).

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

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

6
7 **Q. What risk-free rate does Mr. Bourassa use in his CAPM analyses?**

8 A. In both his historical- and current market risk premia CAPM analyses, Mr. Bourassa uses
9 a forecasted risk-free rate (R_f) based, in part, upon estimates from Value Line and Blue
10 Chip Consensus Forecasts for the 30-year long-term Treasury yield covering the period,
11 2012-2013. The forecasted rate used by Mr. Bourassa in his CAPM analyses is 3.4
12 percent. At present, the current 30-year long-term Treasury yield is 2.8 percent,
13 suggesting that he has overstated the risk-free rate in his CAPM analysis by 60 basis
14 points.

15
16 **Q. Does Staff have any comment regarding Mr. Bourassa's proposed downward 80**
17 **basis point financial risk adjustment?**

18 A. Yes. Mr. Bourassa has made a Hamada financial risk adjustment to reflect Rio Rico's
19 diminished exposure to financial risk. However, his financial risk adjustment is
20 predicated on a hypothetical capital structure composed of 20 percent long-term debt and
21 80 percent equity. While an 80 basis point downward financial risk adjustment may be
22 appropriate for his proposed capital structure, a financial risk adjustment of 100 basis
23 points is consistent with Rio Rico's actual 100.0 percent equity capital structure.

24

1 **Q. Does Staff have any comment regarding Mr. Bourassa's proposed 100 basis point**
2 **small company risk premium?**

3 A. Yes. The Commission previously ruled in Decision No. 64282²³ for Arizona Water that
4 firm size does not warrant recognition of a risk premium stating, "We do not agree with
5 the Company's proposal to assign a risk premium to Arizona Water based on its size
6 relative to other publicly traded water utilities...." The Commission confirmed its
7 previous ruling in Decision No. 64727²⁴ for Black Mountain Gas agreeing with Staff that
8 "the 'firm size phenomenon' does not exist for regulated utilities, and that therefore there
9 is no need to adjust for risk for small firm size in utility regulation." All companies have
10 firm-specific risks; therefore, the existence of unique risks for a company does not lead to
11 the conclusion that its total risk is greater than other entities. Moreover, as previously
12 discussed, investors cannot expect compensation for firm-specific risk since it can be
13 eliminated through diversification.

14
15 **XI. CONCLUSION**

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

17 A. Staff recommends that the Commission adopt an 8.4 percent overall rate of return for the
18 Company based on a capital structure composed of 0.0 percent debt and 100.0 percent
19 equity, Staff's 8.8 percent cost of equity estimate, Staff's 100 basis point (1.0 percent)
20 downward financial risk adjustment and Staff's 60 basis point (0.6 percent) upward
21 economic assessment adjustment.

22
23 **Q. Does this conclude your Direct Testimony?**

24 A. Yes, it does.

²³ Dated December 28, 2001.

²⁴ Dated April 17, 2002.

Rio Rico Utilities, Inc. Cost of Capital Calculation
 Capital Structure
 And Weighted Average Cost of Capital
 Staff Recommended and Company Proposed

[A]	[B]	[C]	[D]
<u>Description</u>	<u>Weight (%)</u>	<u>Cost</u>	<u>Weighted Cost</u>
Staff Recommended Structure			
Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	8.4%	8.4%
Weighted Average Cost of Capital			8.4%
Company Proposed Structure			
Debt	20.0%	5.7%	1.1%
Common Equity	80.0%	10.7%	8.6%
Weighted Average Cost of Capital			9.7%

[D] : [B] x [C]
 Supporting Schedules: JAC-3 and JAC-4.

Intentionally left blank

Rio Rico Utilities, Inc. Cost of Capital Calculation
 Final Cost of Equity Estimates
 Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
DCF Method				
Constant Growth DCF Estimate		$\frac{D_1}{P_0} \cdot 1$	+	g^2
Multi-Stage DCF Estimate		3.2%	+	4.8%
Average DCF Estimate			=	$\frac{k}{8.0\%}$
			=	$\frac{9.6\%}{8.8\%}$
			=	8.8%
CAPM Method				
Historical Market Risk Premium ³	R_f	β^5	x	(R_M)
Current Market Risk Premium ⁴	1.1%	0.71	x	7.2% ⁶
Average CAPM Estimate	2.8%	0.71	x	12.0% ⁷
			=	$\frac{k}{6.2\%}$
			=	$\frac{11.3\%}{8.8\%}$
			=	8.8%
				8.8%
				0.6%
				9.4%
				-1.0%
				8.4%

1 MSN Money and Value Line
 2 Schedule JAC-8
 3 Risk-free rate (Rf) for 5, 7, and 10 year Treasury rates from the U.S. Treasury Department at www.ustreas.gov
 4 Risk-free rate (Rf) for 30 Year Treasury bond rate from the U.S. Treasury Department at www.ustreas.gov
 5 Value Line
 6 Historical Market Risk Premium (Rp) calculated from Ibbotson Associates S&P 500 2011 Yearbook data
 7 Testimony

Rio Rico Utilities, Inc. Cost of Capital Calculation
 Average Capital Structure of Sample Water Utilities

[A]	[B]	[C]	[D]
<u>Company</u>	<u>Debt</u>	<u>Common Equity</u>	<u>Total</u>
American States Water	46.0%	54.0%	100.0%
California Water	53.3%	46.7%	100.0%
Aqua America	53.9%	46.1%	100.0%
Connecticut Water	57.1%	42.9%	100.0%
Middlesex Water	43.3%	56.7%	100.0%
SJW Corp	<u>55.7%</u>	<u>44.3%</u>	<u>100.0%</u>
Average Sample Water Utilities	51.6%	48.4%	100.0%
AWC - Actual Capital Structure	0.0%	100.0%	100.0%

Source:

Sample Water Companies from Value Line

Rio Rico Utilities, Inc. Cost of Capital Calculation
 Growth in Earnings and Dividends
 Sample Water Utilities

[A] Company	[B] Dividends Per Share 2002 to 2011 <u>DPS¹</u>	[C] Dividends Per Share Projected <u>DPS¹</u>	[D] Earnings Per Share 2002 to 2011 <u>EPS¹</u>	[E] Earnings Per Share Projected <u>EPS¹</u>
American States Water	2.4%	7.8%	5.1%	4.7%
California Water	1.0%	3.0%	6.2%	8.6%
Aqua America	7.7%	4.9%	7.3%	5.6%
Connecticut Water	1.6%	No Projection	0.4%	No Projection
Middlesex Water	1.6%	1.8%	2.4%	8.3%
SJW Corp	<u>4.8%</u>	<u>3.0%</u>	<u>3.7%</u>	<u>4.0%</u>
Average Sample Water Utilities	3.2%	4.1%	4.2%	6.2%

¹ Value Line

Rio Rico Utilities, Inc. Cost of Capital Calculation
 Sustainable Growth
 Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]
Company	Retention Growth 2002 to 2011 br	Retention Growth Projected br	Stock Financing Growth vs	Sustainable Growth 2002 to 2011 br + vs	Sustainable Growth Projected br + vs
American States Water	3.6%	5.3%	2.3%	5.9%	7.6%
California Water	2.2%	4.8%	2.0%	4.2%	6.8%
Aqua America	4.4%	5.2%	2.2%	6.7%	7.5%
Connecticut Water	2.2%	No Projection	1.0%	3.2%	No Projection
Middlesex Water	1.3%	3.3%	3.5%	4.8%	6.7%
SJW Corp	3.7%	2.9%	0.1%	3.8%	3.0%
Average Sample Water Utilities	2.9%	4.3%	1.9%	4.8%	6.3%

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

Rio Rico Utilities, Inc. Cost of Capital Calculation
 Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
Company	Symbol	Spot Price 12/5/2012	Book Value	Mkt To Book	Value Line Beta β	Raw Beta β_{raw}
American States Water	AWR	45.54	22.14	2.1	0.70	0.52
California Water	CWT	17.96	11.34	1.6	0.65	0.45
Aqua America	WTR	25.01	9.44	2.7	0.60	0.37
Connecticut Water	CTWS	31.27	13.62	2.3	0.75	0.60
Middlesex Water	MSEX	18.66	11.91	1.6	0.70	0.52
SJW Corp	SJW	24.00	15.28	<u>1.6</u>	<u>0.85</u>	<u>0.75</u>
Average				2.0	0.71	0.53

[C]: Msn Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

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

Rio Rico Utilities, Inc. Cost of Capital Calculation
 Calculation of Expected Infinite Annual Growth in Dividends
 Sample Water Utilities

[A]	[B]
<u>Description</u>	g
DPS Growth - Historical ¹	3.2%
DPS Growth - Projected ¹	4.1%
EPS Growth - Historical ¹	4.2%
EPS Growth - Projected ¹	6.2%
Sustainable Growth - Historical ²	4.8%
<u>Sustainable Growth - Projected²</u>	<u>6.3%</u>
Average	4.8%

¹ Schedule JAC-5

² Schedule JAC-6

Rio Rico Utilities, Inc. Cost of Capital Calculation
 Multi-Stage DCF Estimates
 Sample Water Utilities

[A] Company	[B] Current Mkt. Price (P ₀) ¹ 12/5/2012	[C] d ₁	[D] d ₂	[E] d ₃	[F] d ₄	[H] Stage 2 growth ³ (g _n)	[I] Equity Cost Estimate (K) ⁴
American States Water	45.5	1.30	1.37	1.43	1.50	6.5%	9.3%
California Water	18.0	0.66	0.69	0.73	0.76	6.5%	10.0%
Aqua America	25.0	0.67	0.70	0.73	0.77	6.5%	9.1%
Connecticut Water	31.3	0.98	1.03	1.08	1.13	6.5%	9.5%
Middlesex Water	18.7	0.75	0.78	0.82	0.86	6.5%	10.4%
SJW Corp	24.0	0.74	0.78	0.82	0.86	6.5%	9.5%

Average 9.6%

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

Where : P₀ = current stock price
 D_t = dividends expected during stage 1
 K = cost of equity
 n = years of non - constant growth
 D_n = dividend expected in year n
 g_n = constant rate of growth expected after year n

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

BEFORE THE ARIZONA CORPORATION COMMISSION

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

IN THE MATTER OF THE APPLICATION OF) DOCKET NO. WS-02676A-12-0196
RIO RICO UTILITIES INC. FOR A)
DETERMINATION OF THE FAIR VALUE OF)
ITS UTILITY PLANT AND PROPERTY AND)
FOR AN INCREASE IN ITS WATER AND)
WASTEWATER RATES AND CHARGES)
FOR UTILITY SERVICE BASED THEREON)
_____)

DIRECT
TESTIMONY
OF
JAMES R. ARMSTRONG
CHIEF ACCOUNTANT
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

DECEMBER 31, 2012

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**EXECUTIVE SUMMARY
RIO RICO UTILITIES, INC.
DOCKET NO. WS-02676A-12-0196**

Mr. Armstrong's Direct Testimony addresses Rio Rico Utilities, Inc.'s ("Rio Rico") request for approval of a Sustainable Water Loss Program ("SWIP") mechanism. He also discusses Distribution System Improvement Charge ("DSIC") programs in general, and he discusses and sponsors an alternative to the SWIP and DSIC programs referred to as a System Betterment Cost Recovery ("SBCR") mechanism.

DSIC and SWIP programs are non-traditional rate making tools, which will reduce regulatory lag for the utility, and lead to the receipt of non-traditional revenue streams by qualified water utilities.

The refinements incorporated within Staff's SBCR program include some unique benefit shifting considerations designed to assure delivery of quantifiable value to ratepayers, while also encouraging utilities to make timely system improvements that will also deliver service quality enhancements and improved reliability to customers. Staff's SBCR recommendation assures that ratepayers DO NOT LOSE all the value of regulatory lag. However, the timing of when ratepayers will receive this value is shifted to a later period. Staff believes that ratepayers should not be expected to give up a significant element of regulatory value, just to facilitate the approval of a DSIC program.

Mr. Armstrong sponsors a number of Schedules that would serve as a general framework for the documents Rio Rico would be required to file in support of an SBCR filing.

Mr. Armstrong's testimony recommends Rio Rico's request for approval of a SWIP program be denied and that Staff's SBCR be approved as an option for Rio Rico.

The initial rollout of the SBCR program would be executed as a pilot program.

1 **INTRODUCTION**

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

3 A. My name is James R. Armstrong. I am the Chief Accountant 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 the Utility Division’s Chief Accountant.**

8 A. In my capacity as a Chief Accountant, I provide direction to the Financial and Regulatory
9 Analysis Section Staff, and I am responsible for developing and supporting
10 recommendations to the Commission regarding rate filings, financing approval requests,
11 mergers, acquisitions, and other regulatory matters.
12

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

14 A. I hold a Bachelor of Science Degree with a concentration in Finance, and a Master of
15 Business Administration degree with a concentration in Accounting, both from Kansas
16 State University. My professional experience includes serving on the staff of the Kansas
17 Corporation Commission, the staff of the Residential Utility Consumer’s Office in
18 Arizona, and on the staff of the Oklahoma Corporation Commission. In addition I worked
19 as Manager of Rates for Oklahoma Natural Gas Company for approximately twelve years,
20 and for approximately two years, I was a regulatory consultant to Westar Energy operating
21 out of Topeka, Kansas. I joined the ACC Staff in September, 2012 as the Chief
22 Accountant for the Utilities Division.
23

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

25 A. I will address and support Staff’s recommendations related to the establishment of a
26 Distribution System Improvement Charge-type (“DSIC”) filing option for Rio Rico

1 Utilities (“Rio Rico” or “Company”) to consider. For purposes of this testimony, I will
2 refer to the Staff proposal as Staff’s “System Betterment Cost Recovery” (“SBCR”)
3 program or mechanism. The refinements incorporated within Staff’s SBCR program
4 include some unique benefit shifting considerations designed to assure delivery of
5 quantifiable value to ratepayers, while also encouraging utilities to make timely system
6 improvements that will also deliver service quality enhancements and improved reliability
7 to customers. Balancing a utility’s financial stability with the assured receipt of benefits
8 for customers should be a discernible attribute of any DSIC-type program approved by the
9 ACC.

10
11 I also address the Sustainable Water Loss Improvement Program (“SWIP”) requested by
12 Rio Rico Utilities. Staff recommends that the Company’s SWIP request be denied, but
13 that the SBCR mechanism, discussed in my testimony, be approved as an option for Rio
14 Rico in the Commission’s Order in the pending rate change filing, Docket No. WS-
15 02676A-12-0196.

16
17 The initial rollout of the SBCR program would be executed as a pilot program. While
18 other water utilities (in addition to Rio Rico) could also be allowed to implement this pilot
19 program if approved in their individual rate proceedings, the long-term utilization of this
20 program would be subject to further analysis and possible refinement by Staff and/or the
21 Commission.

22
23 **Q. Have you reviewed the DSIC/SWIP Direct Testimony submitted by Company**
24 **witness Mr. Krygier in this docket?**

25 **A.** Yes. I reviewed the Direct Testimony of Mr. Krygier. Staff is recommending that the
26 Commission deny Rio Rico’s SWIP approval request because the SWIP does not provide

1 the level of identifiable benefit to ratepayers that Staff's SBCR program delivers. Staff's
2 SBCR mechanism also allows for a broader range of infrastructure improvements than did
3 the original SWIP program.
4

5 **SUMMARY OF TESTIMONY AND RECOMMENDATIONS**

6 **Q. Briefly summarize how your SBCR recommendation testimony is organized.**

7 A. My SBCR recommendation and issue discussion will be organized into **Four Sections**. In
8 **Section One**, I will discuss some regulatory principles that I believe need to be kept in
9 mind when evaluating the fairness and reasonableness of the Staff's SBCR
10 recommendation. In **Section Two**, I will briefly explain the general DSIC concept. In
11 **Section Three**, I will discuss the common arguments raised in support of the approval of
12 previously proposed DSIC mechanisms, and I will discuss the common objections and
13 concerns made regarding the approval of such mechanisms. Also, in this Section, I will
14 provide an overview of the benefits to ratepayers that would result from adoption of
15 Staff's SBCR proposal. In **Section Four**, I will discuss details of the SBCR filing and
16 processing requirements envisioned by Staff. Section Four will also include a discussion
17 of the SBCR Filing Schedules included as Attachments to my direct testimony. These
18 Schedules represent the general framework that Staff recommends utilities be directed to
19 use to support SBCR filings. However, interested party comments regarding the structure
20 of these Schedules are welcome.
21

22 **Q. Mr. Armstrong, is it your intent to discuss all of the previous DSIC-type proposals**
23 **that have been made before the Commission?**

24 A. No. Staff believes that revisiting the details of past recommendations is not necessary in
25 order to assess the reasonableness of Staff's current proposal. The focus should be on
26 whether (or not) the refinements incorporated in Staff's SBCR program, have sufficient

1 merit to establish SBCR as a viable non-traditional regulatory tool to be used in Arizona.
2 In my opinion, the simple fact that past recommendations seem to have contained a “value
3 delivery void,” from the ratepayer’s perspective, is reason enough to look beyond those
4 previous efforts.
5

6 **SECTION ONE**

7 **Q. Mr. Armstrong, please begin by explaining the regulatory principles that you view as**
8 **critical to understanding the merits and objectives of Staff’s SBCR proposal.**

9 A. First, it is important to acknowledge that DSIC programs are non-traditional rate making
10 tools, which may reduce the perceived regulatory lag for the utility, and lead to the receipt
11 of non-traditional revenue streams by qualified water utilities. Second, it is important to
12 recognize that when traditional regulatory lag is reduced for the utility, it usually means
13 that the shortened regulatory lag is being accomplished at the expense of ratepayers. Staff
14 believes that ratepayers should not be expected to give up a significant element of
15 regulatory value, just to facilitate the approval of a DSIC program.
16

17 Staff’s SBCR recommendation assures that ratepayers DO NOT LOSE all the value of
18 regulatory lag. However, the timing of when ratepayers will receive this value is shifted
19 to a later period.
20

21 **Q. Mr. Armstrong, can you provide the Commission with a definition of regulatory lag?**

22 A. Yes. Regulatory lag can be defined as the “time interval between when a charge or credit
23 originates and when it becomes part of the charge for service approved by the regulatory
24 agency,” and also defined as “the inability to have currently-approved rates adequately
25 reflect the current level of operating costs or the current level of throughput.”
26

1 Regulatory lag is a characteristic of the traditional ratemaking process. Some aspects of
2 regulatory lag can favor ratepayers and other aspects can favor utilities. For example,
3 utilities benefit from customer growth and from post-test year efforts to reduce operating
4 expenses, and ratepayers benefit because the carrying costs associated with post-test year
5 plant additions are not immediately reflected in the rates they are paying. In essence, the
6 traditional regulatory model accepts the existence of regulatory lag as an acceptable
7 balancing of the post-test year changes affecting ratepayer and utility interests. If the
8 traditional regulatory lag balance is altered, such as through the approval of a non-
9 traditional mechanism like a DSIC program, then the Commission should consider if it
10 might be reasonable to recognize additional non-traditional regulatory tools in order to
11 help maintain a level playing field.

12
13 **Q. How would this re-balancing be done under Staff's SBCR recommendation?**

14 A. The initially "lost regulatory lag" can be assigned a value and then imputed to a future
15 period. This treatment will ensure quantifiable and tangible benefits for ratepayers, thus
16 ensuring that they continue to receive the ratepayer's benefits of regulatory lag. They just
17 receive this benefit over a different time period, under Staff's recommendation. This
18 element of Staff's proposed SBCR distinguishes it from previous DSIC-type proposals.

19
20 **Q. How does Staff recommend that the "value" of this shift in regulatory lag shift be
21 determined?**

22 A. The most straight forward way of quantifying the value to ratepayers of this shift in the
23 timing of recognition of regulatory lag would be to utilize the level of SBCR surcharge
24 revenues actually booked by the utility as the value to impute in calculating the
25 subsequent revenue requirement reduction.

1 **Q. Do the Attachments to your Direct Testimony include an example of how the value of**
2 **this shift in the timing of the recognition of regulatory lag would be imputed when**
3 **the Commission establishes the utility's annual revenue requirement in a subsequent**
4 **rate case filing?**

5 A. Yes. Turning to Attachment A, and looking at lines 6 and 20, one can see that the level of
6 incremental non-traditional revenues flowing to the utility as the result of the utilization of
7 Staff's SBCR proposal is \$275,000. In this example, a \$500,000 SBCR investment drives
8 annual revenue recoveries of \$68,750, which over a four year recovery period equates to
9 the \$275,000. The equivalent of these aggregate non-traditional revenues is then used on
10 line 20 to derive the value of the imputed regulatory lag as a reduction in the overall
11 revenue requirement. In this example, the aggregate imputed value of the shift in
12 regulatory lag over a 4 year period is \$110,000, which is 40 percent of the aggregate
13 incremental non-traditional revenue stream provided to the utility.

14
15 For simplicity, the Attachment A example only addresses the calculation of billing rates
16 resulting from the first SBCR investment cycle. A utility could have as many as three
17 SBCR investment cycles, so the investment levels approved in the first investment cycle
18 would be added to the investments made in the second cycle to calculate the surcharge
19 billing rates applicable in the second billing year, and the calculation of the billing rates
20 for the third billing year would be based upon the cumulative SBCR investments made
21 through three infrastructure betterment cycles.

22

1 **SECTION TWO**

2 **Q. Before getting into a more detailed discussion of Staff's SBCR recommendation, can**
3 **you provide the Commission with a general overview of the Distribution System**
4 **Improvement Charge concept?**

5 A. Yes. Distribution System Improvement Charge mechanisms have been advocated in
6 various forms both in Arizona and in other regulatory jurisdictions. In general, a DSIC is
7 a non-traditional cost recovery proposal that would enable a regulated utility to implement
8 and/or charge a surcharge designed to recover a defined revenue requirement associated
9 with plant additions made between rate cases. The specific cost of service recoveries can
10 vary, but may include depreciation expense, property taxes, and a rate of return.

11
12 Under most DSIC programs, the capital investments under consideration must meet
13 specified criteria to qualify for inclusion in the surcharge rate calculation. Also, most
14 DSIC programs have accompanying restrictions, such as annual limits as to how much
15 additional surcharge revenue can be charged to customers each year.

16
17 **SECTION THREE**

18 **Q. Mr. Armstrong, can you summarize the general arguments raised in support of the**
19 **approval of DSIC-mechanisms, and the general objections and concerns raised in**
20 **opposition to the approval of such mechanisms?**

21 A. Yes. The reasons given for approving such mechanisms usually include some relatively
22 non-technical arguments, such as ratepayers would rather pay smaller but more frequent
23 rate increases than larger but less frequent rate increases. Obviously, getting feedback
24 from ratepayers in response to such a question is all in the hands of the person structuring
25 and asking the question. Opposing parties also raise other arguments such as, "regulatory
26 lag is good...or regulatory lag is bad... or single issue ratemaking is bad." Staff

1 understands these general arguments, but as previously noted, none of these statements or
2 positions is absolutely correct.

3
4 **Q. Mr. Armstrong, beyond these general objections, does the processing of a DSIC
5 mechanism result in an increased burden on Staff?**

6 A. Yes, it does. A DSIC requires regulatory oversight, and it may consume significant
7 regulatory resources. Allowing utilities to pursue non-traditional rate filings will impose
8 an additional burden on Staff. That fact alone should not serve as the reason for rejecting
9 an otherwise sound regulatory tool. However, in the planning stage, every effort should
10 be made to lessen this burden where reasonably possible. This is a specific consideration
11 that Staff factored into developing its SBCR recommendation which, as I will discuss
12 later, will **require** the filing utility to develop and/or to compile the information and
13 support that Staff will need to review and process each filing as efficiently as possible.

14
15 **Q. Mr. Armstrong, how does the Staff SBCR proposal help to evolve consideration of a
16 DSIC mechanism into a more balanced regulatory option?**

17 A. I believe it is fair to say that regulators across the United States have been less than totally
18 enamored by the arguments presented on either side of this issue. To me, this suggests
19 that something more concrete needs to be built into the structure of DSIC program
20 proposals to make them more balanced, especially from the ratepayer's perspective. As
21 previously noted, Staff's SBCR proposal adds a significant ratepayer benefit not found in
22 previous DISC proposals of which I am aware. By shifting the timing of the recognition
23 of the benefits to ratepayers resulting from regulatory lag, instead of just letting this value
24 slip away, Staff's proposal helps balance the overall DSIC concept.

25

1 It is important to recognize that ratepayers should also benefit from “improved service” as
2 the result of the approval of a DSIC-type mechanism. Under Staff’s SBCR qualifying
3 investment guidelines (See Attachment B to this Direct Testimony), in order to qualify for
4 SBCR treatment, capital projects must be for the replacement of existing facilities that
5 have worn out or are in a deteriorated condition and thus are contributing to excessive
6 water loss, frequent service outages, or poor water quality, through no fault of the
7 Company. Staff witness Mr. Jian Liu, Utilities Engineer, co-sponsors the qualifying
8 investment guidelines contained as Attachment B.

9
10 Quantifying the worth of service quality improvements of this nature may be difficult, but
11 value exists none-the-less. Some benefits may not be immediate, such as a timely pipe
12 replacement that effectively prevents a major leak and/or outage that would have
13 otherwise occurred.

14
15 **Q. In addition to the shift in the timing of the recognition of benefits of regulatory lag to**
16 **customers, that you have already discussed, what additional corner stones is Staff’s**
17 **SBCR pilot program based on?**

18 **A.** First, the water utility must docket and process a full general rate case, and the utility must
19 inform the Commission of its intent to pursue the approval of a SBCR pilot program as a
20 part of this full rate case filing. Second, the filing utility will be required to identify the
21 projects for which it seeks SBCR treatment and to submit the information that will be
22 needed by Staff to review the projects on this list. This supporting information will
23 include providing spreadsheets showing all required calculations – such as earning tests
24 and a customer level growth test. I will provide more specifics when I discuss the SBCR
25 program in detail.

1 **Q. Mr. Armstrong, how does Staff suggest that Rio Rico assure compliance with the**
2 **SBCR project notification and project support requirements at this juncture, since**
3 **the Company was not aware of Staff's SBCR proposal at the time it docketed its**
4 **pending rate request?**

5 A. Hopefully, Rio Rico will consider Staff's overall SBCR proposal, and indicate in its
6 Rebuttal Testimony whether it intends to pursue the approval of an SBCR mechanism in
7 the current case. The Company can start working on its project notification list as the
8 Commission continues to process this docket. Staff will work with the Company and will
9 respond to questions it might have regarding the development of its initial project list
10 and/or questions it might have regarding the supporting information that needs to be
11 provided as soon as practical.

12
13 Staff is not suggesting that the Commission delay issuing its findings with regard to the
14 merits of the Company's underlying rate increase request until after Rio Rico and Staff
15 address these SBCR issues. However, if the Commission decides not to authorize the use
16 of Staff's SBCR pilot program, activities would cease or be redirected in order to be
17 consistent with the Commission's ultimate finding and direction.

18
19 **Q. Please continue.**

20 A. If Rio Rico wishes to pursue an SBCR mechanism in this case, the Company will be
21 **required** to submit most of the information that will be needed to review the filing. This
22 supporting information will include spreadsheets showing all required calculations and
23 assessments – such as the information needed for the Earnings Test and for the System
24 Growth Test assessments. I will provide more specifics later in my testimony. This
25 requirement will help to address the additional burden on Staff, and should help accelerate
26 the review and processing of these surcharge approval requests.

1 **Q. Please describe how the SBCR approval request would be processed.**

2 A. The scope and structure of the SBCR project notification and SBCR filing package were
3 designed to provide Staff with all information needed to complete the filing reviews
4 without the need to issue additional discovery; however, Staff would not be precluded
5 from issuing discovery.

6
7 Rio Rico must also assure that the filing package is complete and accurate. The
8 processing timeframe contemplated by Staff for the SBCR would not allow Rio Rico to
9 repeatedly provide schedule updates or to file supplemental information in order to make a
10 filing packet sufficient. I am flagging this “the filing must be complete and accurate”
11 requirement up front so that there is no misunderstanding here. Note that most of the
12 required information will be provided to the Utilities Division ahead of the docketing of
13 the actual SBCR surcharge approval request.

14
15 **Q. Mr. Armstrong, would the Company be expected to address the issue of the fair
16 value of the underlying assets as a part of its SBCR surcharge approval request?**

17 A. Yes. Rio Rico’s filing should provide information sufficient to allow the Commission to
18 determine the fair value of the underlying assets for ratemaking purposes.

19
20 **SECTION FOUR**

21 **Q. Mr. Armstrong, please discuss the details of Staff’s SBCR recommendation.**

22 A. I will discuss the details of Staff’s SBCR recommendation in four segments. First, I will
23 discuss the overall SBCR timeline. Second, I will discuss the activities occurring within
24 each step of the SBCR review and approval process and the SBCR filing package
25 schedules attached to my direct testimony as Attachment C. Third, I will discuss the
26 phase out aspect of Staff’s recommended imputed revenue requirement reduction in more

1 detail, and fourth I will discuss other elements of Staff's SBCR recommendation, such as
2 the recommended surcharge rate design.

3
4 It will be important for all parties to understand each of these four discussion areas in
5 order for the processing of SBCR program requests to go as smoothly as possible. For
6 each annual SBCR filing, there will be many document submittals and document reviews
7 that will need to be completed in order for Staff to recommend Commission approval of
8 an SBCR surcharge.

9
10 **Q. Mr. Armstrong, please continue with your SBCR approval sequence/timeline**
11 **discussion.**

12 **A.** First, Rio Rico must indicate in its Rebuttal Testimony whether it intends to pursue Staff's
13 proposed SBCR. The Commission's decision and certain information from Rio Rico's
14 current rate change filing will be used in calculating authorized SBCR surcharge revenues.
15 Specifically, the following information will be utilized:

- 16
17 1. the adopted capital structure and authorized ROR (with income tax gross up if
18 applicable);
19 2. approved depreciation rates;
20 3. effective property tax gross-up factor;
21 4. billing determinants; and,
22 5. other data needed to calculate the system growth and the earnings tests

23
24 Also Rio Rico would provide Staff with a list of the projects that it expects to undertake
25 within the twelve months following the issuance of a Commission order in this case. For
26 these projects, the utility must provide all of the project specific information summarized

1 in Table 1 on page 3 of Attachment B to my direct testimony. Staff will assess this
2 preliminary list of projects and, as a part of its rate case recommendations, address any
3 concerns it has with regards to any of the proposed projects. In addition, Staff may need
4 supplementary support related to some of these projects.

5
6 **Q. Please continue.**

7 **A.** For a period of twelve months beginning with the first full month after the effective date
8 of the order in Rio Rico's instant rate case filing, the Company is to make quarterly
9 updates regarding the status and costs incurred for the projects on its notification list. The
10 completed project status updates will follow the reporting requirements identified on
11 Table 2, of page 3 of Attachment B. Rio Rico may only add new projects to its initial list
12 if undertaking the additional project is due to an emergency situation that must be
13 addressed in a timely manner. The Company is not obligated to go forward with all
14 projects on its initial notification list. All projects must be reasonably expected to be
15 completed and in-service by the end of the 12-month period. Any new projects added due
16 to emergency situations must be clearly identified and explained and must be
17 accompanied by all information contained on page 3 of Attachment B.

18
19 Staff will provide a letter back to the utility identifying any new projects that it determines
20 do not qualify for SBCR program treatment.
21

1 **Q. Mr. Armstrong, once this twelve month completed project reporting period has**
2 **ended, would Rio Rico formally docket its request for approval to begin billing its**
3 **SBCR Surcharge to customers?**

4 **A.** Yes. As soon as possible, but no later than three months after the end of the twelve month
5 period noted above, the Company is to formally docket its SBCR surcharge approval
6 request. The schedules to be included in this formal docket are included in Attachment C.
7 Only projects that have been included in project notification filing, and accepted by Staff,
8 can be included in this formal filing. Rio Rico **must include** copies of all supporting
9 documentation outlined on page 3 of Attachment C.

10

11 In its formal SBCR surcharge request, the utility should include the list of projects for the
12 subsequent twelve months for which it expects to seek SBCR recovery in the next SBCR
13 cycle. In other words, the yearly SBCR approval process will address 1) the
14 determination of the surcharge and 2) the establishment of the subsequent list of
15 qualifying projects eligible for SBCR treatment in the next annual surcharge filing.

16

17 Staff would recommend that Rio Rico's SBCR surcharge approval requests be filed in the
18 current rate case docket, SW-0267A-12-0196.

19

20 The filing package must include a written affirmation that the information provided is
21 complete and accurate, and that the projects are in service as of the date of the written
22 affirmation.

23

24 The processing of Rio Rico's formal SBCR surcharge approval docket will advance under
25 the following time guideline:

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24

1. Staff will endeavor to complete its review of the formal docket and issue a Staff Memorandum and proposed order within 60 days.
2. Next, the Staff Memorandum and a proposed order will be placed on the Commission's Open Meeting Agenda. The utility may file a response to the Staff Memorandum. Rio Rico would be allowed to request a hearing if Staff materially disagrees with the SBCR surcharge calculation made by the Company, or if Staff recommends that the SBCR surcharge be discontinued. Other intervenors would also be allowed to file comments in response to the Staff Memorandum or to request a hearing.
3. Unless otherwise ordered by the Commission, Rio Rico would then be authorized to begin billing the SBCR surcharge to customers per the Commission final order. Changes in the billing rate could be authorized by the Commission result of a second SBCR investment cycle, which would include a new cycle of project notifications, a Staff review, and the docketing and processing of a second request to continue with SBCR surcharge filings. Subsequent SBCR surcharge approval requests would be made in the same docket as Rio Rico's first SBRC approval request.

The Commission would retain the right to discontinue allowing Rio Rico to use the Staff's SBCR program at any time. The Commission also retains the right to modify the original SBCR program at any time.

1 **Q. Mr. Armstrong, why has Staff chosen to require Rio Rico to submit the information**
2 **needed to complete the System Growth Test and the Earnings Test?**

3 A. The results of these two tests will provide the Staff with a means of assessing whether or
4 not Rio Rico is over-earning, or under-earning, through its currently approved base rates.
5 These two tests are designed to provide reasonable assurance that the risk that the
6 Company is currently over-earning its authorized ROR is minimal. The SBCR surcharge
7 should be allowed only if Rio Rico is under-earning.

8
9 The data feeding into these two tests is identified on Attachment D to my Direct
10 Testimony. Most of the required information will come from the Rio Rico rate case filing
11 or from the utility's most recent annual report to the ACC.

12
13 **Q. Mr. Armstrong, can you explain the structure and purpose of the Growth Test in**
14 **more detail?**

15 A. Yes. The term Growth Test is the name Staff is using for a review of "key data" that Staff
16 believes will help the Commission assess the ongoing reasonableness of Rio Rico's
17 currently approved base rates. The results from the Growth Test assessment will help
18 support the reasonableness of approving the SBCR surcharge.

19
20 The key data element changes which Staff will assess are identified in Attachment D to
21 my Direct Testimony. These data elements include changes in the number of customers,
22 changes to the level of non-SBCR infrastructure investments, changes to sales volumes,
23 changes in the number of employees, and changes in the period ending equity and
24 outstanding long-term debt, and others. Staff is not providing a specific mathematical
25 equation that all of this data will channel into in making an assessment. Staff expects to

1 evaluate the data element changes to determine if utility could be overearning. If so then
2 Staff may recommend that the SBCR surcharge approval request be denied.
3

4 **Q. Mr. Armstrong, please discuss the Earnings Test in more detail.**

5 A. The Earnings Test calculation is intended to provide a view of the utility's latest earnings
6 picture. Most of the data feeding into this assessment comes directly from the utility's
7 current fiscal year income statement. Staff recommends that the data NOT include the
8 revenue and expense annualizations typically made as part of a rate increase filing. Again,
9 Staff is attempting to control the complexity of the SBCR filing support. However, the
10 utility would be required to provide details (dollar levels and expense component
11 breakouts) regarding the following information which Staff would, in turn, give effect to
12 when evaluating the utility's current earning position:
13

- 14 1. Total executive compensation;
- 15 2. Employee bonuses;
- 16 3. Charitable contributions;
- 17 4. Litigation costs and settlements;
- 18 5. Penalties paid;
- 19 6. A discussion of on-going litigation;
- 20 7. A discussion of material accounting changes occurring during the fiscal
21 year, or expected to materially impact the subsequent year's operating
22 results;
- 23 8. The total SBCR investments made during the fiscal year; and,
- 24 9. The total SBCR revenues received or accrued on the Company's books
25 during the fiscal year.

1 Issue discussions and disclosures would be similar to the level of information included in
2 the footnotes to the utility's financial statements.

3
4 Since the purpose of this Earnings Test is to assess the likelihood that current earnings
5 exceed the level of required operating income established by the Commission in the
6 utility's latest rate case, the results of Staff's earnings test assessment will simply be
7 compared to level of required operating income identified by the Commission in Rio
8 Rico's pending rate case.

9
10 **Q. Mr. Armstrong what do you mean by Staff "giving effect" to the nine elements of**
11 **information just listed?**

12 **A.** Giving effect to these nine elements of information simply means that Staff intends to
13 weigh this additional information before reaching a conclusion regarding the risk that the
14 utility might be over-earning from its currently approved base rates. Obviously, if the
15 information provided suggests that the matter deserves a more detailed assessment, Staff
16 will incorporate that finding in its overall SBCR approval recommendation regarding the
17 Rio Rico request.

18
19 **Q. Mr. Armstrong, is Staff recommending that Rio Rico be required to support its**
20 **surcharge approval requests with formal written testimony?**

21 **A.** No. It would be Staff's expectation that all letters, schedules, and supporting
22 documentation provided to Staff during the course of the SBCR process would be
23 introduced into the record in the docketed filing made by the utility and that one Company
24 representative would include an attestation that the documents provided to Staff were in
25 fact generated by the Company and that such information was true and accurate.

26

1 The Staff Memorandum to be filed in the docket should be rather straight forward since it
2 is expected that this Memorandum would acknowledge that an adequate review of the
3 filed information has been completed, that Rio Rico in fact did provide complete and
4 accurate support for its filing, and that Staff was accepting the filing and recommending
5 approval of the resulting SBCR surcharge billing rates. If significant problems or filing
6 inaccuracies were encountered, Staff will recommend that the Company's request be
7 denied. It is not expected that Staff will argue for one set of surcharge billing rates and the
8 Company a second set of surcharge billing rates, but Staff will not rule out allowing a
9 request to go forward but recommending some changes to the rate design outlined in the
10 Staff's SBCR plan.

11
12 **Q. What rate structure would be used for surcharge billings under Staff's SBCR**
13 **proposal?**

14 **A.** The targeted annual revenues would be billed out volumetrically, with 10 percent of the
15 revenues designed to be recovered through the first rate tier, 30 percent of the revenues
16 designed to be recovered through the second rate tier, and 60 percent of the revenues
17 designed to be recovered through the third tier. The billing determinants accepted for
18 designing rates in the base rate case would also be used as the billing determinants for
19 calculating the SBCR surcharge. An example of how this billing structure development
20 might look is included in Attachment C to my Direct Testimony.

21
22 It is Staff's recommendation that the SBCR surcharge apply to volumes sold to all
23 customer classes. If the rates applicable to a particular customer class only have two
24 usage tiers, then 40 percent of the targeted revenue recoveries would come from the first
25 tier, and 60 percent from the second tier. However, for simplicity, my Attachment C
26 example only focuses on a customer class that has a three tiered rate design.

1 **Q. Mr. Armstrong, in the introductory portion of your testimony, you noted that Staff's**
2 **SBCR recommendation shifts the timing of the recognition of the ratepayer's**
3 **benefits of regulatory lag through an imputed reduction made in calculating the**
4 **utility's annual revenue requirement, but that this imputed reduction to the utility's**
5 **annual revenue requirement would not be permanent. Please explain how the**
6 **treatment of this timing difference would be eliminated or phased out over time.**

7 A. Obviously if the treatment recommended by Staff was permanent, Rio Rico could be
8 financially disadvantaged by availing itself of the SBCR option. Under Staff's plan
9 ratepayers should expect to pay lower rates for four years (from a subsequent rate case) for
10 each SBCR surcharge approval: however, this time period could be longer if Rio Rico
11 chooses to docket frequent requests for increases to its base rates. The following example
12 explains Staff's recommendation regarding the phase out of this treatment:

13
14 Rate Filing Activity flow –

- 15
- 16 1. An initial full rate case (GRC-1) is filed and processed within which the utility
17 asks for approval to use the SBCR surcharge option.
 - 18
 - 19 2. The utility formally docket its SBCR surcharge approval request, under the same
20 docket number given to GRC-1. This would position the utility to submit up to
21 three SBCR billing rate adjustments to give consideration to SBCR qualified
22 investments made over three cycles.
 - 23
 - 24 3. The utility docket its second full rate case (GRC-2). GRC-2 is the full rate case
25 filing in which the value of the shift in the timing of the recognition of the benefits

1 of regulatory lag is recognized by the Commission as an adjustment to the utility's
2 total annual revenue requirement.

3
4 Staff's general assumption is that the utility would continue to bill the rates coming
5 out of GRC-2 for four years. (One of these years could be while the utility's next
6 rate change filing is being processed.)

7
8 4. The utility docket its third full rate case (GRC-3). If GRC-3 is not filed for more
9 than three years after effective date of the Commission's order in GRC-2, the
10 revenue requirement reduction related to the recognition of the value of the shift in
11 the timing of the recognition of regulatory lag would NOT be required as a part of
12 this filing (GRC-3).

13
14 5. If a utility chooses to take advantage of the SBCR option, and files GRC-3 less
15 than three years after the effective date of the Commission's Order in GRC-2, the
16 utility must continue to recognize a pro-rata share of the original total value of the
17 shift in recognition of regulatory lag as a reduction in total revenue requirement in
18 GRC-3. If for example, the utility only waited one year to docket GRC-3, the pro-
19 rated revenue requirement reduction would be two-thirds of the original value.
20 Returning to Attachment A, under this example, the value captured on line 20,
21 column C would be (\$181,333). This is two-thirds of the original reduction of
22 (\$275,000).

23

1 **Q. Mr. Armstrong, would the fact that Staff's SBCR recommendation would result in a**
2 **timing shift related to the recognition of the benefits of regulatory lag to ratepayers**
3 **impact the ability of Rio Rico to record these additional SBCR revenues as income as**
4 **they are billed to customers?**

5 A. No, for several reasons. First, I would note that under accrual accounting, revenue
6 recognition is proper when the underlying services have been rendered, and the resulting
7 claim to cash (actual cash or accounts receivable) is realizable. Apart from some
8 unanticipated specific Commission directive, there is nothing in Staff's SBCR proposal
9 that would make these revenues interim and subject to refund or make the recording of
10 these revenues conditional.

11
12 Second, the recognition of imputed considerations, or factors, in quantifying a utility's
13 annual revenue requirement is not unprecedented in rate making.

14
15 **Q. Mr. Armstrong, please explain your second reason that "recognition of imputed**
16 **considerations, or factors, in quantifying a utility's annual revenue requirement is**
17 **not unprecedented in rate making," in more detail.**

18 A. The annual revenue requirement, upon which utility rates are designed, is summarized as:

19
20
$$RR = (RB * ROR) + E$$

21 Where RR = Revenue Requirement

22 RB = Rate Base

23 ROR = Rate-of-Return (including income tax gross up if applicable)

24 E = The aggregate of annualized and normalized expenses that need to
25 be incurred in order to provide safe and reliable service.

1 RB can include a Cash Working Capital allowance, which is an imputed value not
2 specifically found on the utility's books. The ROR can be a totally (or partially)
3 hypothetical factor. E often includes normalized expense levels which cannot be traced to
4 the utility's books and records. The inclusion of such considerations when defining a
5 utility's annual revenue requirement does not place the utility in a position where it must
6 "qualify" the revenues it records.

7
8 I view the shifting of the timing of when ratepayers receive the benefits of regulatory lag
9 as being similar to these routinely recognized factors impacting the Commission's
10 determination of a utility's annualized revenue requirement.

11
12 **Q. Mr. Armstrong, please discuss the other elements of Staff's SBCR plan.**

13 A. The first additional element is the matter of costs incurred in processing an SBCR filing.
14 Rio Rico should not be allowed to defer any internal costs, such as payroll, since such
15 costs in all likelihood will already be in the Company's base rate structure. However,
16 Staff would recommend that Rio Rico be allowed to defer prudently incurred external
17 costs. Staff would review such cost deferrals before making a specific cost recovery
18 recommendation in a subsequent rate change filing.

19
20 The second item relates to SBCR revenue true-ups. Since ratepayer protection is essential,
21 Staff would recommend that any over-recovery would need to be tracked and ultimately
22 flowed back to ratepayers. The means of flowing back these over-collections would be
23 addressed in Rio Rico's subsequent rate case. Under-recoveries would not be recoverable
24 by the Company.

1 Third, Staff is recommending a 2 percent annual incremental revenue cap on the level of
2 additional surcharge that Rio Rico could bill. The aggregate total additional revenues
3 generated could not exceed 18 percent of the total current revenue requirement, which
4 would be the total revenue requirement authorized by the Commission in the instant rate
5 case. It would take three full DSIC investment cycles to reach the 18 percent total revenue
6 recovery cap. The following chart shows how Rio Rico's SBCR investments could get to
7 the 18 percent cap:

8

SBCR Cycle	Revenue Recovery Year 1	Revenue Recovery Year 2	Revenue Recovery Year 3	Revenue Recovery Year 4 *
SBCR Cycle 1	2%	2%	2%	2%
SBCR Cycle 2		2%	2%	2%
SBCR Cycle 3			2%	2%

9

10 * Year 4 recoveries would occur during the processing of Rio Rico's subsequent rate
11 case. Additional system investments occurring during this year would be
12 addressed as part of rate base in that subsequent rate case.

13

14 **Q. Can you provide an example of what the magnitude of these additional non-**
15 **traditional revenues would equate to if the total annual base revenues authorized for**
16 **Rio Rico was \$3.5 million?**

17 A. The additional non-traditional revenues flowing to Rio Rico would be \$70,000 in
18 surcharge billing year one, \$140,000 in surcharge billing year two, and \$210,000 in billing
19 years three and four, for a total of \$630,000. \$630,000 is 18 percent of the \$3.5 m current
20 revenue reference.

21

1 **Q. Mr. Armstrong, you have discussed the possibility that Rio Rico could process up to**
2 **three SBCR investment and surcharge recovery cycles before the Company would be**
3 **required to docket its subsequent full rate case filing. (This is the filing in which the**
4 **ratepayers benefits associated with the shift in the timing of the recognition of**
5 **regulatory lag would be imputed by the Commission when calculating the**
6 **Company's annual revenue requirement.) Will you expand on your discussion of**
7 **this investment, surcharge recovery, and subsequent rate change filing timeline?**

8 **A.** Yes. While it is hoped that through utilization of the SBCR mechanism, utilities will be
9 able to spread out the filing of full rate case filings, Staff also wants to assure that
10 ratepayers are positioned to start receiving the benefits of regulatory lag within a
11 reasonable period of time. Therefore, Staff recommends that utilities be allowed to docket
12 up to three formal SBCR surcharge approval requests, which individually and in aggregate
13 to not exceed to caps I previously discussed. However, utilities would be **required** to file
14 a full rate case no late than five years from the effective date of the Commission's order
15 approving the Company's first SBCR mechanism or within twelve months of the third
16 SBCR surcharge cycle approval, whichever comes first. The five year limit should apply
17 only where the utility did not seek approval of incremental SBCR investments each
18 consecutive year.

19
20 If the utility failed to docket the full rate case filing just discussed, the use of the SBCR
21 mechanism and all SBCR surcharge billings would cease until such a full rate case filing
22 had been docketed and processed to order.

23

1 **Q. Please continue with your explanation of the other matters related to Staff's SBCR**
2 **recommendation.**

3 **A.** Finally, under Staff's plan, the SBCR surcharge would be set to zero as of the effective
4 date of the subsequent next general rate case.

5
6 **Q. Is your testimony in this matter intended to create a generic pilot program that other**
7 **utilities could use?**

8 **A.** My testimony in this case is intended to focus upon Rio Rico and its pending rate
9 application. However, I recognize that other Arizona public service companies may be
10 following this case and may wish to seek similar regulatory treatment.

11 Staff nonetheless believes that a full rate case is necessary to establish a SBCR-type
12 mechanism, so any utility requesting one would need to file a general rate application as a
13 prerequisite. Furthermore, if the Commission elects to approve Staff's proposed SBCR
14 for Rio Rico, Staff's preference would be to proceed with caution to better assess the
15 performance and implementation of the mechanism. Staff would oppose widespread
16 adoption of the SBCR concept at this time, and instead would suggest a more measured
17 approach, perhaps beginning with Class A & B water companies.

18
19 **Q. Does this conclude your Direct Testimony?**

20 **A.** Yes, it does.

Line No.		A	B	C	D	E
1	SBCR Investment		\$ 500,000			
2	ROR w/Tax	10.00%	50,000			
3	Depreciation	2.50%	12,500			
4	Property Tax Gross Up	1.25%	<u>6,250</u>			
5	Per Year Incremental Non-Traditional Revenue Stream		<u>\$ 68,750</u>			
6	4 Year Value		<u>\$ 275,000</u>			

		Traditional	Imputed Value of Shift in Regulatory Lag	
7	Plant-in-Service	\$ 8,000,000	\$ 8,000,000	
8	DSIC-2 Investments	500,000	500,000	
8	Less: Accumulated Depreciation	<u>3,200,000</u>	<u>3,200,000</u>	
10		\$ 5,300,000	\$ 5,300,000	
11	Materials & Supplies	<u>320,000</u>	<u>320,000</u>	
12	Gross Rate Base	\$ 5,620,000	\$ 5,620,000	
	Less:			
13	ADIT	\$ 960,000	\$ 960,000	
14	CIAC	320,000	320,000	
15	Customer Deposits	160,000	160,000	
16	Total Rate Base Reductions	<u>1,440,000</u>	<u>1,440,000</u>	
17	Total Rate Base	\$ 4,180,000	\$ 4,180,000	
18	ROR w/Tax	<u>10.0%</u>	<u>10.0%</u>	
19	ROR Portion of Revenue Requirement	<u>\$ 418,000</u>	\$ 418,000	
20	Inputed Value of Shift in Regulatory Lag		\$ (275,000)	
21	ROR w/Tax		<u>10.0%</u>	
22			\$ (27,500)	
23			<u>\$ 390,500</u>	\$ (27,500) *
24	Number of Years			<u>4</u>
25	Value Over 4 years			<u>\$ (110,000)</u>
26	Value as a % (Line 22, Column E / Line 6, column B)			<u>-40%</u>

* There would also be a slight decrease in the resulting property tax gross-up calculation

QUALIFYING INVESTMENT GUIDELINES

SBCR Eligible Plant by NARUC Account No.

Supply Mains – Account No. 309

- Supply Mains and appurtenances installed as replacements for existing facilities that have worn out or are in deteriorating condition and contributing to excessive water loss at no fault of the company and that have been documented and presented with valid water use data showing that the company has a history of excessive water loss

Transmission & Distribution Mains – Account No. 331

- T & D Mains and appurtenances installed as replacements for existing facilities that have worn out or are in deteriorating condition and contributing to excessive water loss at no fault of the company and that have been documented and presented with valid water use data showing that the company has a history of excessive water loss

Services – Account No. 333

- Services installed as replacements for existing facilities that have worn out or are in deteriorating condition and contributing to excessive water loss at no fault of the company and that have been documented and presented with valid water use data showing that the company has a history of excessive water loss

Meters – Account No. 334

- Meters and appurtenances installed as replacements for existing facilities that have worn out or are in deteriorating condition and contributing to excessive water loss at no fault of the company and that have been documented and presented with valid water use data showing that the company has a history of excessive water loss

QUALIFYING INVESTMENT GUIDELINES (Con't)

Filing Requirements for SBCR Eligible Projects Notification (information to be provided by Public Water System)

- Documentation demonstrating current compliance with regulatory agencies
- Documentation including valid Water Use Data showing that the water system has a history of excessive water loss
- Detailed project description showing that the replacement infrastructure investments are necessary and benefit existing customers
- Detailed project information , identifying the most critical areas, the quantity of aging infrastructure that need to be replaced, detailed estimated associated replacement cost and estimated date of completion
- Specifications of the SBCR eligible plant by type and NARUC account number
- Affirmation that the SBCR eligible plant does not include the costs for extending or expanding facilities to serve new customers

Filing Requirements for SBCR Eligible Completed Projects (information to be provided by Public Water System)

- Affirmation that the completed replacement plant and related costs do not deviate from plant/costs submitted with project notification (include narration explaining deviations, if any)
- Affirmation that projects are in-service (include pictures of SBCR-eligible plant during construction and upon project completion)
- All project related approvals issued by local, county, state and federal agencies

ATTACHMENT "B"
 TABLE I

Information to be included with SBCR-Eligible Project Notification						
NARUC Acct No. (SBCR-eligible plant)	Replacement Plant Description* (SBCR-eligible plant)	PWS No.	Site (location description)	Replacement Plant		Original Plant (Plant To Be Retired)
				Expected In-Service Date	Estimated Cost (with detailed cost estimate)	
	See Qualifying Investment Guidelines			Expected Retirement Date	Original In-Service Date, Original Cost	Narrative (why Replacement Plant is necessary and how it will benefit existing customers, and affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers).
309	Supply Mains (pipe length, diameter, material, cost/unit)					
331	T&D Mains (pipe length, diameter, material, cost/unit)					
333	Services (quantity, diameter, material, cost/unit)					
334	Meters (size, quantity, cost/unit)					
Note*	Provide detailed project information identifying the most critical areas					

TABLE II

Information to be included with SBCR-Eligible Completed Project Filings						
NARUC Acct No. (SBCR-eligible plant)	Replacement Plant Description (SBCR-eligible plant)	PWS No.	Site (location description)	Replacement Plant		Original Plant (Plant Being Retired)
				In-Service Date (provide ADEQ AOC and other related approvals by state and/or federal agencies when applicable; pictures of installed plant)	Actual Cost**	
	See Qualifying Investment Guidelines			Actual Retirement Date	Original In-Service Date, Original Cost, Accumulated Depreciation Reserve	Affirmation that the completed Replacement Plant and related costs do not deviate from plan/costs submitted with SBCR-eligible Project Notification, and narration explaining deviations, if any.
309	Supply Mains (pipe length, diameter, material, cost/unit)					
331	T&D Mains (pipe length, diameter, material, cost/unit)					
333	Services (quantity, diameter, material, cost/unit)					
334	Meters (size, quantity, cost/unit)					
Note**	Provide detailed explanations, if actual cost is different from the original cost estimate					

SBCR Qualified Projects

Line Number	Individual Project Descriptions	Date ACC Notified	Date In Service	Total Actual Project Cost	Net Investment Retired Plant	Net Investment Increased	Total
1	ABC	1/12/2013	4/10/2013	\$ 125,000	\$ -	\$ 125,000	
2	DEF	1/12/2013	5/11/2013	75,000	10,000	65,000	
3	GHI - Emergency Addition	3/6/2013	3/26/2013	220,000	20,000	200,000	
4	JKI	1/12/2013	9/12/2013	110,000	-	110,000	
5				\$ 530,000	\$ 30,000	\$ 500,000	\$ 500,000
6	ROR						10.00% \$ 50,000
7	Depreciation Expense						12,500
8	Property Tax Gross Up						6,250
9							\$ 68,750

Billing Determinants and Resulting Surcharge Calculations:

	Units	Recovery Target % Spread	Surcharge Billing Rate	Revenue Recoveries
10 Rate TIER one	677,683	10%	0.0101	\$ 6,875
11 Rate TIER two	483,592	30%	0.0426	20,625
12 Rate TIER three	219,438	60%	0.1880	41,250
13				\$ 68,750

SBCR Qualified Projects

	A	B	C	D
Line Number	Individual Project Descriptions	Total Project Cost	Depreciation Rate	Depreciation Expense
1	ABC	125,000	2%	\$ 2,500
2	DEF	75,000	3%	2,250
3	GHI - Emergency Addition	220,000	3%	5,550
4	JKI	110,000	2%	<u>2,200</u>
5	Total Annual Depreciation Expense			<u>\$ 12,500</u>

SBCR Qualified Projects

Documentation Discussion:

- 1 Rio Rico is responsible for providing sufficient and accurate documentation supporting all of the financial data on Attachment C.
- 2 This support will include actual copies of the applicable portions of previous Commission Orders and/or Schedules from past dockets. ROR, approved depreciation rates, effective property tax gross-up rates, billing determinants used to support rate design/surcharge rate calculations would all be expected to come from previous Commission Orders. If only portions of previous Commission Orders are provided, each page shall clearly show the Docket Number and Decision Number from which each page was taken.
- 3 Additional Schedules should be included if such schedules are needed to support any dollar amount in the lead sheets. All Schedules, Order excerpts, and other supporting documentation shall be cross referenced to make Staff's review of the information provided go quickly and efficiently.
- 4 Documentation will also include copies of project notifications and reconciliations between the actual cost of each project and the original cost estimates included as part of the initial project notifications. (Attachment B)
- 5 Rio Rico shall include the name, phone number, and business e-mail address of a Company representative who Staff may contact with questions.

System Growth Test:

The term System Growth Test is being used to designate an examination of the changes in “key data elements,” that will help the Commission assess the reasonableness of the utility’s currently approved base rates.

Changes in the level of the following key data elements will be analyzed:

1. the number of customers;
2. the level of non-SBCR infrastructure investments;
3. sales volumes;
4. number of employees;
5. the level of period-ending equity;
6. the level of period-ending outstanding debt; and,
7. the level of general inflation occurring during the most recent 12-month SBCR cycle, which shall be the inflation rate in the United States as reported by the Bureau of Labor Statistics.

The initial values for these key data elements will come from the information contained in the utility’s test year applicable to the full rate filing in which the utility was authorized by the Commission to utilize the SBCR mechanism.

A utility is to identify the test-year equivalent of each applicable key data element and include this information as a part of its formal application seeking Commission approval to utilize the SBCR surcharge.

The utility will provide schedules showing how the change in each underlying key data element was calculated. Staff will evaluate these results and give effect to these results in formulating its Staff Memorandum recommendation regarding the utility’s SBCR surcharge approval filing. This analysis is designed to allow Staff to determine whether, or not, there is a need to evaluate the utility’s current earnings position in more detail.

If Staff finds that the results of the System Growth Test and the Earnings Test do not suggest a material risk of over-earning, consideration of the utility’s SBCR surcharge

approval request will move forward with Staff giving consideration to the accuracy and completeness of the other supporting schedules included in the utility's filing package.

The following is an example of the information that could accompany the key data element – **the level of period-ending equity**.

Key Element	Test Year Equivalent	Operating Cycle Equivalent	Change
Total Equity	\$5,000,000	\$4,900,000	(\$100,000)

Key Element Change Discussion:
XYZ Water Utility incurred an operating loss of \$100,000 during the fiscal year ending _____. This loss was attributable to the non-recurring writedown of X and higher than normal Y expenses.
(Obviously if there was a stock issuance or something of this nature, this activity would need to be identified and explained.)

Key Element Support Acknowledgement:
I hereby attest that the information provided, and the supporting documentation, is complete and accurate, and reflective of the information available on or from the Company's books and records.
Name and Title:
Date:

Earnings Test:

The utility shall provide the results of the Earnings Test in schedules that will begin with the utility's net income (loss) for the period in a format similar to the Comparative Statement of Income and Expense contained in the utility's annual report to the ACC. Therefore, this information will include a comparison to the prior year's results. A copy of Rio Rico's 2011 Comparative Statement of Income and Expense is included as an example. Other schedules and explanations are to be included, as necessary, to fully explain any line item change of more than 10%.

The Earnings Test calculation is intended to provide a view of the utility's latest earnings picture. Most of the data feeding into this assessment comes directly from the utility's current fiscal year income statement. Staff recommends that the data NOT include the revenue and expense annualizations typically made as part of a rate increase filing. However, the utility would be required to provide details (dollar levels and expense component breakouts) regarding the following information which Staff would, in turn, give effect to when evaluating the utility's current earning position:

1. Total executive compensation;
2. Employee bonuses;
3. Charitable contributions;
4. Litigation costs and settlements;
5. Penalties paid;
6. A discussion of on-going litigation;
7. A discussion of material accounting changes occurring during the fiscal year, or expected to materially impact the subsequent year's operating results;
8. The total SBCR investments made during the fiscal year; and,
9. The total SBCR revenues received or accrued on the company's books during the fiscal year.

Issue discussions and disclosures would be similar to the level of information included in the footnotes to the utility's financial statements.

Since the purpose of this Earnings Test is to assess the likelihood that current earnings exceed the level of required operating income established by the Commission in the utility's latest rate case, the results of Staff's Earnings Test assessment will simply be compared to this previously identified level of operating income.

Earnings Test Acknowledgement:

I hereby attest that the information provided, and the supporting documentation, is complete and accurate, and reflective of the information available on or from the Company's books and records.

Name and Title:

Date:

COMPANY NAME

Rio Rico Utilities, Inc (Water)

COMPARATIVE STATEMENT OF INCOME AND EXPENSE

Acct. No.	OPERATING REVENUES	PRIOR YEAR	CURRENT YEAR
461	Metered Water Revenue	\$ 1,745,797	\$ 2,739,261
460	Unmetered Water Revenue	\$ -	\$ -
474	Other Water Revenues	\$ 42,218	\$ 42,218
	TOTAL REVENUES	\$ 1,788,015	\$ 2,781,479
	OPERATING EXPENSES		
601	Salaries and Wages	\$ -	\$ -
610	Purchased Water	\$ -	\$ -
615	Purchased Power	\$ 375,913	\$ 377,706
618	Chemicals	\$ 6,828	\$ 4,553
620	Repairs and Maintenance	\$ 12,319	\$ 28,217
621	Office Supplies and Expense	\$ 50,288	\$ 46,221
630	Outside Services	\$ 1,023,410	\$ 1,107,137
635	Water Testing	\$ 29,100	\$ 10,436
641	Rents	\$ 24,878	\$ 21,924
650	Transportation Expenses	\$ 79,084	\$ 88,219
657	Insurance - General Liability	\$ 34,353	\$ 43,323
659	Insurance - Health and Life	\$ -	\$ -
666	Regulatory Commission Expense - Rate Case	\$ 18,263	\$ 35,850
675	Miscellaneous Expense	\$ 39,228	\$ 38,397
403	Depreciation Expense	\$ 60,990	\$ 2,987,577
408	Taxes Other Than Income	\$ -	\$ -
408.11	Property Taxes	\$ 177,922	\$ 174,292
409	Income Tax	\$ -	\$ -
	TOTAL OPERATING EXPENSES	\$ 1,932,576	\$ 4,963,852
	OTHER INCOME/EXPENSE		
419	Interest and Dividend Income	\$ -	\$ -
421	Non-Utility Income	\$ -	\$ -
426	Miscellaneous Non-Utility Expenses	\$ -	\$ -
427	Interest Expense	\$ 7,556	\$ 9,656
	TOTAL OTHER INCOME/EXP	\$ (7,556)	\$ (9,656)
	NET INCOME/(LOSS)	\$ (152,117)	\$ (2,192,030)

Rio Rico Utilities
Docket No. WS-027676A-12-0196

James Armstrong Direct Testimony
Attachment E

TARIFF SCHEDULE

Utility: _____

Tariff Sheet No.: _____

Docket No.: _____

Decision No.: _____

Telephone No.: _____

Effective date: _____

SYSTEM BETTERMENT COST RECOVERY ("SBCR")

I. General Description

A. Purpose: To recover the reasonable and prudent fixed costs (depreciation expense, property tax gross-up, and authorized rate of return) on certain non-revenue producing distribution system betterment projects completed and placed in service and to be recorded in the individual accounts, as noted below, between base rate cases and to provide the utility with the resources to accelerate the replacement of aging water distribution infrastructure. The SBCR will only be available to Class A and Class B utilities. The cost of additional plant that extend facilities to serve new customers is not recoverable through the SBCR.

B. Eligible Property: The SBCR-eligible property will consist of the following:

- supply mains and appurtenances (Account No. 309) installed as replacements for existing facilities that have worn out or are in deteriorating condition and contributing to excessive water loss at no fault of the utility and that have been documented and presented with valid water use data showing that the utility has a history of excessive water loss;
- transmission and distribution mains and appurtenances (Account No. 331) installed as replacements for existing facilities that have worn out or are in deteriorating condition and contributing to excessive water loss at no fault of the utility and that have been documented and presented with valid water use data showing that the utility has a history of excessive water loss;
- services (Account No. 333) installed as replacements for existing facilities that have worn out or are in deteriorating condition and contributing to excessive water loss at no fault of the utility and that have been documented and presented with valid water use data showing that the utility has a history of excessive water loss;
- meters and appurtenances (Account No. 334) installed as replacements for existing facilities that have worn out or are in deteriorating condition and contributing to excessive water loss at no fault of the utility and that have been

TARIFF SCHEDULE

Utility: _____

Tariff Sheet No.: _____

Docket No.: _____

Decision No.: _____

Telephone No.: _____

Effective date: _____

documented and presented with valid water use data showing that the utility has a history of excessive water loss.

II. Computation of the SBCR

A. Calculation: The initial SBCR surcharge shall be calculated to recover the prudent fixed costs on eligible distribution system betterments that have not previously been reflected in the utility’s rates or rate base and will have been placed in service between MM/DD/YYYY, and MM/DD/YYYY. Thereafter, the SBCR surcharge billing rate will be updated on an annual basis to reflect the eligible distribution system improvements placed in service during the subsequent SBCR investment cycle.

B. Determination of Fixed Costs: The fixed costs of eligible distribution system improvement projects will consist of depreciation, property tax gross-up, and Commission authorized ROR (inclusive of income taxes if applicable), calculated as follows:

1. Depreciation: The depreciation expense shall be calculated by applying to the original cost of the eligible distribution system betterments and the annual accrual rates employed in the utility’s last base rate case for the plant accounts in which each retirement unit of eligible distribution system improvements is recorded.

2. Property Tax Gross-up: The property tax gross-up will be calculated using the same effective property-tax gross-up factor utilized in the full rate case in which the utility was authorized to use the SBCR mechanism.

3. Rate of Return: The rate of return shall be the authorized rate of return, inclusive of income taxes if authorized by the Commission, from the full rate case in which the utility was authorized to use the SBCR mechanism.

C. SBCR Surcharge Amount: The surcharge will be expressed as a rate per 1,000 gallons of usage, carried to two decimal places and will be applied to the total monthly usage billed to each customer for water usage under the utility’s otherwise applicable rates and charges.

D. Formula: The formula for calculation of the SBCR is as follows:

$$\text{PAR} = (\text{SBCR recognized investment} * \text{ROR}) + \text{Dep expense} + \text{Property Tax gross up}$$

TARIFF SCHEDULE

Utility: _____

Tariff Sheet No.: _____

Docket No.: _____

Decision No.: _____

Telephone No.: _____

Effective date: _____

Where:

SBCR recognized investment = Original cost of eligible distribution system
betterment projects

ROR = Rate of Return authorized by the Commission, inclusive of
income tax recoveries, if authorized

Dep = Depreciation expense related to eligible distribution
system betterment projects.

PAR = Projected annual revenues.

E. Collection of SBCR: The PAR will be collected as follows:

The PAR will be collected, through a volumetric charge using the billing determinants from the utility's rate case docket in which the use of the SBCR was authorized, as follows:

Two-tier commodity rates:	40% from first tier
	60% from second tier
Three-tier commodity rates:	10% from first tier
	30% from second tier
	60% from third tier

III. Customer Safeguards

A. Cap: The annual SBCR PAR is capped at no more than 2.0 percent of the amount billed to customers under otherwise applicable rates and charges. A utility that is authorized, may file up to three annual SBCR requests between rate cases. The cumulative additional revenue recoveries generated through the surcharges associated with all SBCR cycles cannot exceed 18.0 percent of the aggregate annual revenue target recognized by the Commission in the full rate case docket in which the utility was granted authorization to use the SBCR mechanism.

TARIFF SCHEDULE

Utility: _____

Tariff Sheet No.: _____

Docket No.: _____

Decision No.: _____

Telephone No.: _____

Effective date: _____

B. Imputation of Value Associated with Shift in Timing of Recognition of Ratepayer Regulatory Lag: Utilization of the SBCR mechanism will require a subsequent imputed revenue requirement reduction, which will be recognized in the full rate case the utility is required to file after utilizing the SBCR mechanism. This temporary revenue requirement reduction will be discontinued in the utility's second subsequent full rate case filing as long as ratepayers have received a minimum of four years of reduced rates from the initial imputed revenue requirement reduction. If the utility docket its second subsequent full rate case filing before ratepayers have received a minimum of four years of reduced rates from this imputed revenue requirement reduction, the Commission will continue to impute a pro rata portion of the original Commission determined value of the shift in timing of recognizing regulatory lag as a revenue requirement deduction in that second subsequent rate case.

D. Earnings and Growth Tests: The Staff will recommend that the Commission discontinue SBCR surcharge billings if the results of Staff's collective assessment of the System Growth test and Earnings Test reasonably suggest that the utility could be over-earning based on its currently authorized base rates. i.e. There will be no SBCR surcharge approved if the utility is not under-earning.

E. New Base Rates: The SBCR surcharge shall be reset to zero upon the effective date of the new base rates authorized in the utility's first subsequent full rate case filing.

F. Customer Notice: Customers shall be notified of changes in the SBCR by including appropriate information on the first bill they receive following any change. An explanatory bill insert shall also be included with the first billing.

BEFORE THE ARIZONA CORPORATION COMMISSION

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

IN THE MATTER OF THE APPLICATION OF) DOCKET NO. WS-02676A-12-0196
RIO RICO UTILITIES, INC. FOR A)
DETERMINATION OF THE FAIR VALUE)
OF ITS UTILITY PLANT AND PROPERTY)
AND FOR INCREASES IN ITS WATER AND)
WASTEWATER RATES AND CHARGES FOR)
UTILITY SERVICE THEREON.)
_____)

DIRECT
TESTIMONY
OF
JIAN W. LIU
UTILITIES ENGINEER
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION

DECEMBER 31, 2012

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EXHIBITS

Engineering Report for Rio Rico Utilities, Inc. - Water	JWL-1
Engineering Report for Rio Rico Utilities, Inc. - Wastewater	JWL-2

1 **INTRODUCTION**

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

3 A. My name is Jian W. Liu. My business address is 1200 West Washington Street, Phoenix,
4 Arizona 85007.

5
6 **Q. By whom and in what position are you employed?**

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

9
10 **Q. How long have you been employed by the Commission?**

11 A. I have been employed by the Commission since October 2005.

12
13 **Q. What are your responsibilities as a Utilities Engineer - Water/Wastewater?**

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

20
21 **Q. How many companies have you analyzed for the Utilities Division?**

22 A. I have analyzed more than 40 companies fulfilling these various responsibilities for
23 Utilities Division Staff (“Staff”).

24
25 **Q. Have you previously testified before this Commission?**

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

1 **Q. What is your educational background?**

2 A. I am a Ph.D. Candidate in Geotechnical Engineering from Arizona State University
3 (“ASU”). I have a Master of Science Degree in Natural Science from ASU and a Master
4 of Science Degree in Civil Engineering from Institute of Rock & Soil Mechanics
5 (“IRSM”), Academy of Sciences, China.

6
7 **Q. Briefly describe your pertinent work experience.**

8 A. From 1982 to 2000, I was employed by IRSM, SCS Engineers, and URS Corporation as a
9 Civil and Environmental Engineer. In 2000, I joined the Arizona Department of
10 Environmental Quality (“ADEQ”). My responsibilities with ADEQ included review and
11 approval of water distribution systems, sewer distribution systems, and on-site wastewater
12 treatment facilities. I remained with ADEQ until transferring to the Commission in
13 October 2005.

14
15 **Q. Please state your professional membership, registrations, and licenses.**

16 A. I am a licensed professional civil engineer in the State of Arizona.
17

18 **PURPOSE OF TESTIMONY**

19 **Q. What was your assignment in this rate proceeding?**

20 A. My assignment was to provide Staff’s engineering evaluation of the subject rate
21 proceeding. I reviewed the Rio Rico Utilities, Inc.’s (“Rio Rico Utilities” or “Company”)
22 application and responses to data requests, and I inspected the water and wastewater
23 systems. This testimony and its attachments present Staff’s engineering evaluation. The
24 findings of my engineering evaluation are contained in the Engineering Reports that I have
25 prepared for this proceeding. The reports are included as Exhibits JWL-1 and JWL-2 in
26 this pre-filed testimony.

1 **ENGINEERING REPORTS**

2 **Q. Please describe the information contained in your Engineering Reports.**

3 A. The Reports are divided into three general sections: 1) *Executive Summary*; 2)
4 *Engineering Report Discussion*, and 3) *Engineering Report Exhibits*. The *Discussion*
5 section for the Water System can be further divided into ten subsections: A) Location of
6 Company; B) Description of the Water System; C) Maricopa County Environmental
7 Services Department (“MCESD”) Compliance or ADEQ Compliance; D) ACC
8 Compliance; E) Arizona Department Of Water Resources (“ADWR”) compliance; F)
9 Water Testing Expenses, G) Water Usage, H) Growth; I) Depreciation Rates; J) Other
10 Issues. The *Discussion* section for the Wastewater System is divided into eight
11 subsections: A) Location of Company; B) Description of the Wastewater System; C)
12 Wastewater Flow; D) Growth; E) ADEQ Compliance; F) ACC Compliance; G)
13 Depreciation Rates; H) Other Issues.

14
15 **RECOMMENDATIONS AND CONCLUSIONS**

16 **Q. What are Staff’s conclusions and recommendations regarding the Company’s**
17 **operations?**

18 A. Staff’s conclusions and recommendations regarding the Company’s operations are listed
19 below.

20
21 **CONCLUSIONS:**

22 *Rio Rico Utilities, Inc. - Water*

- 23 1. Arizona Department of Environmental Quality (“ADEQ”) regulates Rio Rico’s
24 Water System under ADEQ Public Water System (“PWS”) No. 12-011. Based on
25 compliance information submitted by the Company, the system has no deficiencies
26 and ADEQ has determined that the system is currently delivering water that meets

1 water quality standards required by Arizona Administrative Code, Title 18, and
2 Chapter 4. (ADEQ report dated November 6, 2012).

3

4 2. Rio Rico Utilities is located within the Santa Cruz Active Management Area
5 (“AMA”) and is subject to its AMA reporting and conservation requirements.
6 Staff received an Arizona Department of Water Resources (“ADWR”) compliance
7 status report on November 6, 2012. ADWR reported that Rio Rico Utilities is
8 currently in compliance with departmental requirements governing water providers
9 and/or community water systems.

10

11 3. Staff concludes that the Company has adequate production capacity and storage
12 capacity to serve the existing customer base and reasonable growth.

13

14 4. A check with the Utilities Division Compliance Section showed no delinquent
15 compliance items for Rio Rico Utilities. (ACC Compliance Section Email dated
16 11/05/12).

17

18 5. Rio Rico Utilities has approved Curtailment Plan and Backflow Prevention Tariffs
19 on file with the Commission.

20

21 6. Rio Rico Utilities has ten approved Best Management Practice tariffs on file with
22 the Commission.

23

24 7. The Company reported 807,817,000 gallons pumped, 678,845,000 gallons sold,
25 and 48,810,000 gallons used for flushing lines, construction, backwashing and fire

1 suppression resulting in a water loss of 9.92% for the test year ending February 29,
2 2012.

3
4 **RECOMMENDATIONS:**

- 5 1. In the prior rate case, the Company adopted Staff's typical and customary water
6 depreciation rates. These rates are presented in Table B and it is recommended
7 that the Company continue to use these depreciation rates by individual National
8 Association of Regulatory Utility Commissioners category.
9
- 10 2. Staff recommends the annual water testing expense of \$23,821 be used for
11 purposes of this application.
12
- 13 3. The Company has not requested any changes in its service line and meter
14 installation charges that were approved in its last rate application. Therefore, Staff
15 recommends continued use of the Company's current meter and service line
16 installation charges.
17
- 18 4. Staff recommends that the Company file documentation showing the specific
19 procedures followed by its operations staff and the steps taken to ensure that there
20 is an accurate accounting of the amount of water actually used for "Authorized
21 Use" purposes. This documentation should be filed as compliance item with
22 Docket Control within 60 days of the effective date of the Commission Decision in
23 this matter.
24

- 1 5. Staff recommends that if the water used by “Authorized Use” in one month is
2 more than 5,000,000 gallons the Company shall explain in detail the reason(s) for
3 this use in its annual water loss compliance reporting per Decision No. 72059.
4
5 6. Staff recommends that the Company continue to record and monitor monthly water
6 losses and repair any leak as soon as it is discovered.
7
8 7. Staff further recommends that the Company provide its DISC eligible projects and
9 the associated supporting documentation in the form outlined in Attachment A.
10

11 **CONCLUSIONS:**

12 *Rio Rico Utilities, Inc. - Wastewater*

- 13 1. ADEQ regulates the Rio Rico Utilities wastewater treatment plants under Permit
14 No. 14919 and 52015. Per the November 10, 2012 Compliance Status Reports
15 issued by ADEQ, the systems are in compliance with ADEQ requirements.
16
17 2. A check with the Utilities Division Compliance Section showed no delinquent
18 compliance items. (ACC Compliance Section Email dated 11/05/12).
19
20 3. Staff concludes that Rio Rico Utilities has adequate wastewater treatment capacity
21 to serve the existing customer base and reasonable growth for both wastewater
22 systems.
23

24 **RECOMMENDATIONS:**

- 25 1. In the prior rate case, the Company adopted Staff’s typical and customary
26 depreciation rates. These rates are presented in Table G-1 and it is recommended

1 that the Company continue to use these depreciation rates by individual National
2 Association of Regulatory Utility Commissioners category.

3

4 2. The Company has not requested any changes in its service line installation charges
5 that were approved in its last rate application. Therefore, Staff recommends
6 continued use of the Company's current service line installation charges.

7

8 3. Staff recommends that Rio Rico Utilities be required to provide separate
9 wastewater descriptions for its major wastewater system (wastewater flows to
10 Nogales International wastewater treatment facility) and small wastewater system
11 with an aerobic stabilization pond in future Commission Annual Reports,
12 beginning with the 2013 Annual Report filed in 2014.

13

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

15 A. Yes, it does.

EXHIBIT JWL-1

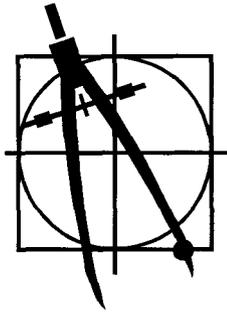
ENGINEERING REPORT FOR

RIO RICO UTILITIES, INC. - WATER

DOCKET NO. WS-02676A-12-0196 (RATES)

JIAN W LIU

DECEMBER 5, 2012



**Engineering Report for:
Rio Rico Utilities, Inc.
Docket No. WS-02676A-12-0196 (Rates)**

**By: Jian W Liu
Utilities Engineer**

December 5, 2012

EXECUTIVE SUMMARY

CONCLUSIONS:

1. Arizona Department of Environmental Quality (“ADEQ”) regulates Rio Rico Utilities, Inc. (“Rio Rico Utilities” or “Company”)’s Water System under ADEQ Public Water System (“PWS”) No. 12-011. Based on compliance information submitted by the Company, the system has no deficiencies and ADEQ has determined that the system is currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, and Chapter 4. (ADEQ report dated November 6, 2012).
2. Rio Rico Utilities is located within the Santa Cruz Active Management Area (“AMA”) and is subject to its AMA reporting and conservation requirements. Staff received an Arizona Department of Water Resources (“ADWR”) compliance status report on November 6, 2012. ADWR reported that Rio Rico Utilities is currently in compliance with departmental requirements governing water providers and/or community water systems.
3. Staff concludes that the Company has adequate production capacity and storage capacity to serve the existing customer base and reasonable growth.
4. A check with the Utilities Division Compliance Section showed no delinquent compliance items for Rio Rico Utilities. (ACC Compliance Section Email dated 11/05/12).
5. Rio Rico Utilities has approved Curtailment Plan and Backflow Prevention Tariffs on file with the Commission.
6. Rio Rico Utilities has ten approved Best Management Practice tariffs on file with the Commission.
7. The Company reported 807,817,000 gallons pumped, 678,845,000 gallons sold, and 48,810,000 gallons used for flushing lines, construction, backwashing and fire

suppression resulting in a water loss of 9.92 percent for the test year ending February 29, 2012.

RECOMMENDATIONS

1. In the prior rate case, the Company adopted Staff's typical and customary water depreciation rates. These rates are presented in Table B and it is recommended that the Company continue to use these depreciation rates by individual National Association of Regulatory Utility Commissioners category.
2. Staff recommends the annual water testing expense of \$23,821 be used for purposes of this application.
3. The Company has not requested any changes in its service line and meter installation charges that were approved in its last rate application. Therefore, Staff recommends continued use of the Company's current meter and service line installation charges.
4. Staff recommends that the Company file documentation showing the specific procedures followed by its operations staff and the steps taken to ensure that there is an accurate accounting of the amount of water actually used for "Authorized Use" purposes. This documentation should be filed as compliance item with Docket Control within 60 days of the effective date of the Commission Decision in this matter.
5. Staff recommends that if the water used by "Authorized Use" in one month is more than 5,000,000 gallons the Company shall explain in detail the reason(s) for this use in its annual water loss compliance reporting per Commission Decision No. 72059.
6. Staff recommends that the Company continue to record and monitor monthly water losses and repair any leak as soon as it is discovered.
7. Staff further recommends that the Company provide its DISC eligible projects and the associated supporting documentation in the form outlined in Attachment A.

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A. LOCATION OF COMPANY

Rio Rico Utilities, Inc. (“Rio Rico Utilities” or “Company”) is an Arizona public service corporation authorized to provide water and wastewater service within portions of Santa Cruz County, Arizona. On May 31, 2012, the Company filed an application with the Arizona Corporation Commission (“Commission” or “ACC”) to increase its rates for water service. The Company’s existing CC&N for water service covers an area totaling approximately 89 square miles. Rio Rico Utilities provided water service to approximately 6,700 customers as of the test year ending February 29, 2012. Figure 1 shows the location of Rio Rico Utilities within Santa Cruz County and Figure 2 shows the certificated area.

B. DESCRIPTION OF THE WATER SYSTEM

The plant facilities were visited on November 8, 2012, by Jian Liu, Staff Utilities Engineer, in the accompaniment of Christopher D. Krygier, and Martin Garland of the Company.

The drinking water system serving the community of Rio Rico is divided geographically by the Santa Cruz River, which runs south to north. Twelve inch and sixteen inch transmission mains cross the Santa Cruz River and allow the east and west sections of the water system to operate as a single unit. The terrain is very hilly and consequently the water system is divided into seven pressure zones at 150 feet intervals and dotted with about 26 small pressure tank and booster stations, which are in addition to the major pumping and storage facilities. Six groundwater wells provide the water source and feed into a lower pressure zone. All groundwater is disinfected with elemental chlorine. Staff concludes that Rio Rico Utilities has adequate production capacity and storage capacity to serve the existing customer base and reasonable growth.

(Tabular Description of Water System)

Well Data (active wells only)

ADWR ID No.	Pump HP	Pump GPM	Casing Depth(ft)	Casing Size(in)	Meter Size(in)	Year Drilled
55- 502579	200	1100	650	16	8	1983
55- 619359	75	625	250	10	6	1985
55- 604364	75	625	251	10	6	1968
55- 604363	75	650	603	12	8	1970
55- 587292	200	975	605	16	10	2003
55- 206176	250	1300	650	16	10	2005

Note: GPM = gallons per minute.

Storage Tanks		Pressure Tanks		Booster Pumps	
Capacity (gallons)	Quantity	Capacity (gallons)	Quantity	Capacity (HP)	Quantity
640,000	1	8,000	1	40	2
200,000	1	5,000	11	30	8
150,000	1	3,000	1	25	13
100,000	1	1,500	4	20	8
10,000	4	1,000	5	15	10
1,000,000	1	200	4	10	3
				7.5	9
Total 2,130,000				3	2

Mains		Customer Meters		Fire Hydrants
Size (inches)	Length (feet)	Size (inches)	Quantity	Quantity
4 and Under	325,458	5/8x3/4	6489	315
Over 4	1,478,264	3/4	12	
		1	92	
		1.5	17	
		2	54	
		3	23	
		4	6	
		6	1	

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

ADEQ regulates the Company’s Water System under ADEQ Public Water System (“PWS”) #12-011. Based on compliance information submitted by the Company, the system has no deficiencies and ADEQ has determined that the system is currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, and Chapter 4. (ADEQ report dated November 6, 2012).

D. ARIZONA CORPORATION COMMISSION (“ACC”) COMPLIANCE

A check with the Utilities Division Compliance Section showed no delinquent compliance items for the Company. (ACC Compliance Section Email dated 11/05/12).

E. ARIZONA DEPARTMENT OF WATER RESOURCES (“ADWR”) COMPLIANCE

Rio Rico Utilities is located within the Santa Cruz Active Management Area (“AMA”) and is subject to its AMA reporting and conservation requirements. Staff received an ADWR compliance status report in November 6, 2012. ADWR reported that Rio Rico Utilities is currently in compliance with departmental requirements governing water providers and/or community water systems.

F. WATER TESTING EXPENSES

The Company reported a total water testing expense of \$10,590 during the test year. Rio Rico Utilities proposed an adjustment of \$17,641 and requested \$28,231 annual water testing expense for purposes of this application. The Company explained the sampling costs are directly tied into the sampling compliance cycle. The compliance cycle consists of three, three year periods for a total of a nine year cycle. 2011 was a year with light sampling requirements, mainly bacteriological sampling and a few others. 2012 costs increased due to additional sampling required, with 2013 being a very heavy sampling year.

Rio Rico Utilities estimates that annual water testing expense for next 3 years:

Table A. Water Testing Cost

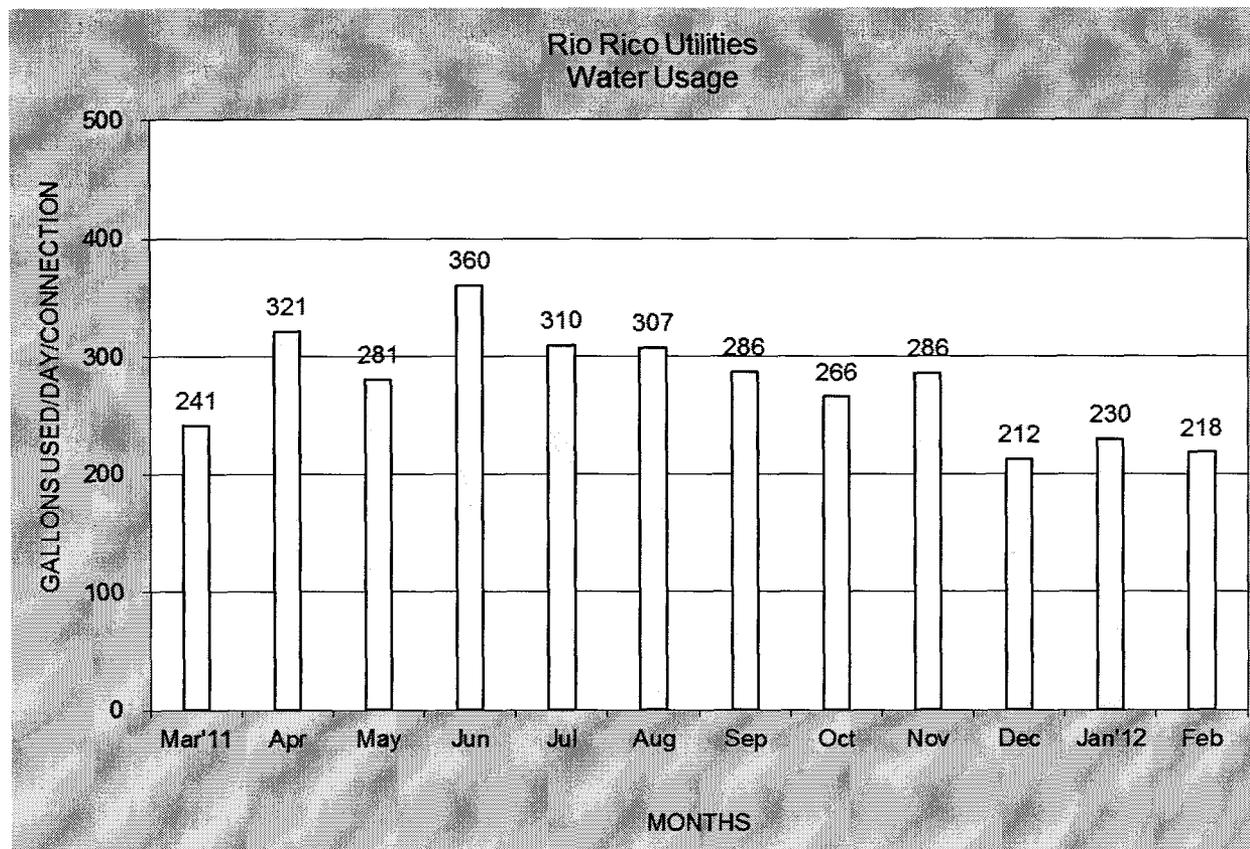
Year 2012	\$37,600
Year 2013	\$39,662
Year 2014	\$7,430

Therefore, average annual water testing expense from 2011 to 2014 is \$23,820.50. Staff reviewed these expenses and supporting documentation provided by the Company. Staff recommends the annual water testing expense of \$23,821 be used for purposes of this application.

G. WATER USE

Water Sold

Based on the information provided by the Company, water use for the test year ending February 29, 2012 is presented below. The high monthly domestic water use was 360 gal/day per service connection in June and the low monthly domestic water use was 212 gal/day per service connection in December. The average annual use was 277 gal/day per service connection.



Non-account Water

Non-account water should be 10 percent or less and never more than 15 percent. It is important to be able to reconcile the difference between water sold and the water produced by the source. A water balance will allow a water company to identify water and revenue losses due to leakage, theft, and flushing. The Company reported 807,817,000 gallons pumped, 678,845,000 gallons sold, and 48,810,000 gallons used for flushing lines, construction, backwashing and fire suppression resulting in a water loss of 9.92 percent for the test year ending February 29, 2012. According to the Company the amount of water used in each category of "Authorized Use" (for flushing lines, construction, backwashing and fire suppression) is obtained from operations staff, or in the case of fire suppression and fire training, from the local fire departments. Staff is concerned that approximately six percent of the water produced is used for these purposes which apparently are not metered. The Company's reply was not clear when Staff asked how the amount of water used in each category is determined. Therefore, Staff recommends that the Company file documentation showing the specific procedures followed by its operations staff and the steps taken to ensure that there is an accurate accounting of the amount of water actually used for "Authorized Use" purposes. This documentation should be filed as a compliance item with Docket Control within 60 days of the effective date of the Commission Decision in this matter.

Staff recommends that if in a given category of “Authorized Use” the water used in one month is more than 5,000,000 gallons the Company shall explain in detail the reason(s) for this use in its annual water loss compliance reporting per Commission Decision No. 72059.

Staff recommends that the Company continue to record and monitor monthly water losses and repair any leak as soon as it is discovered.

Rio Rico Utilities has ten approved Best Management Practice tariffs on file with the Commission.

In its application Rio Rico Utilities has requested approval of a Sustainable Water Loss Improvement Program (“SWIP”). The SWIP according to the Company is “intended to support investment in infrastructure that has the greatest likelihood of reducing non-revenue water”. Staff in this case (see testimony of Staff member James R. Armstrong) proposes establishment of a Distribution System Improvement Charge (“DSIC”) type program instead. Under Staff’s DSIC type proposal “qualifying capital projects must be for the replacement of existing facilities that have worn out or are in deteriorated condition and thus contributing to excessive water loss”. If Staff’s recommended DSIC type program is approved, the Company will be required to provide a list of eligible projects and supporting documentation (See Attachment A). Attachment A is designed to provide Engineering Staff with the information it will need to review to determine if a project qualifies for Staff’s proposed DSIC type program.

Staff further recommends that the Company provide its DISC eligible projects and the associated supporting documentation in the form outlined in Attachment A.

H. GROWTH

In this changing economic climate it is hard for Staff to predict what level of growth is reasonable. The company expects the customer base to grow at approximately 1% (60 to 70 connections) per year for the next five years.

I. DEPRECIATION RATES

In the prior rate case, the Company adopted Staff’s typical and customary water depreciation rates. These rates are presented in Table B and it is recommended that the Company continue to use these depreciation rates by individual National Association of Regulatory Utility Commissioners category.

Table B. Depreciation Rates

NARUC Acct. No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
304	Structures & Improvements	30	3.33
305	Collecting & Impounding Reservoirs	40	2.50
306	Lake, River, Canal Intakes	40	2.50
307	Wells & Springs	30	3.33
308	Infiltration Galleries	15	6.67
309	Raw Water Supply Mains	50	2.00
310	Power Generation Equipment	20	5.00
311	Pumping Equipment	8	12.5
320	Water Treatment Equipment		
320.1	Water Treatment Plants	30	3.33
320.2	Solution Chemical Feeders	5	20.0
330	Distribution Reservoirs & Standpipes		
330.1	Storage Tanks	45	2.22
330.2	Pressure Tanks	20	5.00
331	Transmission & Distribution Mains	50	2.00
333	Services	30	3.33
334	Meters	12	8.33
335	Hydrants	50	2.00
336	Backflow Prevention Devices	15	6.67
339	Other Plant & Misc Equipment	15	6.67
340	Office Furniture & Equipment	15	6.67
340.1	Computers & Software	5	20.00
341	Transportation Equipment	5	20.00
342	Stores Equipment	25	4.00
343	Tools, Shop & Garage Equipment	20	5.00
344	Laboratory Equipment	10	10.00
345	Power Operated Equipment	20	5.00
346	Communication Equipment	10	10.00
347	Miscellaneous Equipment	10	10.00
348	Other Tangible Plant	----	----

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.

J. CURTAILMENT PLAN AND BACKFLOW PREVENTION TARIFF

Rio Rico Utilities has approved Curtailment Plan and Backflow Prevention Tariffs on file with the Commission.

K. METER AND SERVICE LINE INSTALLATION CHARGES

The Company has not requested any changes in its service line and meter installation charges that were approved in its last rate application. Therefore, Staff recommends continued use of the Company's current meter and service line installation charges.

RIO RICO UTILITIES, INC. - WATER
Docket No. SW-02676A-12-0196

SANTA CRUZ COUNTY

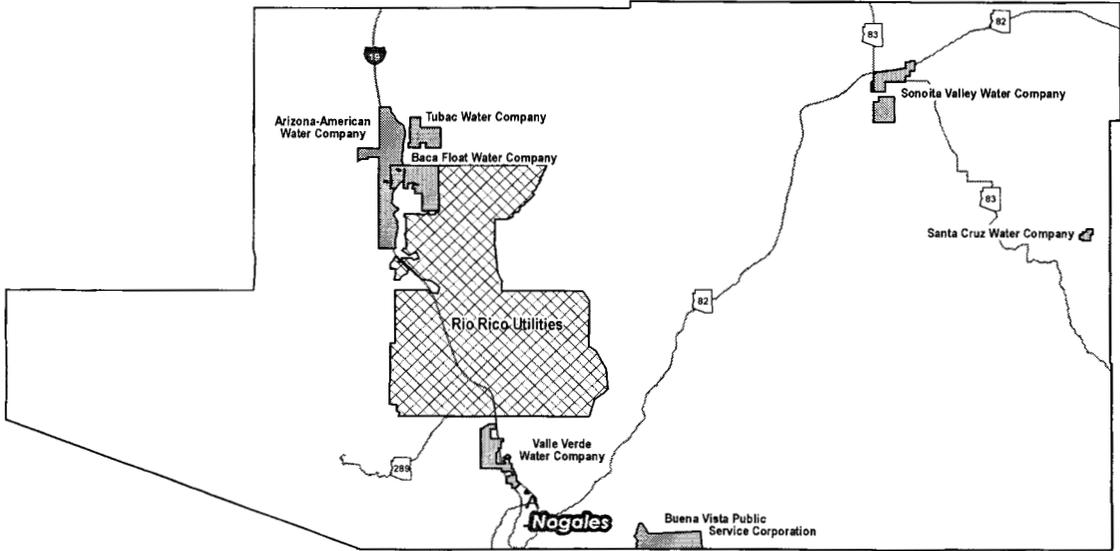


Figure 1: County Map

FIGURE 1: COUNTY MAP

RIO RICO UTILITIES, INC. - WATER
Docket No. SW-02676A-12-0196

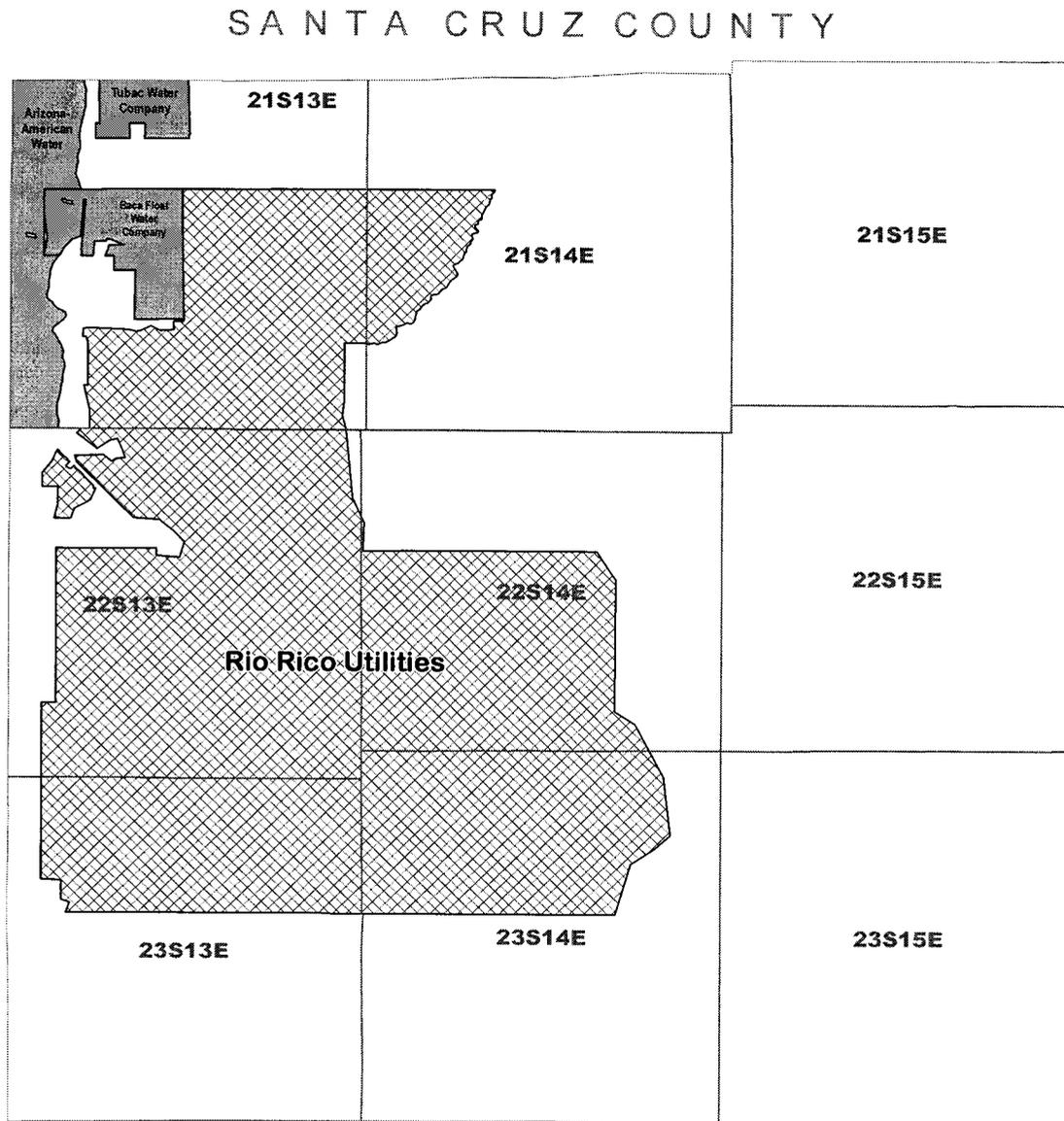


Figure 2: Certificated Area

FIGURE 2: CERTIFICATED AREA

ATTACHMENT "A"
TABLE I

Information to be included with DSIC-Eligible Project Notification							
NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description* (DSIC-eligible plant) See Qualifying Investment Guidelines	PWS No.	Site (location description)	Replacement Plant		Original Plant (Plant To Be Retired)	
				Expected In-Service Date	Estimated Cost (with detailed cost estimate)		Expected Retirement Date
309	Supply Mains (pipe length, diameter, material, cost/unit)						Narrative (why Replacement Plant is necessary and how it will benefit existing customers, and affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers).
331	T&D Mains (pipe length, diameter, material, cost/unit)						
333	Services (quantity, diameter, material, cost/unit)						
334	Meters (size, quantity, cost/unit)						
Note*	Provide detailed project information identifying the most critical areas						

TABLE II

Information to be included with DSIC-Eligible Completed Project Filings							
NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant) See Qualifying Investment Guidelines	PWS No.	Site (location description)	Replacement Plant		Original Plant (Plant Being Retired)	
				In-Service Date (provide ADEQ AOC and other related approvals by state and/or federal agencies when applicable ; pictures of installed plant)	Actual Cost**		Actual Retirement Date
309	Supply Mains (pipe length, diameter, material, cost/unit)						Affirmation that the completed Replacement Plant and related costs do not deviate from plant/costs submitted with DSIC-eligible Project Notification, and narration explaining deviations, if any.
331	T&D Mains (pipe length, diameter, material, cost/unit)						
333	Services (quantity, diameter, material, cost/unit)						
334	Meters (size, quantity, cost/unit)						
Note**	Provide detailed explanations, if actual cost is different from the original cost estimate						

QUALIFYING INVESTMENT GUIDELINES

DISC Eligible Plant by NARUC Acct

Supply Mains Acct 309

- Supply Mains installed as replacements for existing facilities that have worn out or are in deteriorating condition and contributing to excessive water loss at no fault of the company and that have been documented and presented with valid water use data showing that the company has a history of excessive water loss

Transmission & Distribution Mains Acct 331

- T & D Mains and fittings installed as replacements for existing facilities that have worn out or are in deteriorating condition and contributing to excessive water loss at no fault of the company and that have been documented and presented with valid water use data showing that the company has a history of excessive water loss

Services Acct 333

- Services installed as replacements for existing facilities that have worn out or are in deteriorating condition and contributing to excessive water loss at no fault of the company and that have been documented and presented with valid water use data showing that the company has a history of excessive water loss

Meters Acct 334

- Meters installed as replacements for existing facilities that have worn out or are in deteriorating condition and contributing to excessive water loss at no fault of the company and that have been documented and presented with valid water use data showing that the company has a history of excessive water loss

QUALIFYING INVESTMENT GUIDELINES (Con't)

Filing Requirements for DISC Eligible Projects Notification (information to be provided by Public Water System)

- Documentation demonstrating current compliance with regulatory agencies
- Documentation including valid Water Use Data showing that the water system has a history of excessive water loss
- Detailed project description showing that the replacement infrastructure investments are necessary and benefit existing customers
- Detailed project information , identifying the most critical areas, the quantity of aging infrastructure that need to be replaced, detailed estimated associated replacement cost and estimated date of completion
- Specifications of the DISC eligible plant by type and NARUC account number
- Affirmation that the DISC eligible plant does not include the costs for extending or expanding facilities to serve new customers

Filing Requirements for DISC Eligible Completed Projects (information to be provided by Public Water System)

- Affirmation that the completed replacement plant and related costs do not deviate from plant/costs submitted with project notification (include narration explaining deviations, if any)
- Affirmation that projects are in-service (include pictures of DISC-eligible plant during construction and upon project completion)
- All project related approvals issued by local, county, state and federal agencies

EXHIBIT JWL-2

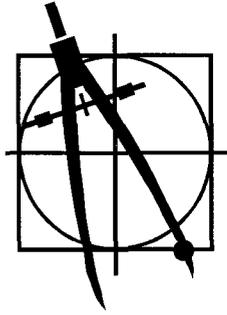
ENGINEERING REPORT FOR

RIO RICO UTILITIES, INC. - WASTEWATER

DOCKET NO. WS-02676A-12-0196 (RATES)

JIAN W LIU

DECEMBER 3, 2012



**Engineering Report
Rio Rico Utilities, Inc.
Docket No. WS-02676A-12-0196
(Rates)**

By Jian W Liu

December 3, 2012

EXECUTIVE SUMMARY

CONCLUSIONS:

1. ADEQ regulates the Rio Rico Utilities wastewater treatment plants under Permit No. 14919 and 52015. Per the November 10, 2012 Compliance Status Reports issued by ADEQ, the systems are in compliance with ADEQ requirements.
2. A check with the Utilities Division Compliance Section showed no delinquent compliance items. (ACC Compliance Section Email dated 11/05/12).
3. Staff concludes that Rio Rico Utilities has adequate treatment capacity to serve the existing customer base and reasonable growth for both wastewater systems.

RECOMMENDATIONS:

1. In the prior rate case, the Company adopted Staff's typical and customary depreciation rates. These rates are presented in Table G-1 and it is recommended that the Company continue to use these depreciation rates by individual National Association of Regulatory Utility Commissioners category.
2. The Company has not requested any changes in its service line installation charges that were approved in its last rate application. Therefore, Staff recommends continued use of the Company's current service line installation charges.
3. Staff recommends that Rio Rico Utilities be required to provide separate wastewater descriptions for its major wastewater system (wastewater flows to Nogales International wastewater treatment facility) and small wastewater system with an aerobic stabilization pond in future Commission Annual Reports, beginning with the 2013 Annual Report filed in 2014.

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A. LOCATION OF COMPANY

Rio Rico Utilities, Inc. (“Rio Rico Utilities” or “Company”) is an Arizona public service corporation authorized to provide water and wastewater service within portions of Santa Cruz County, Arizona. On May 31, 2012, the Company filed an application with the Arizona Corporation Commission (“Commission” or “ACC”) to increase its rates for wastewater service. The Company’s existing CC&N for wastewater service covers an area totaling approximately 97 square miles. Rio Rico Utilities provided wastewater service to approximately 2,200 customers as of the test year ending February 29, 2012. Figure 1 shows the location of Rio Rico Utilities within Santa Cruz County and Figure 2 shows the certificated area.

B. DESCRIPTION OF THE WASTEWATER SYSTEM

The plant facilities were visited on November 8, 2012, by Jian Liu, Staff Utilities Engineer, in the accompaniment of Christopher D. Krygier, and Martin Garland of the Company.

There are two separate wastewater systems. The major wastewater system consists of collection mains and 5 large pumping stations. The wastewater from the last pumping station enters the City of Nogales sewerage collection system where it co-mingles and eventually reaches the Nogales International wastewater treatment facility. The Nogales International treatment plant is owned and operated by the Unites States International Boundary and Water Commission. The City of Nogales pays fixed and commodity charges for the use of the international facility. Rio Rico then sub-contracts with the City of Nogales for capacity in the international facility and pays sewer use fees directly to the City of Nogales.

There is also a small wastewater system which serves the “Villas Unit 12” subdivision. It consists of a single pumping station and an aerobic stabilization pond. This facility serves about 140 customers.

Tabular Description of both wastewater systems

Lift Station

Location	Quantity of Pumps	Horsepower per Pump	Capacity per Pump (GPM)	Wet Well Capacity (gals.)
Lift Station # 1	2	88	725	32,313
Lift Station # 2	2	47	500	9,000
Lift Station # 3	2	47	500	9,000
Lift Station # 4	2	15	175	8,000
Lift Station # 5	2	3	27	1,608

Manholes

Type	Quantity
Standard	535
Drop	15

Force Mains

Size	Material	Length (Feet)
4-inch	PVC	3,714
4-inch	DI	120
6-inch	PVC	19,946
6-inch	DI	693

Cleanouts

Quantity
132

Collection Mains

Diameter	Length (Feet)
4-inch	2,845
6-inch	11,273
8-inch	216,971
10-inch	12,340
12-inch	14,554
14-inch	3,060
16-inch	494
18-inch	170

Service Laterals

Diameter	Material	Length (Feet)
4-inch	Various	2,057
6-inch	Various	147
8-inch	PVC	10

Staff recommends that Rio Rico Utilities be required to provide separate wastewater descriptions for its major wastewater system (wastewater flows to Nogales International wastewater treatment facility) and small wastewater system with an aerobic stabilization pond in future Commission Annual Reports, beginning with the 2013 Annual Report filed in 2014.

C. WASTEWATER FLOW

Based on the information provided by the Company, wastewater flow for the year 2011 is presented in Figure 3. Customers experienced a high monthly average wastewater flow of 186 GPD per connection and a low monthly average wastewater flow of 163 GPD per connection for an average annual wastewater flow of 176 GPD per connection.

Staff concludes that Rio Rico Utilities has adequate treatment capacity to serve the existing customer base and reasonable growth for both wastewater systems.

D. GROWTH

In this changing economic climate it is hard for Staff to predict what level of growth is reasonable. The Company expects the customer base to grow at approximately 1 percent (20 to 25 connections) per year for the next five years.

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

ADEQ regulates the Rio Rico Utilities wastewater treatment plants under Permit No. 14919 and 52015. Per the November 10, 2012 Compliance Status Reports issued by ADEQ, the systems are in compliance with ADEQ requirements.

F. ARIZONA CORPORATION COMMISSION (“ACC”) COMPLIANCE

A check with the Utilities Division Compliance Section showed no delinquent compliance items. (ACC Compliance Section Email dated 11/05/12).

G. DEPRECIATION RATES

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

Table G-1. Wastewater Depreciation Rates

NARUC Acct. No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
354	Structures & Improvements	30	3.33
355	Power Generation Equipment	20	5.00
360	Collection Sewers – Force	50	2.0
361	Collection Sewers- Gravity	50	2.0
362	Special Collecting Structures	50	2.0
363	Services to Customers	50	2.0
364	Flow Measuring Devices	10	10.0
365	Flow Measuring Installations	10	10.00
366	Reuse Services	50	2.00
367	Reuse Meters & Meter Installations	12	8.33
370	Receiving Wells	30	3.33
371	Pumping Equipment	8	12.50
374	Reuse Distribution Reservoirs	40	2.50
375	Reuse Transmission & Distribution System	40	2.50
380	Treatment & Disposal Equipment	20	5.0
381	Plant Sewers	20	5.0
382	Outfall Sewer Lines	30	3.33
389	Other Plant & Miscellaneous Equipment	15	6.67
390	Office Furniture & Equipment	15	6.67
390.1	Computers & Software	5	20.0
391	Transportation Equipment	5	20.0
392	Stores Equipment	25	4.0
393	Tools, Shop & Garage Equipment	20	5.0
394	Laboratory Equipment	10	10.0
395	Power Operated Equipment	20	5.0
396	Communication Equipment	10	10.0
397	Miscellaneous Equipment	10	10.0
398	Other Tangible Plant	----	----

NOTE: Acct. 398, Other Tangible Plant may vary from 5% to 50%. The depreciation rate would be set in accordance with the specific capital items in this account.

H. SERVICE LINE INSTALLATION CHARGES

The Company has not requested any changes in its service line installation charges that were approved in its last rate application. Therefore, Staff recommends continued use of the Company's current service line installation charges.

RIO RICO UTILITIES, INC. - WASTEWATER
Docket No. SW-02676A-12-0196

SANTA CRUZ COUNTY

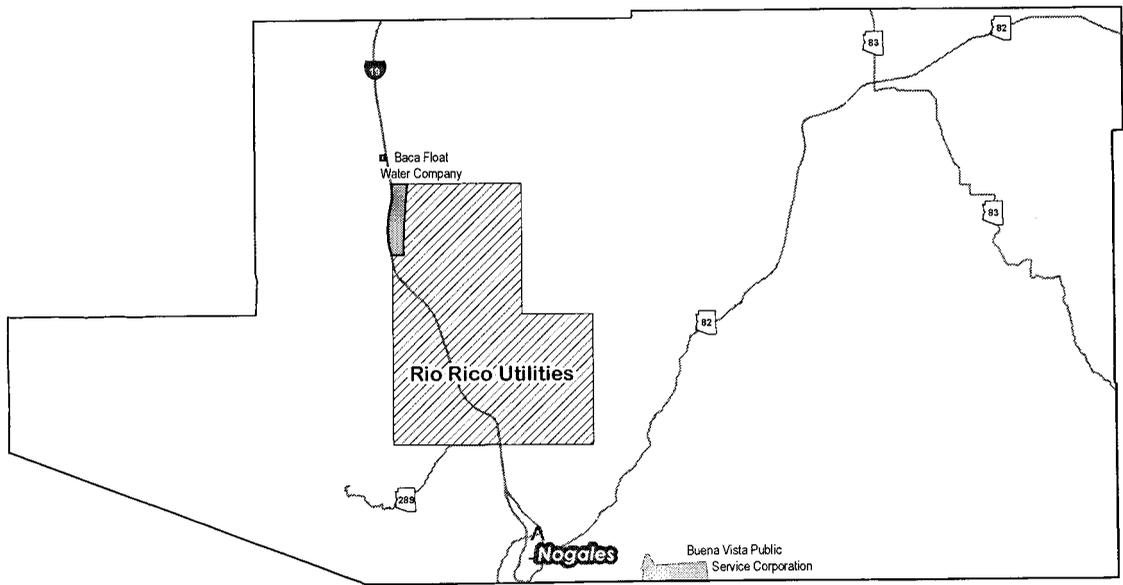


Figure 1: County Map

FIGURE 1 COUNTY MAP

RIO RICO UTILITIES, INC. - WASTEWATER
Docket No. SW-02676A-12-0196

SANTA CRUZ COUNTY

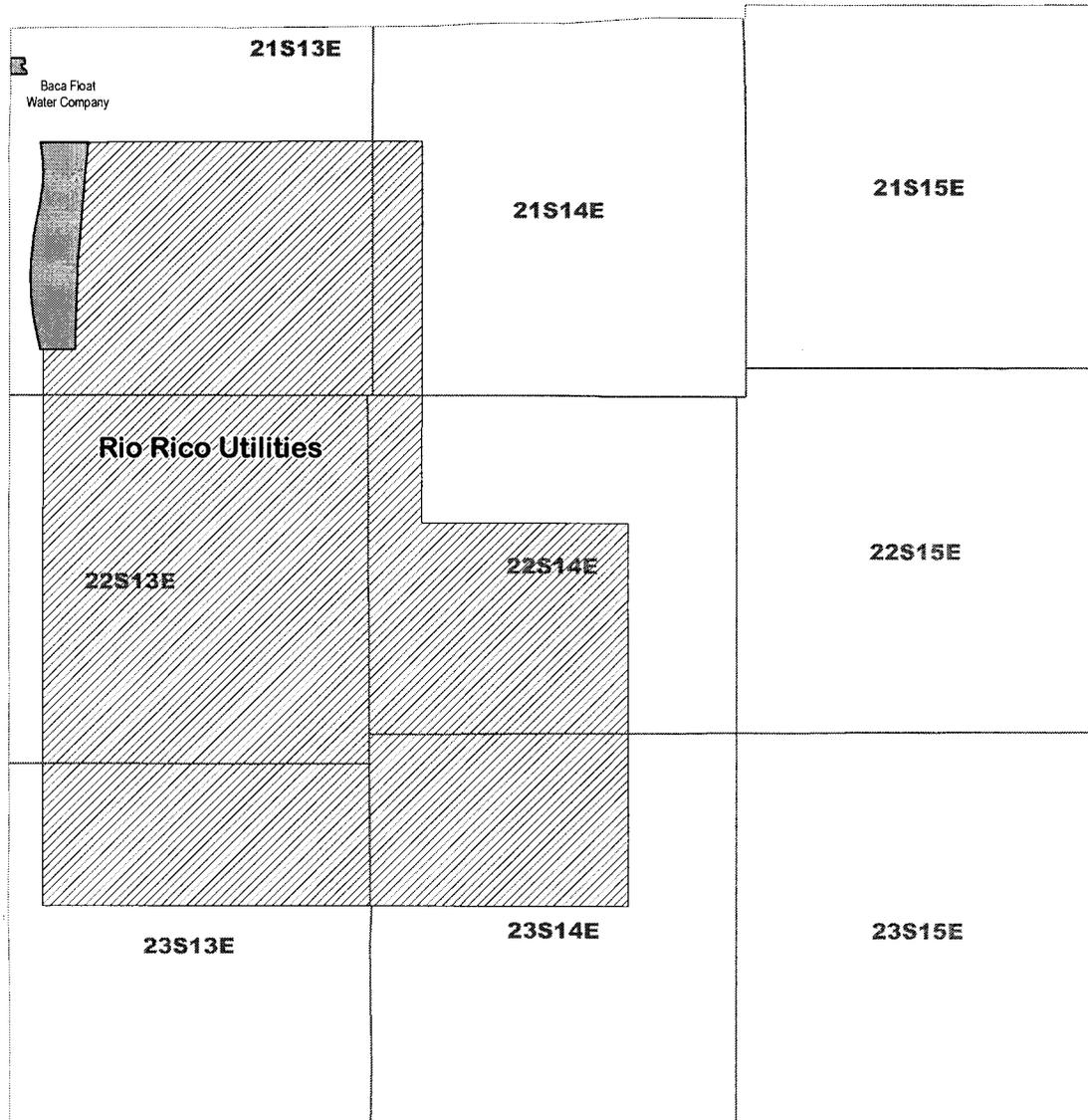


Figure 2: Certificated Area

FIGURE 2 CERTIFICATED AREA

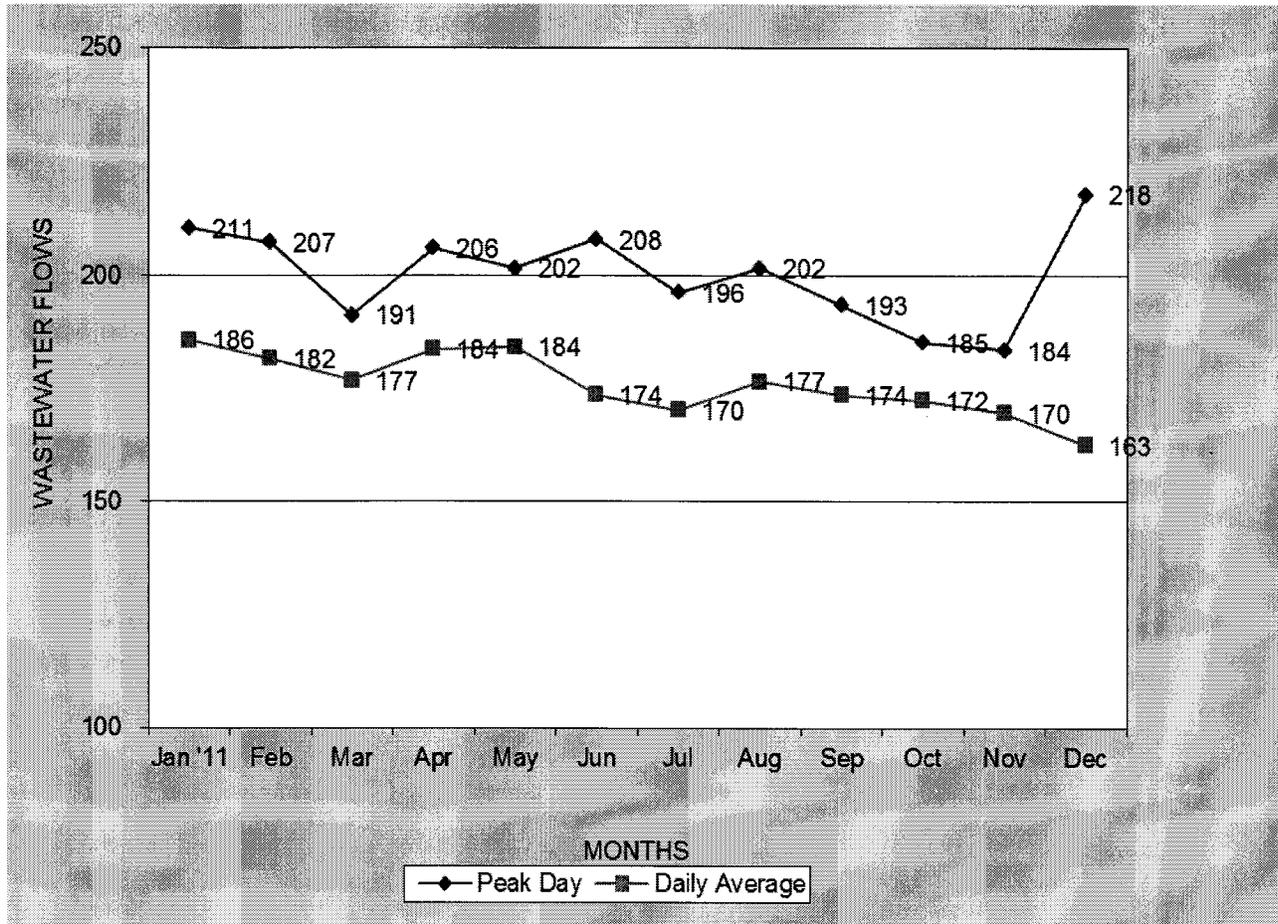


FIGURE 3 WASTEWATER FLOW