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Docket #(s): W-01358A-12-0254

Arizona Corporation Commission
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Exhibit # S-1-S-9, S11, A-1-A10

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EXHIBIT
S-1
ADMITTED

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 RAY WATER COMPANY, INC. FOR APPROVAL OF A PERMANENT RATE INCREASE.	)))))	DOCKET NO. W-01380A-12-0254

DIRECT TESTIMONY

OF

DOROTHY HAINS, P. E.

UTILITIES ENGINEER

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

NOVEMBER 26, 2012

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Engineering Report for Ray Water Company DMH-1

INTRODUCTION

Q. Please state your name and business address.

A. My name is Dorothy Hains. My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

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

A. I am employed by the Arizona Corporation Commission ("Commission" or "ACC") as a Utilities Engineer - Water/Wastewater in the Utilities Division.

Q. How long have you been employed by the Commission?

A. I have been employed by the Commission since January 1998.

Q. What are your responsibilities as a Utilities Engineer - Water/Wastewater?

A. My main responsibilities are to inspect, investigate and evaluate water and wastewater systems. This includes obtaining data, preparing reconstruction cost new and/or original cost studies, investigative reports, interpreting rules and regulations, and to suggest corrective action and provide technical recommendations on water and wastewater system deficiencies. I also provide written and oral testimony in rate cases and other cases before the Commission.

Q. How many companies have you analyzed for the Utilities Division?

A. I have analyzed more than 90 companies fulfilling these various responsibilities for Commission Utilities Division Staff ("Staff").

Q. Have you previously testified before this Commission?

A. Yes, I have testified on numerous occasions before this Commission.

Q. What is your educational background?

A. I graduated from the University of Alabama in Birmingham in 1987 with a Bachelor of Science degree in Civil Engineering.

Q. Briefly describe your pertinent work experience.

A. Before my employment with the Commission, I was an Environmental Engineer for the Arizona Department of Environmental Quality ("ADEQ") for ten years. Prior to that time, I was an Engineering Technician with C. F. Hains, Hydrology in Northport, Alabama for approximately five years.

Q. Please state your professional membership, registrations, and licenses.

A. I have been a registered Civil Engineer in Arizona since 1990. I am a member of the American Society of Civil Engineering, American Water Works Association and Arizona Water & Pollution Control Association.

PURPOSE OF TESTIMONY

Q. What was your assignment in this rate proceeding?

A. My assignment was to provide Staff's engineering evaluation for the subject Ray Water Company ("Company" or "Ray") rate and financing proceeding. The Company filed a rate application on June 14, 2012.

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

A. The purpose is to present the findings of Staff's engineering evaluation of the operations for the Company's water system. The findings are contained in this pre-filed testimony and in the Engineering Reports as Exhibit DMH-1 that I have prepared.

ENGINEERING REPORT

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

A. After reviewing the application, I physically inspected the Company's water system. I evaluated its operation and determined if any plant items were not used and useful. I contacted the ADEQ to determine if the water system was in compliance with the Safe Drinking Water Act water quality requirements. After I obtained information from the Company regarding plant improvements, chemical testing expenses, water usage data and sewage discharge data, I analyzed that information. I also contacted the Arizona Department of Water Resources ("ADWR") to determine if the Company was in compliance with the ADWR's requirements governing water providers and/or community water systems. Based on all the above, I prepared the attached Engineering Report.

Q. Please describe the information contained in your Engineering Reports.

A. The Reports are divided into three general sections: 1) *Executive Summary*; 2) *Engineering Report Discussion*, and 3) *Engineering Report Exhibits*. The *Discussions* section can be further divided into twelve subsections: A) Purpose of Report, B) Location of the Company; C) Description of the System; D) Water Usage; E) Growth Projection; F) ADEQ Compliance; G) Arizona Department of Water Resources ("ADWR") Compliance; H) ACC Compliance; I) Water Testing Expenses; J) Depreciation Rates; K) Other Issues.

RECOMMENDATIONS AND CONCLUSIONS

Q. What are Staff's conclusions and recommendations regarding the Company's operations?

A. Staff's conclusions and recommendations regarding the Company's operations are listed below.

Recommendations:

I. Staff recommends annual water testing costs of $6,615 be used for the Company's water system for purposes of this proceeding.

II. Staff recommends the depreciation rates by individual National Association of Regulatory Utility Commissioners category, as delineated in Exhibit 6 in Report DMH-1.

III. Staff recommends approval of the meter and service line installation charges listed under the columns labeled "Staff Recommendation" in Table 5 in Report DMH-1.

IV. Staff recommends that all expenses and capital improvement costs related to Well No. 1 after 2005 not be considered used and useful to the Company's provision of service.

V. Staff recommends that all expenses and capital improvement costs including a pressure tank related to Well No. 2C after 2007 not be considered used and useful to the Company's provision of service.

VI. Based on Staff's calculations the Ray water system has adequate production and storage capacity to serve its existing customer base and reasonable growth without Well No. 8. Therefore, Staff recommends that Well No. 8 be considered excess capacity for purposes of this rate case; this includes the Well No. 8 capital improvement expenses and land purchased for Well No. 8.

VII. Staff recommends that the Company closely monitor and record its water usage. Staff further recommends that the Company be required to coordinate the reading of its well meters and individual customer meters on a monthly basis and report this data in its future

Annual Reports beginning with 2013 Annual Report filed in 2014. Staff further recommends that the Company monitor the water system closely and take action to ensure that annual water loss is less than 10% by December 2013. If the reported annual water loss is greater than 10 percent, the Company shall prepare a report containing a detailed analysis and a plan to reduce annual water loss to 10 percent or less. If the Company believes it is not cost effective to reduce the water loss to less than 10 percent, it should submit a detailed cost benefit analysis to support its opinion. In no case shall the Company allow annual water loss to be greater than 15 percent. The water loss reduction report or the detailed analysis, whichever is submitted, shall be docketed as a compliance item within twenty four months of the effective date of the order issued in this proceeding.

VIII. Staff recommends approval of the five BMP Tariffs, BMPs 1.1, 3.6, 3.7, 5.2 and 5.5, presented in Exhibit 7. Staff further recommends that Ray file with Docket Control, as a compliance item in the docket, the five BMP Tariffs listed above within 30 days of the effective date of the Commission's Decision in this proceeding for Staff's review and authorization.

IX. Staff recommends that prior to filing its next rate application the Company undertake a formal study to demonstrate that adding multiple variable frequency drive motors is more cost efficient than adding additional hydropneumatic tank capacity or, whether a more cost efficient alternative might exist.

Conclusions:

I. In a Compliance Status Report dated April 2, 2012, ADEQ reported that Ray water system PWS No. 10-112 had no major deficiencies and was delivering water that met water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4.

II. Ray is in the ADWR Tucson Active Management Area. Staff received a Compliance Status Report from ADWR for Ray on July 27, 2012. In its report ADWR stated that the Company is compliant with departmental requirements governing water providers and/or community water systems.

III. Ray has approved cross connection and curtailment tariffs.

IV. Ray has adequate production and storage capacities to support their existing customer bases without well No. 8.

V. A check of the Commission's Compliance Section database dated June 21, 2012, indicated that Ray had no ACC delinquent compliance items.

Q. Does this conclude your Direct Testimony?

A. Yes, it does.

Engineering Report
Ray Water Company
Prepared By
Dorothy Hains, P. E.
Docket Nos. W-01380A-12-0254 (Rates)

November 26, 2012

EXECUTIVE SUMMARY

Recommendations:

1. Arizona Corporation Commission ("ACC" or "Commission") Utilities Division Staff ("Staff") recommends estimated annual water testing costs of $6,615 for Ray Water Company ("the Company" or "Ray"). (See §I and Table 4 for discussion and details.)

2. Staff recommends the depreciation rates by individual National Association of Regulatory Utility Commissioners category, as delineated in Exhibit 5. (See §J and Exhibit 6 for a discussion and a tabulation of the recommended rates.)

3. Staff recommends approval of the meter and service line installation charges listed under the columns labeled "Staff Recommendation" in Table 4. (See §K of report for discussion and details.)

4. All expenses and capital improvement costs related to Well No. 1 after 2005 should not be considered used and useful to the Company's provision of service.(See §K for discussion and details.)

5. All expenses and capital improvement costs including a pressure tank related to Well No. 2C after 2007 should not be considered used and useful to the Company's provision of service. (See §K for discussion and details.)

6. Staff recommends that Well No. 8 be considered excess capacity for purposes of this rate case (this includes the Well No. 8 capital improvement expenses and land purchased for Well No. 8). (See §K for discussion and details.)

7. Staff recommends approval of the five BMP Tariffs, BMPs 1.1, 3.6, 3.7, 5.2 and 5.5, presented in Exhibit 6. Staff further recommends that Ray file with Docket Control, as a compliance item in the docket, the five BMP Tariffs listed above within 30 days of the effective date of the Commission's Decision in this proceeding for Staff's review and authorization. (See §K of report for discussion and details.)

8. Staff recommends that the Company closely monitor and record its water usage. Staff further recommends that the Company be required to coordinate the reading of its well meters and individual customer meters on a monthly basis and report this data in its future Annual Reports beginning with 2013 Annual Report filed in 2014. Staff further recommends that the Company monitor the water system closely and take action to ensure that annual water loss is less than 10% by December 2013. If the reported water loss is greater than 10 percent, the Company shall prepare a report containing a detailed analysis and a plan to reduce water loss to 10 percent or less. If the Company believes it is not cost effective to reduce the water loss to less than 10 percent, it should submit a detailed cost benefit analysis to support its opinion. In no case shall the Company allow annual water loss to be greater than 15 percent. The water loss reduction report or the detailed analysis, whichever is submitted, shall be docketed as a compliance item within twenty four months of the effective date of the order issued in this proceeding. (See §D of report for discussion and details.)

9. Staff recommends that prior to filing its next rate application the Company undertake a formal study to demonstrate that adding multiple variable frequency drive motors is more cost efficient than adding additional hydropneumatic tank capacity or, whether a more cost efficient alternative might exist.

Conclusions:

1. A check of the Commission's Compliance Section database dated June 21, 2012, indicated that Ray had no ACC delinquent compliance items. (See §H of report for discussion and details.)

2. Ray is in the Arizona Department of Water Resources ("ADWR") Tucson Active Management Area. Staff received a Compliance Status Report from ADWR for Ray on July 27, 2012. In its report ADWR stated that the Company is compliant with departmental requirements governing water providers and/or community water systems. (See §G of report for discussion and details.)

3. In a Compliance Status Report dated April 2, 2012, Arizona Department of Environmental Quality ("ADEQ") reported that Ray water system, PWS No. 10-112, had no major deficiencies and was delivering water that met water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4. (See §F of report for discussion and details.)

4. Ray has approved cross connection and curtailment tariffs. (See §K of report for discussion and details.)

5. Ray has adequate production and storage capacities to support its existing customer base without Well No. 8. (See §C of report for discussion and details.)

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ENGINEERING REPORT

A. PURPOSE OF REPORT

This report was prepared in response to the application filed by Ray Water Company ("Ray" or "Company") with the Arizona Corporation Commission ("ACC" or "the Commission") to increase its water rates. The ACC Utilities Division Staff ("Utilities Staff" or "Staff") engineering review and analysis of the subject application is presented in this report.

An inspection of the Company's water system was conducted by Dorothy Hains, Staff Engineer, accompanied by Company Representative, Rhonda Rosenbaum (Vice President) and David Rader (Field Technician) on August 8, 2012.

B. LOCATION OF THE COMPANY

The Company is located near the Tucson Municipal Airport, along the old Benson Highway near Interstate Highway 10 and Alvernon Way in the City of Tucson ("City") in Pima County. Attached Exhibits 1 and 2 detail the location of the service area in relation to other Commission regulated companies in Pima County and in the immediate area. The Company serves an area approximately two and a half square miles in size that includes a portion of Sections 3, 4, 9 and 10 of Township 15 South, Range 14 East.

C. DESCRIPTION OF SYSTEM

I. System Description

Ray owns and operates a water system that consists of seven active well sites and a distribution system. The Company has an emergency interconnection with the City which can supply needed drinking water via a City owned, pressure relief valve ("PRV") station to the Company water system.[1] The Company serves approximately 1,520 metered connections; which includes a mixture of residential and commercial customers. Exhibits 3A, 3B and 3C are schematic drawings of the water system.

A detailed listing of the Company's water system plant follows:

1 The PRV station is located at 5897 S Alvernon Way.

Table 1 Plant Data in Ray (in PWS #10-095)

Active Drinking Water Wells

ADWR No.	Well #	Year Drilled	Casing Size (inches)	Well Depth (ft)	Well Meter Size (inches)	Pump (HP)	Pump Yield (GPM)	Location
55-214966	2D	2007	14	615	4	75	400	5710 S Rex, Tucson
55-609464	3	1969	12	458	4	40	185	5710 S Herpa, Tucson
55-609465	4	1973	12	425	4	15	125	4410 & 4412 E Rex Tucson
55-609466	5	1963	12	331	4	15	75	6100 S Columbus, Tucson
55-505023	6			612	4	60	325	4450 E Rex, Tucson
55-212103	7	2007	14	600	4	60	325	4310 E Rex
55-219154	8	2010	12	600	4	75	370	Market St./ Belvedere Blvd

Active Storage, Pumping

Location	Structure or equipment	Capacity
Well #5 Site (6100 S Columbus)	Pressure tank	One 5,000 gal
Well #4 Site (4410 & 4412 E Rex)	Pressure tank	One 5,000 gal
	Storage Tank	One 250,000 gal Tank (12' height) Two 50,000 gal Tanks (16' height)
	Booster pump station	One 30-HP One 25-HP One 20-HP
Well #3 Site (5710 S Herpa)	Pressure tank	One 5,000 gal tank
	Booster pump station	Two 15-HP
	Storage tank	One 50,000 gal (16' height) tank
Well #2D Site (5710 S Rex)	Pressure tank	One 50 gal bladder pressure tank
	Booster pump station	Four 30-HP One 15-HP
	Storage tank	One 285,000 gal (16' height) tank One 90,000 gal (16' height) tank

Distribution Mains in Ray CC&N Area

Diameter (inches)	Material	Length (feet)
3	asbestos cement ("AC")	9,730
4	AC	29,900
6	AC	25,773
8	AC	4,410
4	Poly vinyl chloride ("PVC")	735
6	PVC	17,549
8	PVC	21,739
12	PVC	240
6	Ductile Iron Pipe ("DIP")	28
12	DIP	615

Meters in Ray CC&N Area

Size (inches)	Quantity
⅝ x ¾	1,509
¾	N/A
1	30
1½	3
2	12
3 (comp)	1
3 (Turbo)	1
4 (comp)	3
4 (Turbo)	1
6 (comp)	1
6 (Turbo)	N/A

Inactive (or demolished or capped) Wells

ADWR No.	Well #	Year Drilled	Casing Size (inches)	Well Depth (ft)	Well Meter Size (inches)	Pump (HP)	Pump Yield (GPM)	Location
55-609462	1		10		6	30	175	3549 E Frankfort, Tucson
N/A	2A	1959					150	5710 S Rex
N/A	2B	1992					550	5710 S Rex
N/A	2C	2004					100	5710 S Rex

Inactive Storage, Pumping

Location	Structure or equipment	Capacity
Well #1 Site (3549 E Frankfort, Tucson)	Pressure tank	One 6,000 gal
Well #2 Site (5710 S Rex)	Pressure tank	One 5,000 gal tank

II. System Analysis

a. Storage and Production

The Ray water system has adequate production and storage capacity without Well No. 8 to support the existing customer base and reasonable growth. Further discussion can be found in Section K.

b. Hydropneumatic Tank

The Ray water system uses hydropneumatic tanks to maintain adequate water pressure through the distribution system. Correct sizing of the hydropneumatic tanks is important because the size of the tank directly determines the frequency of pump cycling (more on-off cycling of the pump may shorten the life of the pump). The Ray water system does not have adequately sized pressure tanks. In lieu of installing additional pressure tank capacity Ray has installed multiple variable frequency drive ("VFD") motors to address the issue. The installation of multiple pumps operating in rotation extends pump life and reduces the need for more frequent pump repairs. Staff recommends that prior to filing its next rate application the Company undertake a formal study to demonstrate that adding multiple VFD motors is more cost efficient than adding additional hydropneumatic tank capacity or, whether a more cost efficient alternative might exist.

D. WATER USAGE

Table 2 summarizes water usage in the Company's CC&N area. Exhibit 4 is a graph that shows water consumption data in gallons per day per connection for the Ray water system for the period of January 2011 through December 2011.

Table 2 Water Usage in Ray Water CC&N Area

Month	Number of Customers	Water Sold (in gallons)	Water used for flushing wells and mains (in gallons)	Water pumped (in gallons)	Water purchased (in gallons)	Monthly water loss (in gal)	Daily Average (in gpd/customer)
Jan 11	1,519	13,404,000	50,000	13,940,000	0	486,000	285
Feb 11	1,522	12,819,000		14,455,000	0	1,636,000	301
Mar 11	1,526	14,067,000		18,774,000	0	4,707,000	297
Apr 11	1,528	17,402,000		20,770,000	0	3,368,000	380
May 11	1,523	19,770,000		22,814,000	0	3,044,000	419
Jun 11	1,523	19,810,000		29,346,000	0	9,406,000	434
Jul 11	1,534	27,303,000	130,000	24,079,000	0	-3,224,000	574
Aug 11	1,524	22,235,000		33,363,000	0	11,099,000	471
Sep 11	1,518	19,288,000	29,000	15,311,000	0	-4,027,000	434
Oct 11	1,517	12,437,000	50,000	17,769,000	0	5,247,000	264
Nov 11	1,516	13,404,000	85,000	15,906,000	0	429,000	295
Dec 11	1,519	15,067,000	2,073,000	9,124,000	0	-8,360,000	321
total		207,006,000	2,417,000	235,651,000	0	23,811,000	
Average							372

I Water Sold

Based on information provided by the Company, the calculated highest use is 574 gallons per day ("GPD") per customer in June and the lowest is 264 GPD per customer in October. The average water usage was 372 GPD per customer per year.

II. Non-account Water

Non-account water should be 10 percent or less. It is important to be able to reconcile the difference between water sold and the water produced by the source. A water balance will allow a company to identify water and revenue losses due to leakage, theft and flushing. Non-account water should be 10 percent or less and never more than 15 percent. The calculated water loss in Ray water system was 10.1 percent during the test year. However, the water use data reported by the Company is suspect with more water sold than pumped in several months. In addition, the Company's adjustments for system flushing seem excessive; for example, in December non-billable water was over two million gallons.

Staff recommends that the Company closely monitor and record water used for system flushing and be prepared to provide records that support the amount of water used for this purpose. Staff further recommends that the Company be required to coordinate the reading of its well meters and individual customer meters on a monthly basis and report this data in its future Annual Reports beginning with 2013 Annual Report filed in 2014. Staff further recommends that the Company monitor the water system closely and take action to ensure that annual water loss is less than 10% by December 2013. If the reported water loss is greater than 10 percent, the Company shall prepare a report containing a detailed analysis and a plan to reduce water loss to 10 percent or less. If the Company believes it is not cost effective to reduce the water loss to less than 10 percent, it should submit a detailed cost benefit analysis to support its opinion. In no case shall the Company allow annual water loss to be greater than 15 percent. The water loss reduction report or the detailed analysis, whichever is submitted, shall be docketed as a compliance item within twenty four months of the effective date of the order issued in this proceeding.

E. GROWTH PROJECTION

For the past five years, this Company has experienced a very flat growth rate of about one customer per year. Prior to the economic downturn the Company had an average growth rate of eighty eight customers per year. Future growth is hard to predict since it will depend on what happens with the economy. The Company is expecting little or no growth in the near term.

F. ARIZONA DEPARTMENTOF ENVIRONMENTAL QUALITY ("ADEQ") COMPLIANCE

In a Compliance Status Report dated April 2, 2012, ADEQ reported that Ray water system PWS No. 10-112 had no major deficiencies and was delivering water that met water quality standards required by 40 CFR 141/Arizona Administrative Code, Title 18, Chapter 4.

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

Ray is in the ADWR Tucson Active Management Area. Staff received a Compliance Status Report from ADWR for Ray on July 27, 2012. In its report ADWR reported that Ray is compliant with departmental requirements governing water providers and/or community water systems.

H. ACC COMPLIANCE

A check of the Commission's Compliance Section database dated June 21, 2012, indicated that Ray had no ACC delinquent compliance items.

I. WATER TESTING EXPENSES

Ray is subject to mandatory participation in the ADEQ Monitoring Assistance Program ("MAP"). Staff calculated the testing costs based on the following assumptions:

1. MAP will do baseline testing on everything except copper, lead, bacteria, and disinfection by-products.

2. The estimated water testing expenses represent a <u>minimum</u> cost based on no "hits" other than lead and copper, and assume compositing of well samples. If any constituents were found, then the testing costs would dramatically increase. ADEQ testing is performed in 3-year compliance cycles. Therefore, monitoring costs are estimated for a 3-year compliance period and then presented on an annualized basis.

3. MAP fees were calculated from the ADEQ MAP invoice for calendar year 2011.

4. All monitoring expenses are based on Staff's best knowledge of lab costs and methodology and one point of entry.

Table 3 shows the estimated annual monitoring expense, based on participation in the MAP program.

Table 3 Water Testing Cost (Ray)

Monitoring – 4 POE (7 wells) (Tests per 3 years, unless noted.)	Cost per test	No. of tests per three year period	Total cost per three year period	Annual Cost
Bacteriological – monthly	$20	252	$5,040	$1,680
Inorganics – Priority Pollutants	$300	MAP	MAP	MAP
Radiochemical – (1/ 4 yr)	$60	MAP	MAP	MAP
Phase II and V:				
IOC's, SOC's, VOC's	$2,805	MAP	MAP	MAP
Nitrites	$25	MAP	MAP	MAP
Nitrates – annual	$25	MAP	MAP	MAP
Asbestos – per 9 years	$180	2⅓	MAP	MAP
Lead & Copper – annual*	$33	60	$1,980	$660
TTHM/HHAs	$360	0	$0	$0
Maximum chlorine residual levels	$10	0	$0	$0
MAP fees (annual)				$4,274.62
Total				**$6,614.62**

Water testing expenses should be adjusted to the annual expense amount shown in Table 3 which totals **$6,615** (rounded).

J. DEPRECIATION RATES

Staff has developed typical and customary depreciation rates within the range of anticipated equipment life. These rates are presented in Exhibit 6, and should be used to calculate the annual depreciation expense for the Company. Staff recommends the depreciation rates by individual National Association of Regulatory Utility Commissioners ("NARUC") category, as delineated in Exhibit 6.

K. OTHER ISSUES

I. Service Line and Meter Installation Charges

The Company is proposing to revise its meter and service line installation charges. These charges are refundable advances and the Company's proposed charges are within Staff's experience of what are reasonable and customary charges. Since the Company may at times install meters on existing service lines, it would be appropriate for some customers to only be charged for the meter installation. Therefore, separate service line and meter charges have been developed by Staff using the combined charge proposed by the Company. Staff recommends

approval of the meter and service line installation charges listed under the columns labeled "Staff Recommendation" in Table 4.

Table 4 Service Line and Meter Installation Charges

Meter Size	Current Meter & Service Line Installation Charges	Proposed Service Line installation Charge	Proposed Meter installation Charge	Proposed Total Cost	Staff Recommendation (Service Line installation charge)	Staff Recommendati on (Meter installation charge)	Staff Recommended total charges
5/8 x 3/4-inch	$550	$445	$155	$600	$445	$155	$600
3/4-inch	$550	$445	$255	$700	$445	$255	$700
1-inch	$650	$495	$315	$810	$495	$315	$810
1½-inch	$875	$550	$525	$1,075	$550	$525	$1,075
2-inch (Turbine)	$1,400	$830	$1,045	$1,875	$830	$1,045	$1,875
2-inch (Compound)	N/A	$830	$1,890	$2,720	$830	$1,890	$2,720
3-inch (Turbine)	$1,900	$1,045	$1,670	$2,715	$1,045	$1,670	$2,715
3-inch (Compound	N/A	$1,165	$2,545	$3,710	$1,165	$2,545	$3,710
4-inch (Turbine)	$3,200	$1,490	$2,670	$4,160	$1,490	$2,670	$4,160
4-inch (Compound	N/A	$1,670	$3,645	$5,315	$1,670	$3,645	$5,315
6-inch (Turbine)	$5,800	$2,210	$5,025	$7,235	$2,210	$5,025	$7,235
6-inch (Compound	N/A	$2,330	$6,920	$9,250	$2,330	$6,920	$9,250
Over 6-inch	N/A	N/A	Actual Cost	Actual Cost	Actual Cost	Actual Cost	Actual Cost

II. Field Inspection Findings

a. Not Used And Useful Plant Items at Well No. 1 & Well No. 2C

Well No. 1

Well No. 1 has been disconnected from the water system and unused since 2005. In addition to Well No. 1, an existing 5,000 gallon pressure tank, control panel and well turbine pump, are not used and useful. All expenses and capital improvement costs related to Well No. 1 after 2005 should not be considered used and useful to the Company's provision of service.

Well No. 2C

Well No. 2C was installed in 2004 and disconnected from the water system in 2007 All expenses and capital improvement costs including a pressure tank related to Well No. 2C after 2007 should not be considered used and useful to the Company's provision of service.

b. Excess Capacity Well No. 8

Based on Staff's calculations the Ray water system has adequate production and storage capacity to serve its existing customer base and reasonable growth without Well No. 8. The Company has adequate production capacity to accommodate over 550 new connections even without this well. Therefore, Staff recommends that Well No. 8 be considered excess capacity for purposes of this rate case; this includes the Well No. 8 capital improvement expenses and land purchased for Well No. 8.

III. Curtailment Tariff

The Company has an approved Curtailment Tariff.

IV. Cross Connection or Backflow Prevention Tariff

The Company has an approved Cross Connection & Backflow Tariff.

VI. Best Management Practices ("BMPs") Tariff

On October 4, 2012, Ray submitted a response to Staff's Data Request No. DMH-6.1, in which Ray selected five BMP Tariff Nos. 1.1, 3.6, 3.7, 5.2 and 5.5. Copies of these BMPs are presented in Exhibit 7.

Staff concludes that the BMP Tariffs proposed are relevant to the Ray's service area characteristics. The BMP Tariffs selected by Ray conform to the templates developed by Staff.

Staff recommends approval of the five BMP Tariffs, BMPs 1.1, 3.6, 3.7, 5.2 and 5.5, presented in Exhibit 7. Staff further recommends that Ray file with Docket Control, as a compliance item in the docket, the five BMP Tariffs listed above within 30 days of the effective date of the Commission's Decision in this proceeding.

EXHIBIT 1

Ray Water Certificate Service Area

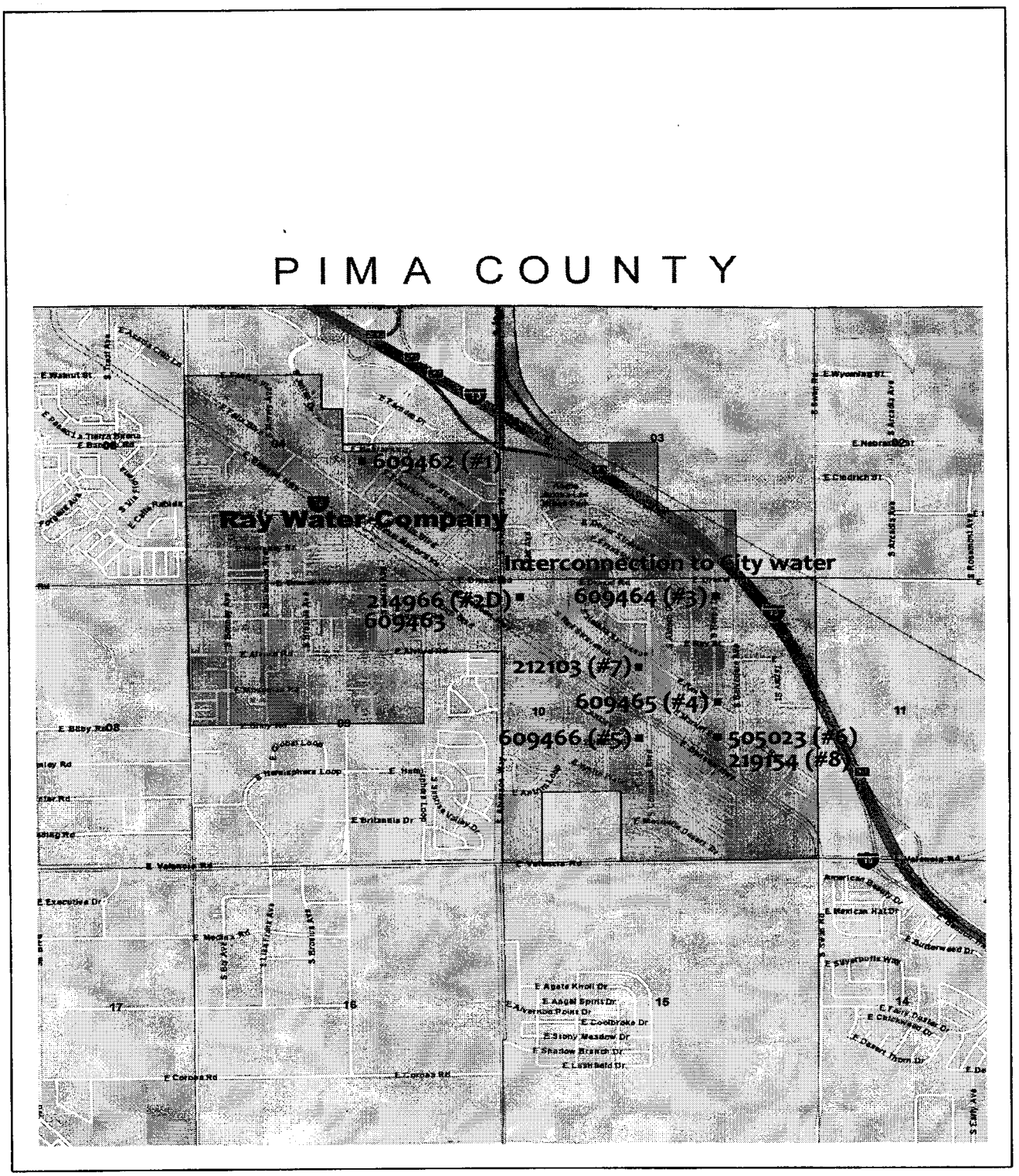

EXHIBIT 2.

LOCATION OF RAY WATER SERVICE AREA

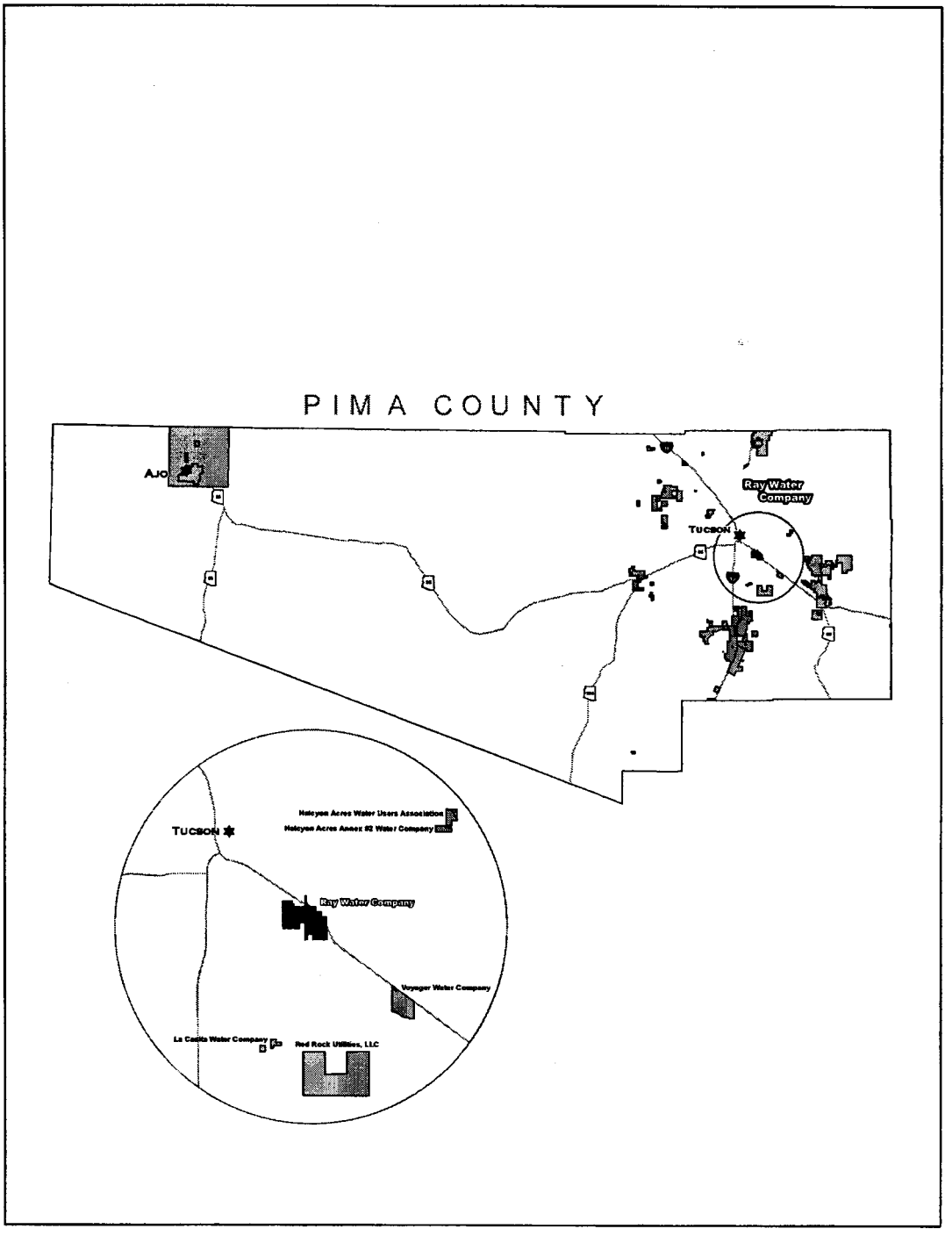

EXHIBIT 3A

SYSTEMATIC DRAWING

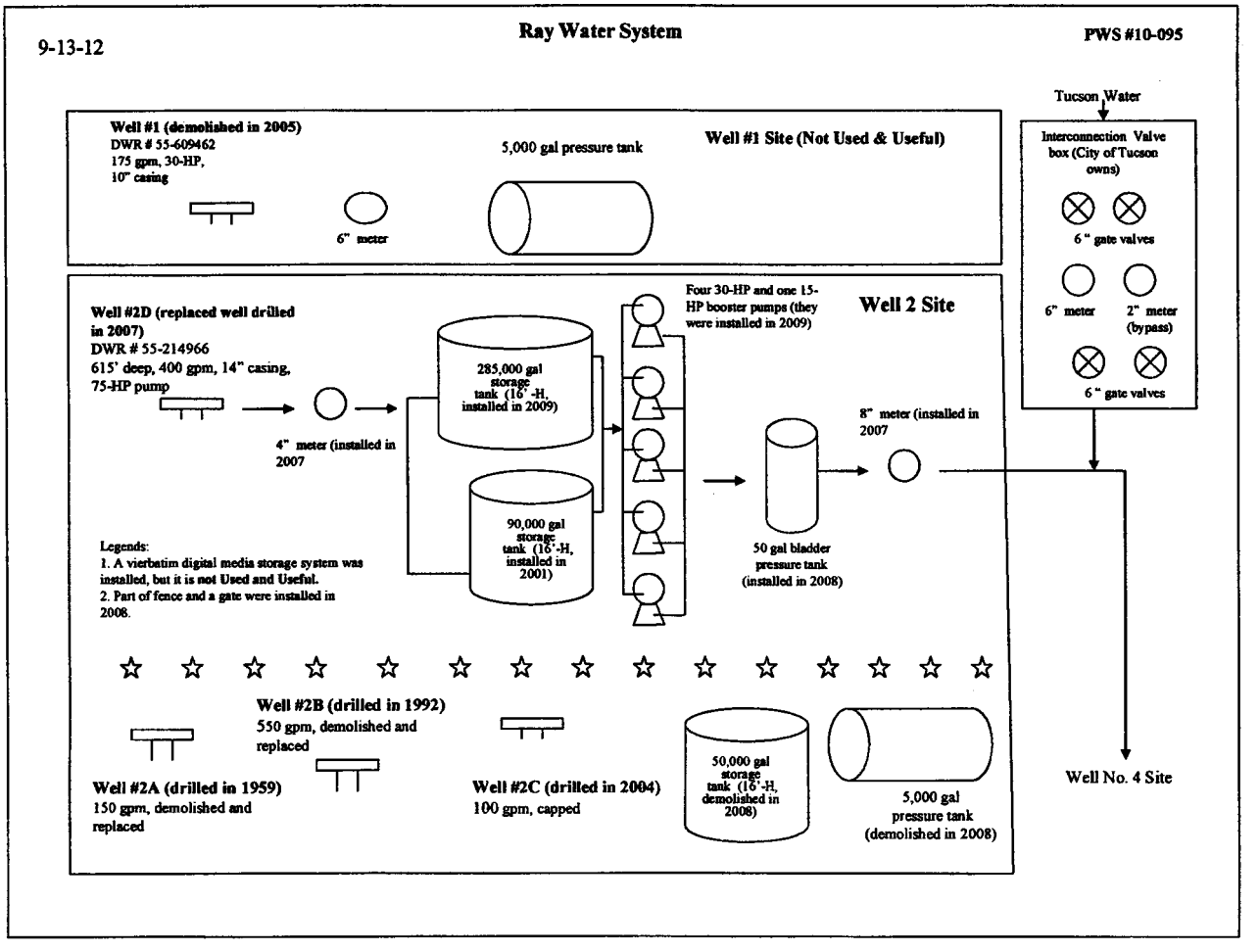

EXHIBIT 3B

SYSTEMATIC DRAWING

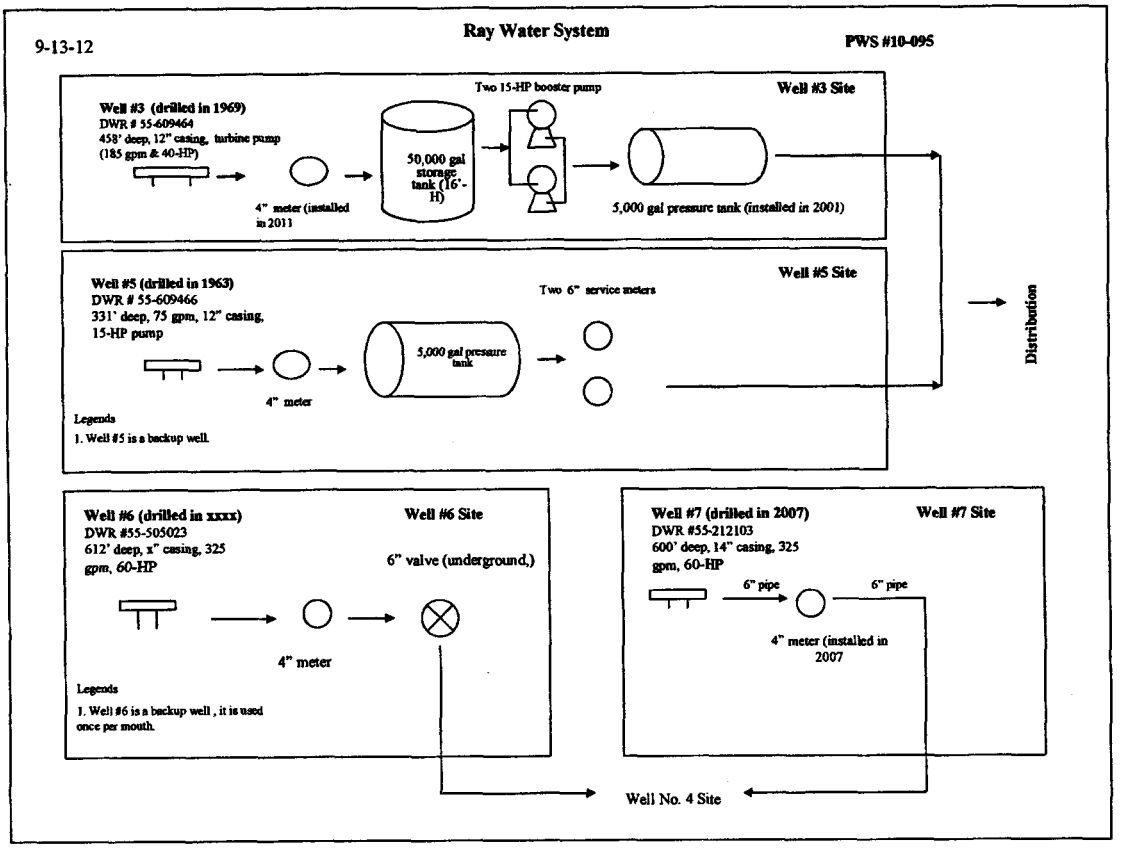

EXHIBIT 3C

SYSTEMATIC DRAWING

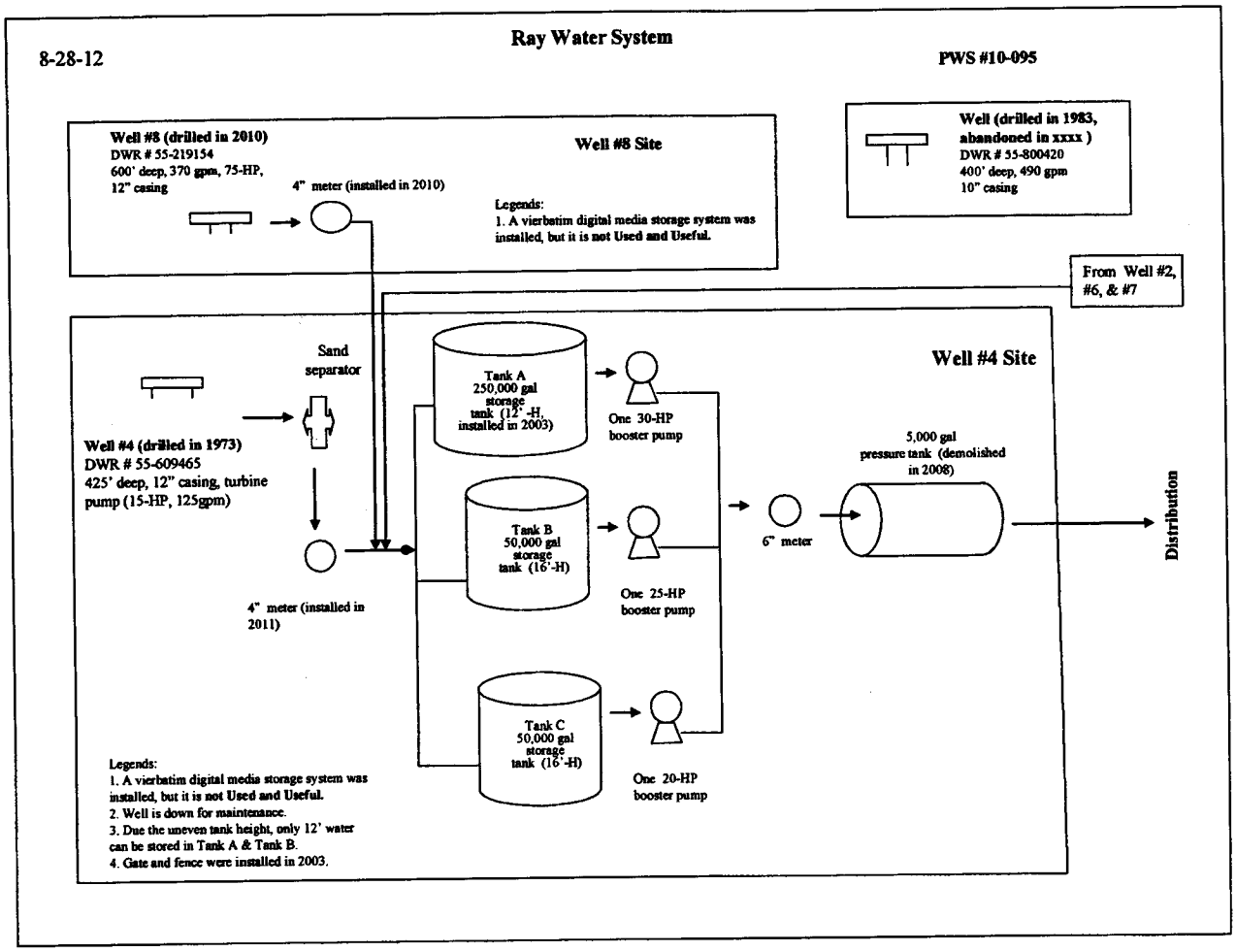

EXHIBIT 4

WATER USAGE IN RAY WATER SERVICE AREA

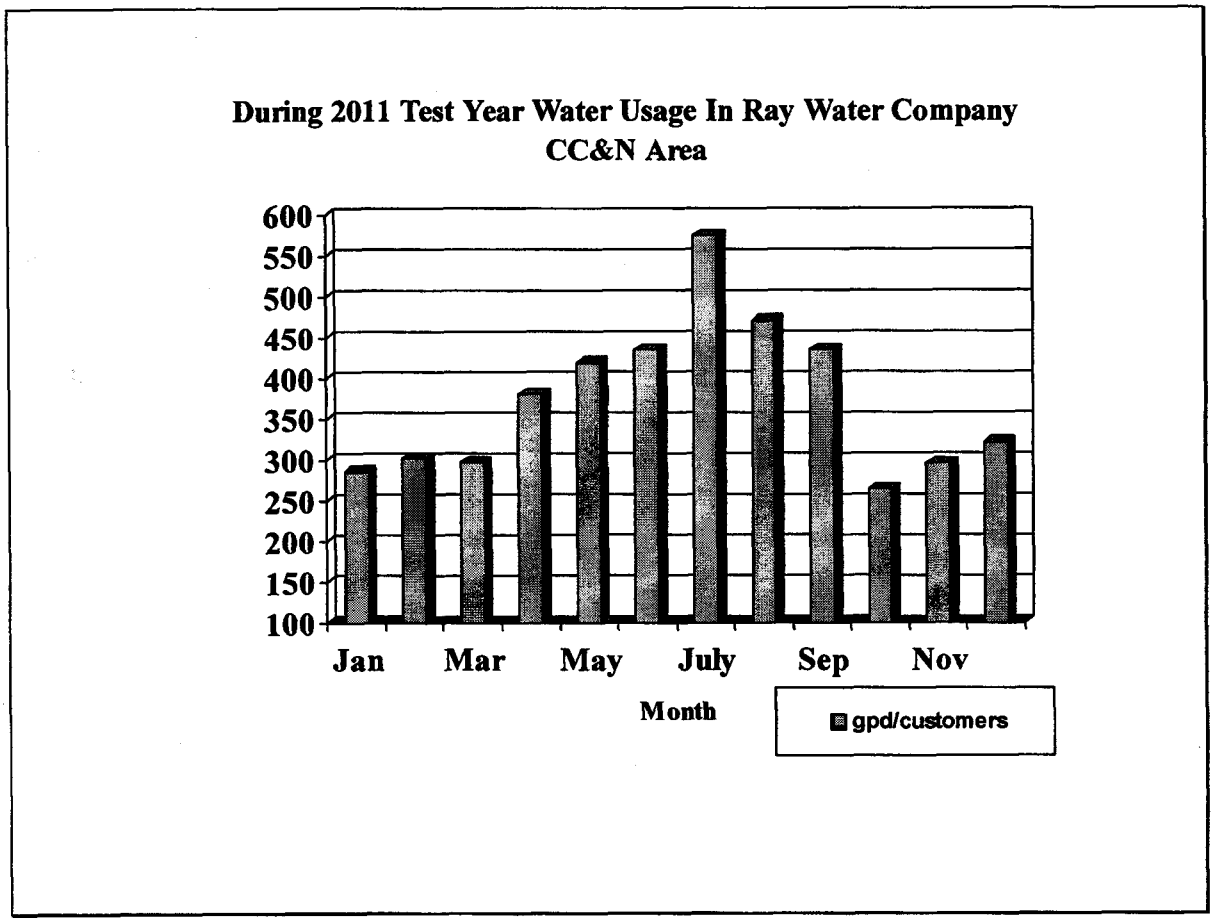

EXHIBIT 5

DEPRECIATION RATES (RAY WATER)

Acct. No.	Depreciable Plant	Approved Rate (%) (Decision # 61610)	Proposed Rate (%)	Staff Recommended Rate (%)
301	Intangibles	5	0.00	0
303	Land & Land Rights	5	0.00	0
304	Structures & Improvements	5	3.33	3.33
305	Collecting & Impounding Reservoirs	5	N/A	2.50
306	Lake, River, Canal Intakes	5	N/A	2.50
307	Wells & Springs	5	3.33	3.33
308	Infiltration Galleries	5	N/A	6.67
309	Raw Water Supply Mains	5	N/A	2.00
310	Power Generation Equipment	5	N/A	5.00
311	Pumping Equipment	5	12.50	12.5
320	Water Treatment Equipment	5	20.00	
320.1	Water Treatment Plants	5	3.33	3.33
320.2	Solution Chemical Feeders	5	20.00	20.0
330	Distribution Reservoirs & Standpipes	5	2.22	
330.1	Storage Tanks	5	2.22	2.22
330.2	Pressure Tanks	5	5.00	5.00
331	Transmission & Distribution Mains	5	2.00	2.00
333	Services	5	3.33	3.33
334	Meters	5	8.33	8.33
335	Hydrants	5	2.00	2.00
336	Backflow Prevention Devices	5	N/A	6.67
339	Other Plant & Misc Equipment	5	6.67	6.67
340	Office Furniture & Equipment	5	6.67	6.67
340.1	Computers & Software	5	20.00	20.00
341	Transportation Equipment	5	20.00	20.00
342	Stores Equipment	5	N/A	4.00
343	Tools, Shop & Garage Equipment	5	5.00	5.00
344	Laboratory Equipment	5	N/A	10.00
345	Power Operated Equipment	5	N/A	5.00
346	Communication Equipment	5	5.00	10.00
347	Miscellaneous Equipment	5	N/A	10.00
348	Other Tangible Plant	5	5.00	----

Exhibit 6 Proposed Best Management Practice Tariffs for Ray Water

Customer High Water Use Inquiry Resolution Tariff – BMP 3.6

PURPOSE

A program for the Company to assist its customers with their high water-use inquiries and complaints (Modified Non-Per Capita Conservation Program BMP Category 3: Outreach Services 3.6: Customer High Water Use Inquiry Resolution).

REQUIREMENTS

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. The Company shall handle high water use inquiries as calls are received.

2. Calls shall be taken by a customer service representative who has been trained on typical causes of high water consumption as well as leak detection procedures that customers can perform themselves.

3. Upon request by the customer or when the Company determines it is warranted, a trained Field Technician shall be sent to the customer's residence to conduct a leak detection inspection and provide the customer with water conservation measures. The leak detection inspection may consist of a meter read check for flow verification. If the on-site inspection is requested by the customer, the Commission approved meter re-read tariff fee shall apply.

4. The Company shall follow up in some way on every customer inquiry or complaint and keep a record of inquiries and follow-up activities.

Local and/or Regional Messaging Program Tariff – BMP 1.1

PURPOSE

A program for the Company to actively participate in a water conservation campaign with local or regional advertizing (Modified Non-Per Capita Conservation Program BMP Category 1: Public Awareness/Public Relations 1.1: Local and/or Regional Messaging Program).

REQUIREMENTS

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

5. The Company or designated representative shall actively participate in water conservation campaign with local and/or regional advertising.
6. The campaign shall promote ways for customers to save water.
7. The Company shall facilitate the campaign through one or more of the following avenues (not an all inclusive list):
    a. Television commercials
    b. Radio commercials
    c. Websites
    d. Promotional materials
    e. Vehicle signs
    f. Bookmarks
    g. Magnets
8. The Company shall keep a record of the following information and make it available to the Commission upon request.
    a. A description of the messaging program implemented and program dates.
    b. The number of customers reached (or an estimate).
    c. Costs of Program implementation.

Customer High Water Use Notification Tariff – BMP 3.7

PURPOSE

A program for the Company to monitor and notify customers when water use seems to be abnormally high and provide information that could benefit those customers and promote water conservation (Modified Non-Per Capita Conservation Program BMP Category 3: Outreach Services Program 3.7: Customer High Water Use Notification).

REQUIREMENTS

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

9. The Company shall track water usage for each customer and notify the customer if water use seems excessive for that particular billing for that time of the year.
10. The Company shall identify customers with high consumption and investigate each instance to determine the possible cause.
11. The Company shall contact the high water use customers via telephone, email, by mail or in person. The Company shall contact the customer as soon as practical in order to minimize the possible loss of water. The customer will not be required to do anything to receive this notification.
12. In the notification the Company shall explain some of the most common water usage problems and common solutions and points of contact for dealing with the issues.
13. In the notification, the customer will be reminded of at least the following water-saving precautions:
    a. Check for leaks, running toilets, or valves or flappers that need to be replaced.
    b. Check landscape watering system valves periodically for leaks and keep sprinkler heads in good shape.
    c. Adjust sprinklers so only the vegetation is watered and not the house, sidewalk, or street, etc.
    d. Continue water conservation efforts with any pools such as installing covers on pools and spas and checking for leaks around pumps.
14. In the notification, the customer will also be reminded of at least the following ordinary life events that can cause a spike in water usage:
    a. More people in the home than usual taking baths and showers.
    b. Doing more loads of laundry than usual.
    c. Doing a landscape project or starting a new lawn.
    d. Washing vehicles more often than usual.
7. The Company shall provide water conservation information that could benefit the customer, such as, but not limited to, audit programs, publications, and rebate programs.
8. The Company shall assist the customer in a self-water audit and assist the customer in determining what might be causing the high water usage as well as supply customer with information regarding water conservation and landscape watering

guidelines. As part of the water audit the Company shall confirm the accuracy of the customer meter if requested to do so by the customer (applicable meter testing fees shall apply).

9. The type of notification, the timing of the notification (i.e., how long after high water use was discovered by the Company), and the criteria used for determining which customers are notified shall be recorded and made available to the Commission upon request.

WATER SYSTEM TAMPERING TARIFF – BMP 5.2

PURPOSE

The purpose of this tariff is to promote the conservation of groundwater by enabling the Company to bring an action for damages or to enjoin any activity against a person who tampers with the water system.

REQUIREMENTS:

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission, specifically Arizona Administrative Code ("AAC") R14-2-410 and the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. In support of the Company's water conservation goals, the Company may bring an action for damages or to enjoin any activity against a person who: (1) makes a connection or reconnection with property owned or used by the Company to provide utility service without the Company's authorization or consent; (2) prevents a Company meter or other device used to determine the charge for utility services from accurately performing its measuring function; (3) tampers with property owned or used by the Company; or (4) uses or receives the Company's services without the authorization or consent of the Company and knows or has reason to know of the unlawful diversion, tampering or connection. If the Company's action is successful, the Company may recover as damages three times the amount of actual damages.

2. Compliance with the provisions of this tariff will be a condition of service.

3. The Company shall provide to all its customers, upon request, a complete copy of this tariff and AAC R14-2-410. The customers shall follow and abide by this tariff.

4. If a customer is connected to the Company water system and the Company discovers that the customer has taken any of the actions listed in No. 1 above, the Company may terminate service per AAC R14-2-410.

5. If a customer believes he/she has been disconnected in error, the customer may contact the Commission's Consumer Services Section at 1-800-222-7000 to initiate an investigation.

Low Water Use Landscaping Requirements Tariff for Model Homes in New Residential Developments – BMP 5.5

PURPOSE

A program for the Company to reduce water use within its service area and/or increase water use efficiency by limiting or reducing water used for specific purposes (Modified Non-Per Capita Conservation Program BMP Category 5: Ordinances/Conditions of Service/Tariffs 5.5: Low Water Use Landscaping Requirements Tariff for Model Homes in New Residential Developments).

REQUIREMENTS:

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission, specifically A.A.C. R14-2-403 and R14-2-410 and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. The Company shall provide to the customer/developer/builder distinct guidelines for landscape planning and design for model homes.

2. The following landscape restrictions will be required in order for a customer/developer/builder to receive water service to its model homes from the Company on or after the effective date of this tariff:

   Restrictions Applicable to All New Model Home Landscaping -

   a. Model home landscaping will involve strategic planning and design. Landscaped areas will be divided into zones based on water requirements. Each model will have efficient irrigation systems, properly designed and maintained.
   b. All models will be placed on a drip irrigation system with a timer for shrubs and trees to apply water directly to the roots where it is needed. Watering schedules will be adjusted each month to match seasonal weather conditions and landscape requirements.
   c. All front yards shall be landscaped with xeriscape (low water use) materials. A list of low water use landscaping materials is available from the Company upon request. No turf of any kind that requires watering shall be allowed in front yards.
   d. Turf in back yards shall be limited to no more than fifty percent (50%) of the total backyard area.
   e. No model home shall be equipped with a swimming pool, jacuzzi, or other water-use intensive feature (e.g., fountain, fish pond, etc.).
   f. Model home landscapes will require minimal but appropriate maintenance. Landscape maintenance may include pruning, removing trash that has blown into

the landscape, occasional weeding and pest management, checking that the irrigation system is functioning properly, and adjusting automatic irrigation systems as the seasons change.

3. Subject to the provisions of this tariff, the installation of the landscape restrictions will be a condition of service.

4. The Company shall provide to customer/developer/builder a complete copy of this tariff and all attachments upon request for service. The customer/developer/builder shall follow and abide by these landscape restrictions.

5. If after a customer has been connected to the Company water system, the Company discovers that the customer has installed turf or water-use intensive features contrary to the above requirements, the Company shall notify (in writing) the customer of such violation and provide the customer with the appropriate educational materials informing the customer of some possibilities of how to correct the problem. The customer shall be allowed thirty (30) days to come into compliance with the above requirements. If after thirty (30) days the customer is not in compliance with the above requirements, the customer's service may be terminated per Arizona Administrative Code R14-2-410C, R14-2-410D and R14-2-410E.

6. If a customer believes he/she has been disconnected in error, the customer may contact the Commission's Consumer Services Section at 1-800-222-7000 to initiate an investigation.

ALL-STATE LEGAL®
EXHIBIT
S-2
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP
Chairman
GARY PIERCE
Commissioner
BRENDA BURNS
Commissioner
BOB BURNS
Commissioner
SUSAN BITTER-SMITH
Commissioner

IN THE MATTER OF THE APPLICATION OF RAY WATER COMPANY, FOR AN INCREASE IN RATES	)))))	DOCKET NO. W-01380A-12-0254

SURREBUTTAL TESTIMONY

OF

DOROTHY HAINS, P. E.

UTILITIES ENGINEER

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

JANUARY 8, 2013

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Dorothy Hains. My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

Q. Are you the same Dorothy Hains who has previously filed testimony in this Ray Water Company ("Ray" or "Company") rate proceeding?

A. Yes.

Q. What is the purpose of your Surrebuttal Testimony?

A. In my Surrebuttal Testimony I will respond to the Well #8 issues related to the Company's Rebuttal Testimony.

II. WELL #8

Q. The Company argues that Well #8 provides capacity that is needed to meet the demands of the Company water system and contrary to Staff's conclusion should not be treated as excess capacity. Do you agree?

A. No. In its Direct Testimony, Staff included Well #2d, Well #3, Well #4 and Well #7 in its capacity calculation. The Company now argues that Well #4 is not in service (See Page 4 of Ms. Festa's Rebuttal Testimony).

Q. When Staff did its inspection in late August 2012, was Well #4 in service at that time?

A. No. However, during its inspection Staff was informed that Well #4 was only temporarily down for repairs and Staff observed a well driller on site pulling the well casing out of the well column to make the needed repairs. The Company's Vice President and Certified

Operator, Ms. Rosebaum, informed Staff that Well #4 repairs would be completed soon and that the well would be back in service in a few months and prior to the peak usage season.

Q. When Staff concluded that Well #8 was excess capacity in its Direct Testimony, did Staff include the production from Well #4 in its calculation even though this well was not in service at the time of Staff's inspection?

A. Yes. While Well #4 was not in service during Staff's inspection, Staff observed that the Well was being repaired and that the situation was temporary. The Company also confirmed for Staff that the well would be back in service as soon as the needed repairs were made. Staff therefore concluded that it would be appropriate to include Well #4 in the capacity calculation.

Q. Assuming that Well #4 is no longer in service, does the removal of Well #4 from Staff's capacity calculation change Staff's recommendation regarding Well #8?

A. No. Even assuming that Well #4 is no longer in service as the Company now contends, Staff's recommendation regarding Well #8 remains unchanged because the Company could utilize Well #6 for additional capacity. Accordingly, assuming Well #4 is no longer in service, Staff's capacity calculations would include Wells #2d, #3, #6 and Well # 7. Well #8 still constitutes excess capacity under either scenario.

Q. Why does Staff believe it would be appropriate to include Well #6 in the capacity calculation?

A. During Staff's site inspection, Ms. Rosebaum told Staff that Well #6 was being used by the Company as a backup well that would be available and used in the event another well was

off-line for repairs or during periods of peak usage to meet demand. This representation is confirmed in the Company's Surrebuttal Testimony where the Company states that Well #6 is being utilized as "strictly a backup well."[1] Since Well #6 is in service as a backup well, Staff believes it would be appropriate to include that well in the capacity calculation in the event that Well #4 is no longer in service.

Q. Does the Company have other wells to provide additional backup capacity?

A. Yes. During Staff's site inspection, Ms. Rosebaum also informed Staff that Well #5 was being used by the Company as a backup well that would be available and used in the event another well was off-line for repairs or during periods of peak usage to meet demand. Staff observed that Well #5 was powered on and was operational at the time of inspection.

Q. Does your silence on any particular issue raised in the Company's rebuttal testimony indicate that Staff agrees with the company's stated rebuttal position?

A. No. Rather, where I do not respond, I am continuing to rely on my direct testimony.

Q. Does this conclude your Surrebuttal Testimony?

A. Yes, it does.

[1] Rebuttal Testimony of Kara Festa, p. 4.

EXHIBIT
S-3
ADMITTED

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 RAY WATER COMPANY, INC. FOR APPROVAL OF A PERMANENT RATE INCREASE.	)))))	DOCKET NO. W-01380A-12-0254

DIRECT

TESTIMONY

OF

CRYSTAL S. BROWN

PUBLIC UTILITIES ANALYST V

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

NOVEMBER 26, 2012

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EXECUTIVE SUMMARY
RAY WATER COMPANY, INC.
DOCKET NO. W-01380A-12-0254

Ray Water Company ("Ray Water" or "Company") is an Arizona public service corporation engaged in providing water utility services to over 1,500 customers within an area southeast of Tucson in Pima County, Arizona. Ray Water's current rates were approved in Decision No. 61610, dated April 1, 1999.

The Company proposes a $373,970, or 64.90 percent revenue increase from $576,266 to $950,236. The proposed revenue increase would produce an operating income of $113,394 for a 10.57 percent rate of return on an original cost rate base ("OCRB") of $1,073,266. The Company's proposed rates would increase the typical residential 5/8 x 3/4-inch meter bill with a median usage of 6,467 gallons from $21.17 to $26.55, for an increase of $5.38 or 25.40 percent.

Staff recommends a $168,332 or 28.98 percent revenue increase from a Staff adjusted $580,814 to $749,146. Staff's recommended revenue increase would produce an operating income of $53,150 for an 8.70 percent rate of return on a Staff adjusted OCRB of $610,922 as shown on Schedule CSB-1. Staff's recommended rates would increase the typical residential 5/8 x 3/4-inch meter bill with a median usage of 6,467 gallons from $21.17 to $21.58, for an increase of $0.41 or 1.90 percent.

INTRODUCTION

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

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

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

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

Q. Please describe your educational background and professional experience.

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

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

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

A. I am presenting Staff's analysis and recommendations in the areas of rate base and operating revenues, expenses, and rate design regarding the Ray Water Company, Inc.'s ("Ray Water" or "Company") application for a permanent rate increase. Staff witness, John Cassidy, is presenting Staff's cost of capital recommendations. Staff witness, Dorothy Hains, is presenting Staff's engineering analysis and recommendations.

Q. What is the basis of your recommendations?

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

BACKGROUND

Q. Please provide a brief description of Ray Water and the service it provides.

A. Ray Water is an Arizona public service corporation, serving approximately 1,511 customers in Pima County, Arizona. Ray Water's current rates were approved in Decision No. 61610, dated April 1, 1999.

Q. What are the primary reasons for Ray Water's requested permanent rate increase?

A. According to Ray Water, the primary reason is to recover its operating expenses and to earn a just and reasonable rate of return.

CONSUMER SERVICE

Q. Please provide a brief history of customer complaints received by the Commission regarding Ray Water.

A. Staff reviewed the Commission's records and found that, for the year 2010, there were two complaints regarding quality of service and the inability of a customer to contact the Company; for the year 2011, there were two complaints regarding billing and disconnect and/or termination; and for the year 2012, there was one billing complaint. All complaints have been resolved and closed. No opinions have been filed opposing the rate case.

COMPLIANCE

Q. Please provide a summary of the compliance status of Ray Water.

A. A check of the Compliance database indicates that there are currently no delinquencies for Ray Water.

SUMMARY OF PROPOSED REVENUES

Q. Please summarize the Company's filing.

A. The Company proposes a $373,970, or 64.90 percent, revenue increase from $576,266 to $950,236. The proposed revenue increase would produce an operating income of $113,394 for a 10.57 percent rate of return on an original cost rate base ("OCRB") of $1,073,266. The Company's proposed rates would increase the typical residential 5/8 x 3/4-inch meter bill with a median usage of 6,467 gallons from $21.17 to $26.55, for an increase of $5.38 or 25.40 percent.

Q. Please summarize Staff's recommended revenue.

A. Staff recommends a $168,332 or 28.98 percent, revenue increase from a Staff adjusted $580,814 to $749,146. Staff's recommended revenue increase would produce an

operating income of $53,150 for an 8.70 percent rate of return on a Staff adjusted OCRB of $610,922 as shown on Schedule CSB-1. Staff's recommended rates would increase the typical residential 5/8 x 3/4-inch meter bill with a median usage of 6,467 gallons from $21.17 to $21.58, for an increase of $0.41 or 1.90 percent.

Q. What test year did Ray Water utilize in this filing?

A. Ray Water's test year is based on the twelve months ended December 31, 2011.

Q. Please summarize Staff's rate base and operating income adjustments for Ray Water.

A. My testimony discusses the following adjustments:

Rate Base Adjustments

Excess Capacity Costs – This adjustment decreases plant in service by $459,450 to remove plant that Staff has identified as being excess capacity.

Not Used and Useful Plant – This adjustment decreases plant in service by $33,853 to remove plant that Staff has identified as being not used and useful.

Pressure Tank Reclassification – This adjustment reclassifies a $1,032 tank from Account No. 330, Distribution Reservoirs and Tanks to Account No. 330.2, Pressure Tanks, in order to ensure that the cost will be depreciated using the correct depreciation rate.

Allocated Vehicle Cost – This adjustment reduces transportation equipment by $30,083 to reflect costs that should be allocated to the owners and affiliates.

Accumulated Depreciation – This adjustment decreases accumulated depreciation by $42,314 and reflects Staff's calculation of accumulated depreciation based on Staff's adjustments to plant.

Advances In Aid of Construction ("AIAC") – This adjustment decreases AIAC by $158,487 to reflect Staff's reclassification of the portion of the AIAC balance that was not fully refunded after ten years to the CIAC account.

Contributions In Aid of Construction ("CIAC") – This adjustment increased CIAC by $158,487 as the result of transferring the portion of AIAC that was not fully refunded after ten years to the CIAC account.

Amortization of CIAC – This adjustment increases accumulated amortization of CIAC by $127,537 to reflect the amortization of CIAC on the Staff-recommended CIAC additions.

Customer Deposits – This adjustment decreases rate base by $105,405 to reflect an average test year customer deposits balance.

Working Capital, Prepayments – This adjustment decreases rate base by $3,404 to eliminate the Company's selective recognition of a working capital component that only increases rate base.

Operating Income Adjustments

Other Revenue – This adjustment increases other revenue by $4,548 to reflect revenue derived from the sale of water usage data and other services to Pima County that were incorrectly classified as non-utility income.

Salary and Wages – This adjustment decreases salaries and wages expense by $30,259 to reflect Staff's allocation of a portion of this expense to affiliate business; to reflect Staff's estimation of the number of hours needed to perform certain job duties; and to reflect Staff's normalization of a salary that is not paid every year.

Employee Pensions and Benefits – The adjustment decreases employee pensions and benefits expense by $4,520 to reflect Staff's normalization of a cost that was not paid in the test year.

Purchased Power Expense – This adjustment decreases purchased power expense by $24,863 to remove the Company's pro forma adjustment to include the purchased power expense for a well that Staff determined is excess capacity plant.

Contractual Services, Water Testing – This adjustment increases operating expenses by $964 to reflect Staff's recommended annual water testing costs.

Rents Expense – This adjustment decreases rents expense by $2,200 to reflect Staff's allocation of a portion of this expense to an affiliate.

Transportation Expense – This adjustment decreases transportation expense by $4,110 to reflect Staff's allocation of costs related to the personal use of a Company vehicle for one of the owners.

Depreciation Expense – This adjustment decreases depreciation expense by $19,586 to reflect Staff's calculation of depreciation expense using Staff's recommended depreciation rates and Staff's recommended plant and CIAC balances.

Taxes Other Than Income Expense – This adjustment decreases taxes other than income expense by $1,533 to reflect a decrease in payroll taxes consistent with Staff's adjustment to decrease Salaries and Wages expense.

Property Tax Expense – This adjustment decreases property tax expense by $6,670 to reflect Staff's calculation of the Company's property tax expense.

Income Tax Expense – This adjustment increases income tax expenses by $42,435 to reflect the income tax obligation on Staff's adjusted test year taxable income.

RATE BASE

Fair Value Rate Base

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

A. No, the Company did not. The Company's filing treats the OCRB as the fair value rate base.

Rate Base Summary

Q. Please summarize Staff's adjustments to Ray Water's rate base shown on Schedules CSB-3 and CSB-4.

A. Staff's adjustments to Ray Water's rate base resulted in a net decrease of $462,344, from $1,073,266 to $610,922. This decrease was primarily due to Staff's removal of the excess capacity plant, and not used and useful plant.

Rate Base Adjustment No. 1 – Excess Capacity Plant

Q. During the course of the audit, did Staff identify plant that was in excess of the capacity needed for the water system?

A. Yes. Staff identified that Well No. 8 and its related land and pumps were excess capacity plant, as discussed in greater detail by Staff witness, Dorothy Hains.

Q. Is excess capacity plant used and useful?

A. No, it is not.

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

A. The total cost is $459,450 as shown on Schedule CSB-5. The amount is composed of $36,000 for land and land rights; $268,821 for wells; and $154,629 for pumping equipment.

Q. What is Staff recommending?

A. Staff recommends decreasing plant in service by $459,450 to remove the cost of excess capacity plant as shown on Schedules CSB-4 and CSB-5.

Rate Base Adjustment No. 2 – Not Used and Useful Plant

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

A. Yes, Staff identified $33,853 in plant that was not used and useful as shown on Schedules CSB-4 and CSB-6.

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

A. Dorothy Hains, Staff's Engineer, inspected the entire system and identified certain individual plant items that were not serving customers during the test year.

Q. What is Staff recommending?

A. Staff recommends decreasing plant in service by $33,853 to remove all plant from rate base that was not used and useful as shown on Schedules CSB-4 and CSB-6.

Rate Base Adjustment No. 3 – Pressure Tank Reclassification

Q. Did Staff identify any plant that was incorrectly classified?

A. Yes, Staff identified a pressure tank costing $1,032 that was incorrectly included in the distribution tank plant account. Staff reclassified the tank from account no. 330, distribution reservoirs and tanks, to account no. 330.2, pressure tanks, as shown on Schedules CSB-4 and CSB-7.

Q. Why is the correct classification needed?

A. Correct classification is needed because Staff is recommending different depreciation rates for pressure tanks and distribution tanks. Reclassification will help to ensure that the depreciation expense will be calculated correctly.

Q. What is the net effect of Staff's reclassification on plant?

A. There is no change to plant as shown on Schedules CSB-4 and CSB-7.

Rate Base Adjustment No. 4 – Allocated Vehicle Cost

Q. How many vehicles and employees does the Company have?

A. The Company has three vehicles and four employees.

Q. Please describe the vehicles that the Company owns and who primarily uses them.

A. According to the Company's response to data request CSB 2-33, the Company owns a 2006 Lexus SUV; a 2005 Toyota Tundra; and a 2004 Ford truck. During the on-site audit,

Staff determined that Mrs. Rosenbaum primarily uses the Lexus; Mr. Rosenbaum primarily uses the Toyota, and Mr. Rader primarily uses the Ford.

Q. Does Staff have any concerns about the 2004 Ford truck that is primarily used by Mr. Rader?

A. No. Mr. Rader is the Company's field technician (CSB 2-24). He is responsible for inspecting and maintaining all utility plant; purchases supplies needed to repair and maintain utility plant; takes water quality samples; locates mains; marks blue-stakes; turns on and turns off customer services; and performs all other duties necessary to operate a water system. A 2004 Ford truck is reasonable given the number of duties performed outside of the office and the frequency at which they are performed for the Company.

Q. Does Staff have any concerns about the 2005 Toyota Tundra?

A. No, not at this time. Staff determined that this vehicle is used to go out in the field for repair and maintenance work. It is also used to pick up materials that the Ford truck cannot as the Ford truck has a large tool box in the bed of the truck. Also, Mr. Rosenbaum has a different vehicle for his personal use.

Q. Does Staff have any concerns about the 2006 Lexus SUV?

A. Yes. Staff is concerned because the travel duties performed by Mrs. Rosenbaum and the frequency at which they are performed do not require a level of travel needed to justify the full cost of this vehicle in rates.

Q. Does the Company maintain a travel log showing who used the vehicles and for what purpose?

A. No, it does not.

Q. Is the Lexus SUV used for meter reading, billing, or making bank deposits?

A. No, it is not. Ray Water contracts with Southwest Utility Management to perform its meter reading, billing and making bank deposits.

Q. Is the Lexus used for the affiliate business, the employee's personal commute back and forth to work, and for the employee's personal use?

A. Yes, according to the Company's response to data request CSB 5-13, the vehicle is used for R&M Real Estate Limited Partnership ("R&M Real Estate") and also for the employee's personal commute back and forth to work. During the on-site audit, Staff determined that Mrs. Rosenbaum does not have a separate personal vehicle and that she uses the Company's vehicle for her personal use.

Q. Based on Staff's audit, what percentage should be allocated to the owner and to Ray Water?

A. Based upon Staff's audit, 75 percent should be allocated to the owner and 25 percent should be allocated to Ray Water. Staff's allocation recognizes that travel is needed from time to time to purchase office supplies, visit job sites, or other such activities while conducting business on behalf of Ray Water.

Further, Staff's analysis recognizes that the vehicle is not used for meter reading, billing, or making bank deposits. Moreover, Mrs. Rosenbaum's job duties provided by the Company do not necessitate a high amount of travel; personal commute costs of the owner should not be borne by the ratepayers; and there is a real estate business that conducts business out of Ray Water Company's office and no travel log is maintained.

Q. What is Staff recommending concerning the Company's vehicles?

A. Staff recommends decreasing the transportation account by $30,083 to reflect Staff's allocation of costs related to an owner's personal use of the Lexus SUV as shown on Schedules CSB-4 and CSB-8.

Q. Does Staff have any recommendation for the future recovery of Ray Water vehicles that are used for both Company and personal use?

A. Yes. Staff further recommends that the Company maintain mileage logs in order to recover transportation costs in any future rate case.

Rate Base Adjustment No. 5 – Accumulated Depreciation

Q. What did Ray Water propose for Accumulated Depreciation?

A. Ray Water proposed $1,835,897.

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

A. Yes. Staff recalculated the accumulated depreciation balance using the plant in service balances that were adjusted by the following: the removal of excess capacity plant costs, the removal of not used and useful plant costs and the removal of transportation plant costs that were allocated to the owner.

Q. What is Staff recommending?

A. Staff recommends decreasing accumulated depreciation by $42,314 as shown on Schedules CSB-4 and CSB-9.

Rate Base Adjustment No. 6 – AIAC

Q. Did Staff identify AIAC that had not been fully refunded after ten years?

A. Yes. Based on the Company's response to data request CSB 2-11, Staff determined that the Company's 1997 ending AIAC balance of $185,833 should have been transferred to CIAC as it was more than ten years old. Further, Staff identified $97,860 in net AIAC (i.e additions less repayments) added during the years 1998 through 2001 that should have converted to CIAC as the AIAC additions were also more than ten years old. The total unrefunded AIAC ten or more years old was $283,693.

Q. How did Staff calculate the amount of AIAC to be removed and reclassified as CIAC?

A. The Company reported that it had transferred $125,206 of AIAC to CIAC in its response to CSB 2-11. Staff's analysis showed that an additional $158,487 (i.e. $283,693 - $125,206) needed to be transferred to reflect the portion of unrefunded AIAC that was ten or more years old.

Q. What is Staff recommending?

A. Staff recommends decreasing AIAC by $158,487 as shown on Schedules CSB-4 and CSB-10.

Rate Base Adjustment No. 7 – Contributions In Aid of Construction ("CIAC")

Q. What did the Company propose for CIAC?

A. The Company proposed $982,352 for CIAC.

Q. Did Staff identify AIAC that had not been fully refunded after ten years?

A. Yes. As previously discussed in Rate Base Adjustment No. 6, "AIAC," Staff identified $158,487 in AIAC that should be transferred to CIAC.

Q. What is Staff's recommending?

A. Staff recommends increasing CIAC by $158,487 to reflect the AIAC that should be transferred to CIAC as shown on Schedules CSB-4 and CSB-11.

Rate Base Adjustment No. 8 – Amortization of CIAC

Q. Did Staff make any adjustments to the Amortization of CIAC account?

A. Yes.

Q. What was the adjustment?

A. Staff reflected the amortization of CIAC on the Staff recommended CIAC additions.

Q. What is Staff recommending?

A. Staff recommends increasing the amortization of CIAC by $127,537, as shown on Schedules CSB-4 and CSB-12.

Rate Base Adjustment No. 9 – Customer Deposits

Q. Is Ray Water proposing to include customer deposits in the rate base calculation?

A. No, it is not.

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

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

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

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

Q. What was the Company's average customer deposit balance during the test year?

A. The Company's average customer deposit balance was $105,405 during the test year.

Q. What is Staff recommending?

A. Staff recommends increasing customer deposits by $105,405 to reflect the average customer deposit balance in rate base as shown on Schedules CSB-4 and CSB-13.

Rate Base Adjustment No. 10 – Working Capital, Prepayments

Q. What are the components of working capital?

A. The components of working capital as prescribed by the Arizona Administrative Code are cash working capital, materials and supplies, and prepaid expenses.

Q. Can total working capital be a negative amount that is deducted from rate base?

A. Yes, this can happen when cash working capital ("CWC") is negative and is larger than the sum of the materials, supplies, and prepayments.

Q. Does the Company's proposal to include prepayments in working capital represent an inequitable adjustment to increase rate base?

A. Yes. The Company chose not to conduct a lead-lag study, and accordingly, failed to reflect any customer-provided capital in its working capital requirement.

It is inequitable for a utility the size of Ray Water to calculate working capital by using a method that ignores customer-provided capital while guaranteeing a positive working capital result for Ray Water. Had a lead-lag study been conducted, it might have shown that working capital is a negative component of rate base.

Q. Has the Commission recently adopted Staff's recommendation to remove the working capital from a Class C water company's rate base because it had not performed a lead-lag study?

A. Yes, the Commission in Decision No. 72429 dated June 24, 2011, (page 7, beginning at line 16), adopted Staff's recommendation to remove Southland Utilities Company's working capital because it had not performed a lead-lag study.

Q. What is Staff's recommendation?

A. Staff recommends removing $3,404 from working capital, as shown on Schedules CSB-4 and CSB-14.

Operating Income

Operating Income Summary

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

A. As shown on Schedules CSB-15 and CSB-16, Staff's analysis resulted in test year revenues of $580,814, expenses of $651,764 and operating loss of $70,950.

Operating Income Adjustment No. 1 – Other Revenue

Q. During the course of the audit did Staff identify revenue that the Company had incorrectly classified as non-utility revenue?

A. Yes.

Q. What was the source of the revenue?

A. According to the Company's response to data request CSB 2-36, Pima County asked Ray Water to conduct a water usage study of Ray Water customers to assist Pima County in establishing sewer rates for those customers.

Q. What is Staff's recommendation?

A. Staff recommends increasing other revenue by $4,548 to reflect revenues received from Pima County for a water usage study of Ray Water customers as shown on Schedules CSB-4 and CSB-17.

Operating Income Adjustment No. 2 – Salaries and Wages

Q. What is the Company proposing for employee salary and wages expense?

A. The Company is proposing $226,744. The amount is composed of $180,000 for the office employees and $46,744 for the field employee[1] as shown in Table A below. The three office employees are Mrs. Rhonda Rosenbaum, Mr. Joseph Rosenbaum, and Mrs. Dorleen Mallis.

Q. Are the three office employees also owners of Ray Water?

A. Yes.

[1] The job duties of the field technician are discussed in Rate Base Adjustment No. 4, Allocated Vehicle Cost.

Q. Has there been a change in employees from 2010 to the test year (i.e. 2011)?

A. Yes, as compared to 2010, the Company eliminated three employees/positions and added one to the payroll as follows:

TABLE A (Data Request Response CSB 2-24)

Employee Name	Title/Duties	2010 Salary	Change	2011 Salary	
Rhonda Rosenbaum	Vice President	$ 60,000	**$ 20,000**	$ 80,000	2011 Salary Increase
Joseph Rosenbaum	Vice President	$ 60,000	**$ 20,000**	$ 80,000	2011 Salary Increase
Redacted	Field Technician	$ 47,498	**$ (754)**	$ 46,744	2011 Salary Decrease
Redacted	Office Staff	$ 31,564	**$ (31,564)**	$ -	Position eliminated
Redacted	Office Staff	$ 19,110	**$ (19,110)**	$ -	Position eliminated
Redacted	Meter Reading	$ 8,450	**$ (8,450)**	$ -	Position eliminated
Dorleen Mallis	President	$ -	**$ 20,000**	$ 20,000	Position added to Payroll
		$ 226,622	**$ 122**	$ 226,744	

Q. How did the change in employees affect the owners?

A. As shown in Table A above, Mr. and Mrs. Rosenbaum, the Company's vice presidents, each received a $20,000 salary increase during the test year. A $20,000 salaried position was added to the payroll for Dorleen Mallis, the Company's president, during the test year.

Q. Have some of the duties previously performed by Ray Water employees in 2010 been outsourced in 2011 (test year)?

A. Yes, the Company has outsourced its meter reading, billing, and collections functions to Southwest Utility Management. Therefore, the Ray Water office employees did less work in the test year, 2011, than they did in the year prior, 2010, because they did not have to supervise nor review the work of the three employees whose positions were terminated.

Q. Has Staff reviewed the office employees' annual salaries and number of hours worked for reasonableness and appropriateness?

A. Yes. Staff will discuss each employee separately.

Mrs. Rosenbaum

Q. What is Mrs. Rosenbaum's title, annual salary, and work status?

A. According to the Company's response to data request CSB 2-24, Mrs. Rosenbaum is the Vice President and certified operator. She is paid $80,000 per year and is classified as a full time employee.

Q. What did Staff find during its on-site audit at the Ray Water office?

A. Staff found that Mrs. Rosenbaum served effectively as the general manager. She was the management personnel primarily responsible for ensuring that the Company is properly managed and operated. She was also the individual with the most knowledge about the Company's financial operations and was the Company's contact person for questions regarding every aspect of the Company.

Q. Based upon Staff's review and on-site audit, does Staff have any concerns about Mrs. Rosenbaum's annual salary of $80,000?

A. Yes. Staff is concerned because Mrs. Rosenbaum spends some of her time working for an unregulated affiliate, R&M Real Estate, and no time sheets are kept to account for the time.

Q. Is Mrs. Rosenbaum part owner of R&M Real Estate?

A. Yes.

Q. Does R&M Real Estate lease the downtown office building to Ray Water?

A. Yes.

Q. Does Mrs. Rosenbaum perform work for R&M Real Estate while she is at the Ray Water office?

A. Yes.

Q. Did Staff ask the Company, through a formal data request, for the amount of time that Mrs. Rosenbaum spent on R&M Real Estate work?

A. Yes, the Company stated that the amount of work she performed was de minimus.

Q. At the on-site audit, what percentage of time did Mrs. Rosenbaum estimate that she spent working on R&M Real Estate business?

A. During the on-site audit, Mrs. Rosenbaum indicated that she spent somewhere between five and ten percent of her time on R&M Real Estate business.

Q. What type of work is done for R&M Real Estate in Ray Water's building?

A. Since the building is approximately 55 years old (CSB 5-9), the building must be properly repaired and maintained. Such repair and maintenance would include painting, plumbing, roofing, air conditioning, heating, and any needed remodeling. The financing for any large repair and maintenance costs must be obtained. The bookkeeping, such as but not limited to, the payment of electric, gas, water, income taxes, property taxes, and insurance bills must be made. Also, the R&M Real Estate financial information must be input in an accounting system and/or electronic spreadsheets. Information must be collected and summarized for tax purposes. Also, the annual lease must be prepared and signed and the

revenue deposited in the bank. Bank statements must be reviewed and reconciled and files for the important papers related to R&M Real Estate must be maintained.

Q. Did R&M Real Estate issue a loan to Ray Water?

A. Yes, the loan was approved in Decision No. 71691, dated May 3, 2010.

Q. What type of bookkeeping work is performed for the loan?

A. Billing, collections, the recording of the information in an accounting system and/or electronic spread sheets and the review and reconciliation of bank statements to the accounting system must be made for the loan. Further, the proper recording of principal and interest on the loan payments must be made for tax purposes.

Q. To Staff's knowledge who performs these duties?

A. To Staff's knowledge, Mrs. Rosenbaum performs these duties.

Q. For ratemaking purposes, what percentage of time did Staff estimate that Mrs. Rosenbaum spent working on R&M Real Estate business?

A. Staff estimates approximately ten percent. Staff estimates that Mrs. Rosenbaum spends, on average, approximately 17 hours per month working on R&M Real Estate (i.e. bookkeeping for office building rental to Ray Water and bookkeeping for loan to Ray Water and other related miscellaneous items). Seventeen hours per month on a normalized basis[2] is approximately equal to 9.8 percent of the $80,000. However, without

[2] Staff recognizes that there may be more bookkeeping, repairs, maintenance and other miscellaneous items for the office building rental in some years than in other years. Staff also recognizes that all three family members (i.e., Mr. and Mrs. Rosenbaum and Mrs. Mallis) consult on all important financial decisions made for the R&M Real Estate building. Nonetheless, Staff removed the amount only from Mrs. Rosenbaum's salary as she does most of the bookkeeping.

time sheets, there is no way to precisely and accurately differentiate the 9.8 percent from 10 percent. Therefore, Staff rounded the amount to 10 percent.

Q. What amount is Staff recommending for Mrs. Rosenbaum's salary?

A. Staff is recommending reducing Mrs. Rosenbaum's salary by $8,000 from $80,000 per year to $72,000 per year as shown on Schedule CSB-18.

Joseph Rosenbaum

Q. What is Joseph Rosenbaum's title, annual salary, and work status?

A. According to the Company's response to data requests CSB 2-24 and 5-7, Joseph Rosenbaum is the Vice President of Ray Water. He is paid $80,000 per year and is classified as a full time employee.

Q. Does Mr. Rosenbaum maintain a time sheet showing the number of hours per day spent working for Ray Water and the unregulated affiliate business operated out of the Ray Water office?

A. No. Mr. Rosenbaum does not maintain time sheets that document the amount of time he spends each day working for Ray Water and the unregulated affiliate business.

Q. Did the Company provide a time study and the underlying documentation to support the $80,000?

A. No, it did not.

Q. What did Staff find during the on-site audit at the Ray Water office?

A. Staff found that none of Mr. Rosenbaum's job duties are required to be performed on a daily basis.

Q. Based upon Staff's review, is Mr. Rosenbaum's classification as a full time employee reasonable and appropriate?

A. No, it is not because the job duties and the frequency at which they were performed did not require 40 hours per week.

Q. Did Staff develop the number of hours needed to perform the job duties discussed in the Company's response to CSB 2-24?

A. Yes. Staff based the estimates on discussions with the Company and a review of the work products produced.

Q. What amount is Staff recommending for Mr. Rosenbaum's salary?

A. Staff is recommending that Mr. Rosenbaum's salary be reduced by $8,926, from $80,000 to $71,074 as shown on Schedule CSB-18. The amount is calculated by taking the hourly rate of $38.46 (i.e., $80,000 / 2,080 hrs) multiplied by 1,848 hrs per year ($38.46 hrs x 1,848 hrs per year = $71,074).

Dorleen Mallis

Q. What is Dorleen Mallis' title, annual salary, and work status?

A. According to the Company's response to data requests CSB 2-24 and 5-7, Dorleen Mallis is the President of Ray Water. She is paid $20,000 per year and is classified as a part-time employee.

Q. How long has Dorleen Mallis served as president for the Company?

A. According to the Company's response to data request CSB 2-24, Ms. Mallis has served in this capacity for 30 years.

Q. Was Dorleen Mallis' $20,000 salary included in Ray Water's payroll in the year before (i.e 2010) or the year after (i.e. 2012) the test year?

A. No, it was not.

Q. Did the Company provide time sheets or a time study and the underlying documentation to support the $20,000 paid during the test year?

A. No, it did not.

Q. Based upon Staff's review, is Mrs. Mallis' annual salary of $20,000 reasonable and appropriate?

A. No, it is not because the salary is not paid every year and there are no time sheets to substantiate the number of hours worked.

Q. What amount is Staff recommending for Mrs. Mallis' salary?

A. Staff is recommending $6,667. The amount is calculated by averaging the amounts paid to Mrs. Mallis' for the years 2010, 2011, and 2012 as shown on Schedule CSB-18.

Q. What is Staff's total recommendation for Salaries and Wages?

A. Staff recommends decreasing salary and wages expense by $30,259 as shown on Schedules CSB-16 and CSB-18.

Operating Income Adjustment No. 3 – Employee Pensions and Benefits

Q. What did the Company propose for Employee Pensions and Benefits?

A. The Company proposed $9,070 for employee pensions and benefits expense. The amount is composed of $0 for actual test year expense and a $9,070 pro forma adjustment.

Q. What were the Employee Pensions and Benefits costs for the years 2009, 2010, and 2011?

A. The employee pensions and benefits costs for the years 2009, 2010, and 2011 were $4,585, $9,064, and $0, respectively.

Q. What adjustment did Staff make?

A. Staff normalized the cost as it varies widely from year to year as shown on Schedule CSB-19.

Q. What is Staff's recommendation?

A. Staff recommends decreasing employee pensions and benefits expense by $4,520 as shown on Schedules CSB-16 and CSB-19.

Operating Income Adjustment No. 4 – Purchased Power Expense

Q. What did the Company propose for purchased power expense?

A. The Company proposed $106,874 for purchased power expense. The amount is composed of $82,011 in actual test year costs and a $24,863 pro forma adjustment to include purchased power expense for a well that was placed in service in the test year.

Q. What adjustment did Staff make?

A. Staff removed the $24,863 purchased power expense pro forma adjustment consistent with Staff's recommendation to remove the well that the expense relates to as discussed in Rate Base Adjustment No. 1, Excess Capacity.

Q. What is Staff's recommendation?

A. Staff recommends decreasing purchased power expense by $24,863 as shown on Schedules CSB-16 and CSB-20.

Operating Income Adjustment No. 5 – Contractual Services, Water Testing

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

A. The Company proposed $5,650 for water testing expense.

Q. What adjustment did Staff make?

A. Staff adjusted annual water testing costs to reflect Staff's recommended $6,615 water testing expense as discussed in greater detail by Staff witness Dorothy Hains.

Q. What is Staff's recommendation?

A. Staff recommends increasing water testing expense by $965 as shown on Schedules CSB-16 and CSB-21.

Operating Income Adjustment No. 6 – Rents Expense

Q. What did the Company propose for rents expense?

A. The Company proposed $22,000 for rents expense. The amount is for the downtown Tucson office building located at 414 N. Court Avenue that Ray Water rents from R&M Real Estate.

Q. Is the Ray Water Company office shared with affiliate businesses?

A. Yes, according to the Company's response to data request CSB 5-7, R&M Real Estate is operated out of the Ray Water Company office. R&M Real Estate is owned by Rhonda Rosenbaum and Dorleen Mallis. Rhonda Rosenbaum and Dorleen Mallis are both

employees and owners of Ray Water Company. Further, H&D Enterprises also conducts business at the location.

Q. What did a search of the internet reveal?

A. In addition to the real estate businesses operated out of the Ray Water office located at 414 North Court Avenue, a search of the internet revealed that the Ray Water office address had been used in a legal matter (i.e., Games West Inc. – AZ vs. R&M Real Estate Limited Partnership, LLP; Et Al.) Further, Mr. Joseph M. Rosenbaum was listed under Wrongful Death Attorneys and also Personal Injury Attorneys in Tucson and the address listed was the Ray Water office.

Moreover, a commercial permit was issued to Joseph and Rhonda Rosenbaum in 2012 from the City of Tucson to upgrade the electric service on a property located at 3240 N. Treat Circle, Tucson, AZ. from 60 amps to 100 amps. The name of the business located at 3240 N. Treat Circle is Cycling Developers. The owners of the building are Mr. and Mrs. Rosenbaum and the address of the applicant of the permit was the Ray Water Office (i.e. 414 North Court Avenue).

Q. Should a portion of the $22,000 in rents expense be allocated to the affiliates?

A. Yes, as affiliates conduct business from the office building and the address is used by affiliates and the owners in conducting unregulated affiliate business.

Q. What percentage of rents expense did Staff allocate to the affiliates?

A. Staff allocated ten percent of the annual rents cost to the affiliates, as shown on Schedule CSB-22.

Q. What is Staff's recommendation?

A. Staff recommends decreasing rents expense by $2,200, as shown on Schedules CSB-16 and CSB-22.

Operating Income Adjustment No. 7 – Transportation Expense

Q. What did the Company propose for transportation expense?

A. The Company proposed $13,316 for transportation expense.

Q. What adjustments did Staff make?

A. Staff allocated 75 percent of the gas cost for the Lexus SUV to the owner consistent with Staff recommendation for Rate Base Adjustment No.4, Allocated Vehicle costs. Staff also normalized the cost of tires, brake pads, and a radiator using three years as these costs are expected to be incurred about once every three years.

Q. What is Staff's recommendation?

A. Staff recommends decreasing transportation expense by $4,110, as shown on Schedules CSB-16 and CSB-23.

Operating Income Adjustment No. 8 – Depreciation Expense

Q. What is Ray Water proposing for depreciation expense?

A. Ray Water is proposing depreciation expense of $180,559.

Q. What adjustment did Staff make to depreciation expense?

A. Staff adjusted depreciation expense to reflect Staff's calculation of depreciation expense using Staff's recommended depreciation rates, plant balances, and CIAC balances. Staff's calculation is shown on Schedule CSB-24.

Q. What is Staff recommending?

A. Staff recommends decreasing depreciation expense by $19,586, as shown on Schedules CSB-16 and CSB-24.

Operating Income Adjustment No. 11 – Taxes Other Than Income

Q. What is Ray Water proposing for taxes other than income?

A. Ray Water is proposing $18,646 for taxes other than income (i.e. payroll taxes).

Q. Did Staff make any adjustment to taxes other than income?

A. Yes, Staff decreased taxes other than income consistent with Staff's recommendation to decrease salaries and wages (Operating Expense Adjustment No. 2. Salaries and Wages). Staff's calculation is shown on Schedule CSB-25.

Q. What is Staff's recommendation?

A. Staff recommends decreasing taxes other than income by $1,533 as shown on Schedules CSB-14 and CSB-25.

Operating Income Adjustment No. 10 – Property Taxes

Q. What is Ray Water proposing for property taxes?

A. Ray Water is proposing $30,589 for property taxes.

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

A. Yes. Staff's adjustment reflects Staff's calculation of the property tax expense using the modified Arizona Department of Revenue Methodology applied to Staff's recommended revenues, as shown on Schedule CSB-26.

Q. What is Staff's recommendation?

A. Staff recommends decreasing property tax expense by $6,670 as shown on Schedules CSB-14 and CSB-26.

Operating Income Adjustment No. 11 – Income Taxes

Q. What is Ray Water proposing for test year income tax expense?

A. Ray Water is proposing a negative $69,820 for income taxes.

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

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

Q. What is Staff's recommendation?

A. Staff recommends increasing income tax expense by $42,435 as shown on Schedules CSB-16 and CSB-27.

RATE DESIGN

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

A. Yes. Schedule CSB-28 provides a summary of the Company's present, Company's proposed, and Staff's recommended rates.

Q. Please summarize the present rate design.

A. Customer class is distinguished by meter size. The monthly minimum charges vary by meter size and include no gallons. One commodity rate applies to all usage.

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

A. Customer class is distinguished by meter size. The monthly minimum charges vary by meter size and include no gallons. The commodity rates are based on an inverted four-tier rate design. The Company's proposed rates would increase the typical residential 5/8 x 3/4-inch meter bill with a median usage of 6,467 gallons from $21.17 to $26.55, for an increase of $5.38 or 25.40 percent, as shown on Schedule CSB-29.

Q. Please summarize Staff's recommended rate design.

A. Customer class is distinguished by meter size. The monthly minimum charges vary by meter size and include no gallons. The commodity rates are based on an inverted four-tier rate design. Staff's recommended revenue increase would produce an operating income of $53,150 for an 8.70 percent rate of return on a Staff adjusted OCRB of $610,922 as shown on Schedule CSB-1. Staff's recommended rates would increase the typical residential 5/8 x 3/4-inch meter bill with a median usage of 6,467 gallons from $21.17 to $21.58, for an increase of $0.41 or 1.90 percent, as shown on Schedule CSB-29.

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

A. Yes, and Staff recommends approval. Both the Company-proposed and the Staff-recommended changes are shown on Schedule CSB-28 and are discussed in greater detail in the testimony of Staff witness, Dorothy Hains.

Service Charges

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

A. Yes. The Company proposes to increase the Establishment charge from $25 to $30; discontinue the Establishment (After Hours) charge; increase the Reconnection (Delinquent) charge from $25 to $35; increase the Meter Test (If correct) charge from $30

to $35; increase the Non-Sufficient Funds Check charge from $15 to $25; increase the Meter Re-Read charge from $15 to $30; increase the Late Payment Fee (Per Month) from 1.5 percent to 2 percent and to add an After Hours Charge of $25.

Q. Does Staff agree with the Company-proposed Establishment, Reconnection (Delinquent), and NSF Check Charges?

A. Yes.

Q. Does Staff agree with the Company's proposal to discontinue the $37.50 Establishment (After Hours) Charge and to add a $25 After Hours Charge?

A. Yes, Staff agrees that the Establishment (After-Hours) Charge should be discontinued and that an After-Hours charge should be added. Staff agrees that an additional fee for service provided after normal business hours is appropriate when such service is at the customer's request. Such a tariff compensates the utility for additional expenses incurred from providing after-hours service.

Moreover, Staff concludes that it is appropriate to apply an after-hours service charge in addition to the charge for any utility service provided after hours at the customer's request. For example, under Staff's proposal, a customer would be subject to a $30 Establishment fee if it is done during normal business hours, but would pay an additional $25 after-hours fee if the customer requested that the establishment be done after normal business hours.

Q. Does Staff agree with the Company-proposed Meter Test (If Correct) charge?

A. No, Staff does not. The Company is proposing to increase the Meter Test (If Correct) charge from $30.00 to $35.00. The current $30 charge is within the range of established charges. Also, the Consumer Services' Phoenix office will test 5/8 or 3/4 inch meters at no charge to the Company or customer. Therefore, Staff recommends no change to the current charge.

Q. Does Staff agree with the Company-proposed Meter Re-Read (If Correct) charge?

A. No, Staff does not. The Company is proposing to increase the Meter Re-read (If Correct) charge from $15.00 to $30.00. Staff does not agree with such an increase based on what is being charged by a similar company. Staff recommends a $5 increase and recommends a $20 Meter Re-read (If Correct) charge.

Q. Does Staff agree with the Company-proposed Late Payment Fee (Per Month) charge?

A. No, Staff does not. The Company is proposing to increase the Late Payment Fee (Per Month) from 1.5 percent to 2 percent. Staff recommends a late fee of 1.5% per month of the unpaid balance in order to remain consistent with other similar utility companies.

Q. What is the additional revenue that would be generated from Staff's recommended service charge increases?

A. The additional service charge revenue would be $3,750, as shown in Table B below:

Table B - Calculation of Additional Service Charge Revenue

	Description	Number of Charges in TY		Amount of Increase		Total Additional Rev
CSB 2-39	Establishment	294	x	$ 5	=	$1,470
CSB 2-39	Reconnection (Delinquent)	209	x	$10	=	$2,090
CSB 2-39	NSF Check	19	x	$10	=	$ 190
						$3,750

Q. Did Staff reflect the additional service charge revenue in its rate design?

A. Yes. Staff allocated $3,750 of its total $168,332 revenue increase to other revenue and the remainder to metered revenue as shown on Schedule CSB-15.

Tariff for Sharing Customer Information

Q. During the audit, did Staff find that Ray Water was sharing information with Pima County?

A. Yes. In response to data request CSB 2-36, the Company stated that Ray Water shares customer water usage data with Pima County. Pima County uses the information to develop sewer rates for the Ray Water customers who receive sewer services from Pima County.

Q. Did Ray Water turn sewer service connections on and off?

A. Initially, the Company stated that it did turn sewer connections on and off (CSB 2-36). Later, the Company clarified its prior response[3] and indicated that it did not dig up sewer connections to turn them on and off nor did it turn water service off if customers were delinquent on their time Pima County sewer bills.

Q. Does the Company have a written agreement setting forth the terms and conditions of the water usage data sharing?

A. Staff has requested the information[4] but the Company has not yet provided the entire contract.

[3] Electronic mail dated Sunday 11/4/2012.
[4] Via electronic mail dated Friday 11/2/2012

Q. Did Staff recommend the addition of a tariff that would allow the Company to share customers' water usage information?

A. Yes, it is attached as Exhibit A.

Q. Does this conclude Staff's direct testimony?

A. Yes, it does.

Exhibit A

TARIFF

CUSTOMER WATER CONSUMPTION INFORMATION SHARING WITH PIMA COUNTY, WASTEWATER PROVIDER

Ray Water Company, Inc. ("Ray Water" or "Company") is authorized to share water consumption information of individual customers with Pima County ("the County"), a county provider of wastewater service for common customers purchasing water from Ray Water and wastewater from the County. The purpose of this Tariff, and the authorized provision of customer water consumption information, is to assist the County in billing for wastewater utility service. The County agrees that it is only authorized to use such water consumption information for purposes of wastewater services billing and is not authorized to disclose such information to any other party except as may be required by law.

Ray Water entered into an Agreement with the County for providing individual water consumption data, in a form materially similar to the standard form agreement. The Agreement was subject to Arizona Corporation Commission ("Commission") review as set forth in Section 5 of the agreement.

Ray Water shall notify all water utility customers affected by the Agreement between the Company and the County pursuant to this Tariff, by means of a billing insert during the first billing cycle immediately after said tariff is approved and notify new affected customers of this tariff at the time of service establishment.

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Schedule CSB-1

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY ORIGINAL COST	[B] STAFF ORIGINAL COST
1	Adjusted Rate Base	$ 1,073,266	$ 610,922
2	Adjusted Operating Income (Loss)	$ (125,840)	$ (70,950)
3	Current Rate of Return (L2 / L1)	-11.72%	-11.61%
4	Required Rate of Return	10.57%	8.70%
5	Required Operating Income (L4 * L1)	$ 113,393	$ 53,150
6	Operating Income Deficiency (L5 - L2)	$ 239,233	$ 124,100
7	Gross Revenue Conversion Factor	1.56320	1.35642
8	Increase (Decrease) In Gross Revenue (L7 * L6)	$ 373,969	$ 168,332
9	Adjusted Test Year Revenue	$ 576,266	$ 580,814
10	Proposed Annual Revenue (L8 + L9)	$ 950,235	$ 749,146
11	Required Increase/(Decrease in Revenue) (%) (L8/L9)	64.90%	28.98%

References:
Column [A]: Company Schedules A-1
Column [B]: Staff Schedules CSB-2, CSB-3, & CSB-15

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Schedule CSB-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
	Calculation of Gross Revenue Conversion Factor:				
1	Revenue	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Income Tax and Property Tax Rate (Line 23)	26.2764%			
5	Subtotal (L3 - L4)	73.7236%			
6	**Revenue Conversion Factor (L1 / L5)**	1.356418			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	25.2503%			
9	One Minus Combined Income Tax Rate (L7 - L8)	74.7497%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 * L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 53)	19.6516%			
16	Effective Federal Income Tax Rate (L14 x L15)	18.2823%			
17	Combined Federal and State Income Tax Rate (L13 +L16)		25.2503%		
	Calculation of Effective Property Tax Factor				
18	Unity	100.0000%			
19	Combined Federal and State Income Tax Rate (L17)	25.2503%			
20	One Minus Combined Income Tax Rate (L18-L19)	74.7497%			
21	Property Tax Factor	1.3727%			
22	Effective Property Tax Factor (L20*L21)		1.0261%		
23	Combined Federal and State Income Tax and Property Tax Rate (L17+L22)			26.2764%	
24	Required Operating Income	$ 53,150			
25	AdjustedTest Year Operating Income (Loss)	(70,950)			
26	Required Increase in Operating Income (L24 - L25)		$ 124,100		
27	Income Taxes on Recommended Revenue (Col. [C], L52)	$ 14,535			
28	Income Taxes on Test Year Revenue (Col. [A], L52)	(27,385)			
29	Required Increase in Revenue to Provide for Income Taxes (L27 - L28)		41,921		
30	Recommended Revenue Requirement	$ 749,146			
31	Uncollectible Rate (Line 10)	0.0000%			
32	Uncollectible Expense on Recommended Revenue (L30*L31)	$ -			
33	Adjusted Test Year Uncollectible Expense	$ -			
34	Required Increase in Revenue to Provide for Uncollectible Exp. (L32-L33)		-		
35	Property Tax with Recommended Revenue	$ 26,230			
36	Property Tax on Test Year Revenue	23,919			
37	Increase in Property Tax Due to Increase in Revenue (L35-L36)		2,311		
38	Total Required Increase in Revenue (L26 + L29 + L34 + L37)		$ 168,332		

	Calculation of Income Tax:	Test Year		Staff Recommended
39	Revenue	$ 580,814	$ 168,332	$ 749,146
40	Operating Expenses Excluding Income Taxes	$ 679,149	$ 2,311	$ 681,460
41	Synchronized Interest (L56)	$ 3,055		$ 3,055
42	Arizona Taxable Income (L39 - L40 - L41)	$ (101,390)		$ 64,631
43	Arizona State Income Tax Rate	6.9680%		6.9680%
44	Arizona Income Tax (L42 x L43)	$ (7,065)		$ 4,503
45	Federal Taxable Income (L42 - L44)	$ (94,325)		$ 60,127
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)		$ 2,532
48	Federal Tax on Third Income Bracket ($75,001 - $100,000) @ 34%	$ (6,571)		$ -
49	Federal Tax on Fourth Income Bracket ($100,001 - $335,000) @ 39%	$ -		$ -
50	Federal Tax on Fifth Income Bracket ($335,001 - $10,000,000) @ 34%	$ -		$ -
51	Total Federal Income Tax	$ (20,321)		$ 10,032
52	Combined Federal and State Income Tax (L44 + L51)	$ (27,385)		$ 14,535
53	Applicable Federal Income Tax Rate [Col. [C], L51 - Col. [A], L51] / [Col. [C], L45 - Col. [A], L45]			19.6516%
	Calculation of Interest Synchronization:			
54	Rate Base	$ 610,922		
55	Weighted Average Cost of Debt	0.5000%		
56	Synchronized Interest (L45 X L46)	$ 3,055		

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Schedule CSB-3

RATE BASE - ORIGINAL COST

LINE NO.		(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	ADJ NO.	(C) STAFF AS ADJUSTED
1	Plant in Service	$ 5,261,065	$ (523,386)	1, 2, 3, 4	$ 4,737,679
2	Less: Accumulated Depreciation	1,835,897	(42,314)	5	1,793,583
3	Net Plant in Service	$ 3,425,168	$ (481,072)		$ 2,944,096
	LESS:				
4	Advances in Aid of Construction (AIAC)	$ 1,633,387	$ (158,487)	6	$ 1,474,900
5	Service Line and Meter Advances	$ -	$ -		$ -
6	Contributions in Aid of Construction (CIAC)	$ 982,352	$ 158,487	7	$ 1,140,839
7	Less: Accumulated Amortization	260,433	127,537	8	387,970
8	Net CIAC	$ 721,919	30,950		$ 752,869
9	Total Advances and Contributions	$ 2,355,306	$ (127,537)		$ 2,227,769
10	Customer Deposits	$ -	$ 105,405	9	$ 105,405
11	Accumulated Deferred Income Taxes	$ -	$ -		$ -
	ADD: Working Capital				
12	Prepayments	$ 3,404	$ (3,404)	10	$ -
13	Inventory	$ -	$ -		$ -
14	**Total Rate Base**	$ 1,073,266	$ (462,344)		$ 610,922

References:
Column [A], Company Schedule B-1, Page 1
Column [B]: Schedule CSB-4
Column [C]: Column [A] + Column [B]

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Schedule CSB-4

SUMMARY OF RATE BASE ADJUSTMENTS

LINE NO.	PLANT IN SERVICE Acct. No. - I Plant Description	[A] COMPANY AS FILED	[B] Adj No.1 Excess Capacity Plant Ref: Sch CSB-5	[C] ADJ No. 2 Not Used and Useful Plant Ref: Sch CSB-6	[D] ADJ No. 3 Pressure Tank Reclassification Ref: Sch CSB-7	[E] ADJ No. 4 Allocated Vehicle Cost Ref: Sch CSB-8	[F] ADJ No. 5 Accumulated Depreciation Ref: Sch CSB-9	[G] ADJ No. 6 AIAC Ref: Sch CSB-10	[H] ADJ No. 7 CIAC Ref: Sch CSB-11	[I] ADJ No. 8 Amortization of CIAC Ref: Sch CSB-12	[J] ADJ No. 9 Customer Deposits Ref: Sch CSB-13	[K] ADJ No. 10 Working Capital Prepayments Ref: Sch CSB-14	STAFF AS ADJUSTED
1													
2	302 Franchises	$ 700	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 700
3	303 Land and Land Rights	62,540	(36,000)	(1,021)	-	-	-	-	-	-	-	-	25,519
4	304 *Structures and Improvements*	22,078	-	-	-	-	-	-	-	-	-	-	22,078
5	307 Wells and Springs	1,674,835	(268,821)	(17,028)	-	-	-	-	-	-	-	-	1,388,986
6	309 Supply Mains	-	-	-	-	-	-	-	-	-	-	-	-
7	310 Power Generation Equipment	-	-	-	-	-	-	-	-	-	-	-	-
8	311 Pumping Equipment	873,230	(154,629)	(15,804)	-	-	-	-	-	-	-	-	702,797
9	320 Water Treatment Equipment	-	-	-	-	-	-	-	-	-	-	-	-
10	330 Distribution Reservoirs and Standpipes	623,334	-	-	(1,032)	-	-	-	-	-	-	-	622,302
11	330.2 Pressure Tanks	-	-	-	1,032	-	-	-	-	-	-	-	1,032
12	331 Transmission and Distribution Mains	1,160,777	-	-	-	-	-	-	-	-	-	-	1,160,777
13	333 Services	526,754	-	-	-	-	-	-	-	-	-	-	526,754
14	334 Meters and Meter Installations	113,643	-	-	-	-	-	-	-	-	-	-	113,643
15	335 Hydrants	105,490	-	-	-	-	-	-	-	-	-	-	105,490
16	336 Backflow Prevention Devices	-	-	-	-	-	-	-	-	-	-	-	-
17	339 Other Plant and Miscellaneous Equipment	2,902	-	-	-	-	-	-	-	-	-	-	2,902
18	340 Office Furniture and Equipment	8,901	-	-	-	-	-	-	-	-	-	-	8,901
19	340.1 Computers and Software	8,967	-	-	-	-	-	-	-	-	-	-	8,967
20	341 Transportation Equipment	72,235	-	-	-	(30,083)	-	-	-	-	-	-	42,152
21	343 Tools, Shop, and Garage Equipment	1,932	-	-	-	-	-	-	-	-	-	-	1,932
22	344 Laboratory Equipment	-	-	-	-	-	-	-	-	-	-	-	-
23	345 Power Operated Equipment	-	-	-	-	-	-	-	-	-	-	-	-
24	346 Communication Equipment	1,494	-	-	-	-	-	-	-	-	-	-	1,494
25	347 Miscellaneous Equipment	-	-	-	-	-	-	-	-	-	-	-	-
26	348 Other Tangible Equipment	1,253	-	-	-	-	-	-	-	-	-	-	1,253
27	Rounding	-	-	-	-	-	-	-	-	-	-	-	-
28	Total Plant in Service	$ 5,261,065	$ (459,450)	$ (33,853)	$ -	$ (30,083)	$ -		$ -	$ -	$ -	$ -	$ 4,737,679
29	Less: Accumulated Depreciation	$ 1,835,897	$ -	$ -	$ -	$ -	$ (42,314)	$ -	$ -	$ -	$ -	$ -	$ 1,793,583
30	Net Plant in Service	$ 3,425,168	$ (459,450)	$ (33,853)	$ -	$ (30,083)	$ 42,314	$ -	$ -	$ -	$ -	$ -	$ 2,944,096
31													
32	*LESS:*												
33	Advances in Aid of Construction (AIAC)	$ 1,633,387	$ -	$ -	$ -	$ -	$ -	$ (158,487)	$ -	$ -	$ -	$ -	$ 1,474,900
34	Meter Deposits - Service Line & Meter Advances	$ -	-	-	-	-	-	-	-	-	-	-	-
35													
36	Contributions in Aid of Construction (CIAC)	$ 982,352	-	-	-	-	-	-	158,487	-	-	-	1,140,839
37	Less: Accumulated Amortization of CIAC	$ 260,433	-	-	-	-	-	-	-	127,537	-	-	387,970
38	Net CIAC	$ 721,919	$ -	$ -	$ -	$ -	$ -	$ -	$ 158,487	$ (127,537)	$ -	$ -	$ 752,869
39													
40	Total Advances and Net Contributions	$ 2,355,306	$ -	$ -	$ -	$ -	$ -	$ (158,487)	$ 158,487	$ (127,537)	$ -	$ -	$ 2,227,769
41													
42	Customer Deposits	$ -	-	-	-	-	-	-	-	-	105,405	-	$ 105,405
43	Accumulated Deferred Taxes	$ -	-	-	-	-	-	-	-	-	-	-	$ -
44													
45	*ADD: Working Capital*												
46	Prepayments	$ 3,404	-	-	-	-	-	-	-	-	-	(3,404)	$ -
47		$ -	-	-	-	-	-	-	-	-	-	-	$ -
48	**Total Rate Base**	$ 1,073,266	$ (459,450)	$ (33,853)	$ -	$ (30,083)	$ 42,314	$ 158,487	$ (158,487)	$ 127,537	$ (105,405)	$ (3,404)	$ 610,922

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Schedule CSB-5

RATE BASE ADJUSTMENT NO. 1 - EXCESS CAPACITY PLANT COSTS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Acct. No. 303 -Land and Land Rights	$ 62,540	$ (36,000)	$ 26,540
2	Acct. No. 307 -Wells and Springs	$ 1,674,835	$ (268,821)	$ 1,406,014
3	Acct. No. 311 - Pumping Equipment	$ 873,230	$ (154,629)	$ 718,601
4	Total Acct. No. 380 -Treatment & Disposal Equip	**$ 2,610,605**	**$ (459,450)**	**$ 2,151,155**
5				
6				

	Year Added	Account No.	Account Description	Amount
7				
8				
9	2010	303	Land & Land Rights (Well No. 8)	$ 36,000
10	2011	307	Wells & Springs (Well No. 8)	$ 268,821
11	2011	311	Pumping Equipment (Well No. 8)	$ 154,629
12			**Total**	**$ 459,450**

References:

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

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Schedule CSB-6

RATE BASE ADJUSTMENT NO. 2 - NOT USED AND USEFUL PLANT COSTS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Acct No. 303 - Land & Land Rights	$ 62,540	$ (1,021)	$ 61,519
2	Acct No. 307 - Wells & Springs	$ 1,674,835	$ (17,028)	$ 1,657,807
3	Acct No. 311 - Pumping Equipment	$ 873,230	$ (15,804)	$ 857,426
4	**Total**	$ 2,610,605	$ (33,853)	$ 2,576,752
5				
6				
7				
8				

9	Year Added	Account No.	Account Description	Amount
10				
11	2005	303	Land & Land Rights (Well No.1)	$ 1,021
12	2005	307	Wells & Springs (Well No. 1)	$ 950
13	2005	307	Wells & Springs (Well No. 1)	$ 850
14	2005	307	Wells & Springs (Well No. 2C)	$ 350
15	2005	307	Wells & Springs (Well No. 2C)	$ 600
16	2005	307	Wells & Springs (Well No. 2C)	$ 1,032
17	2005	307	Wells & Springs (Well No. 2C)	$ 4,750
18	2005	307	Wells & Springs (Well No. 2C)	$ 4,178
19	2005	307	Wells & Springs (Well No. 2C)	$ 3,593
20	2005	307	Wells & Springs (Well No. 2C)	$ 725
21	2005	311	Pumping Equip (Well No. 2C)	$ 13,324
22	2005	311	Pumping Equip (Well No. 2C)	$ 2,480
23				$ 33,853

References:

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

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Schedule CSB-7

RATE BASE ADJUSTMENT NO. 3 - PRESSURE TANK RECLASSIFICATION

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Acct No. 307 - Wells & Springs	$ 1,674,835	(1,032)	1,673,803
2	Acct No. 330.2 - Pressure Tanks.	-	1,032	1,032
3	**Plant Total**	$ 1,674,835	$ -	$ 1,674,835

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

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Schedule CSB-8

RATE BASE ADJUSTMENT NO. 4 - ALLOCATED VEHICLE COST

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Acct No. 341 - Transportation Equipment	$ 72,235	(30,083)	42,152
2				
3				
4				
5	Cost of Lexus SUV		$ 40,110	
6	Percentage Allocated to Owners/Affiliates		75%	
7	Staff's Adjustment		30,083	

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

Ray Water Company
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Schedule CSB-9

RATE BASE ADJUSTMENT NO. 5 - ACCUMULATED DEPRECIATION

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Accumulated Depreciation	$ 1,633,387	$ -	$ 1,633,387
2	Excess Capacity Plant	$ -	$ (10,586)	$ (10,586)
3	Not Used & Useful Plant	$ -	$ (10,670)	$ (10,670)
4	Allocated Vehicle Costs	$ -	$ (21,058)	$ (21,058)
5		$ 1,633,387	$ (42,314)	$ 1,591,073

6
7
8

ACCUMULATED DEPRECIATION RELATED TO EXCESS CAPACITY PLANT COSTS

	Reference Schedule	Year Placed In Service	Acct No.	Description	Plant Cost	Number of Interim Years	Depreciation Rate	Accumulated Depreciation
12	CSB-5	2011	307	Wells & Springs (Well No. 8)	$ 268,821	0.5	5.00%	$6,720.53
13	CSB-5	2011	311	Pumping Equipment (Well No. 8)	$ 154,629	0.5	5.00%	$3,865.73
14					$ 423,450			$10,586.25

15
16

ACCUMULATED DEPRECIATION RELATED TO NOT USED AND USEFUL PLANT

	Reference Schedule	Year Placed In Service	Acct No.	Description	Plant Cost	Number of Interim Years	Depreciation Rate	Accumulated Depreciation
20	CSB-6	2005	307	Wells & Springs (Well No. 1)	$ 950	6.5	5.00%	$308.75
21	CSB-6	2005	307	Wells & Springs (Well No. 1)	$ 850	6.5	5.00%	$276.25
22	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 350	6.5	5.00%	$113.75
23	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 600	6.5	5.00%	$195.00
24	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 1,032	6.5	5.00%	$335.39
25	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 4,750	6.5	5.00%	$1,543.75
26	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 4,178	6.5	5.00%	$1,357.85
27	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 3,593	6.5	5.00%	$1,167.65
28	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 725	6.5	5.00%	$235.63
29	CSB-6	2005	311	Pumping Equip (Well No. 2C)	$ 13,324	6.5	5.00%	$4,330.38
30	CSB-6	2005	311	Pumping Equip (Well No. 2C)	$ 2,480	6.5	5.00%	$806.00
31					$ 32,832			$10,670.40

32

ACCUMULATED DEPRECIATION RELATED TO VEHICLE ALLOCATION

	Reference Schedule	Year Placed In Service	Acct No.	Description	Plant Cost	Number of Interim Years	Depreciation Rate	Accumulated Depreciation
36	CSB-7	2008	341	Transportation Equipment	$ 30,083	3.5	20.00%	$21,057.75

References:

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

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Schedule CSB-10

RATE BASE ADJUSTMENT NO. 6 - ADVANCES IN AID OF CONSTRUCTION ("AIAC")

LINE NO.	DESCRIPTION	[A] PER COMPANY	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	AIAC - Main Line Extension Contracts	$ 1,633,387	$ (158,487)	$ 1,474,900
2				
3				
4				
5				
6		Date		Amount
7	CSB 2-11	12/31/1997 Ending Balance		$ 185,833
8	CSB 2-11	1998 Net AIAC Additions		$ 22,360
9	CSB 2-11	1999 Net AIAC Additions		$ (284)
10	CSB 2-11	2000 Net AIAC Additions		$ 38,729
11	CSB 2-11	2001 Net AIAC Additions		$ 37,055
12		**Total AIAC That Was Not Fully Refunded After Ten Years**		**$ 283,693**
13				
14	CSB 2-11	2002 Transfer to CIAC - Per Co.		$ 31,060
15	CSB 2-11	2003 Transfer to CIAC - Per Co.		$ 700
16	CSB 2-11	2008 Transfer to CIAC - Per Co.		$ 68,430
17	CSB 2-11	2010 Transfer to CIAC - Per Co.		$ 25,016
18		**Total Transfers to CIAC - Per Company**		**$ 125,206**
19				
20			**Difference**	**$ 158,487**

References:

Column A: Company Schedule B-1
Column B: Testimony, CSB; Data Request Response CSB 2-11
Column C: Column [A] + Column [B]

Ray Water Company
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Schedule CSB-11

RATE BASE ADJUSTMENT NO. 7 -CONTRIBUTIONS IN AID OF CONSTRUCTION ("CIAC")

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Gross CIAC	$ 982,352	$ 158,487	$ 1,140,839

References:

Column A: Company Schedule B-2
Column B: Testimony, CSB; Data Request Response CSB 2-11 and Sch CSB-10
Column C: Column [A] + Column [B]

Ray Water Company
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Schedule CSB-12

RATE BASE ADJUSTMENT NO. 8 - AMORTIZATION OF CONTRIBUTIONS IN AID OF CONSTRUCTION ("CIAC")

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Amortization of CIAC	$ 260,433	$127,537	$ 387,970
2				
3				
4				

CALCULATION OF AMORTIZATION OF CIAL

	Reference Schedule			AIAC	Year Transferred To CIAC	Number of Interim Years	Depreciation Rate	Amortization of CIAC
8	CSB-5	12/31/1997 Ending AIAC Balance	$	185,833	2007	10	5.00%	$92,916.50
9	CSB-5	1998 Net CIAC Additions	$	22,360	2008	9	5.00%	$10,062.00
10	CSB-5	1999 Net CIAC Additions	$	(284)	2009	8	5.00%	($113.60)
11	CSB-5	2000 Net CIAC Additions	$	38,729	2010	7	5.00%	$13,555.15
12	CSB-5	2000 Net CIAC Additions	$	37,055	2011	6	5.00%	$11,116.50
13			$	283,693				$127,536.55

References:

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

Ray Water Company

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Schedule CSB-13

RATE BASE ADJUSTMENT NO. 9 - CUSTOMER DEPOSITS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Customer Deposits	$ -	$ 105,405	$ 105,405
2				
3				Test Year
4				Customer Deposits
5				$ 100,696
6				$ 103,158
7				$ 105,443
8				$ 108,028
9				$ 108,636
10				$ 106,615
11				$ 107,823
12				$ 108,938
13				$ 109,474
14				$ 109,849
15				$ 110,119
16				$ 86,080
17				$ 1,264,859
18			Divided by	12 Months
19				$ 105,404.92

References:

Column A: Company Schedule B-2

Column B: Testimony, CSB; Data Request Response CSB 2-12

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

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Schedule CSB-14

RATE BASE ADJUSTMENT NO. 10 - WORKING CAPITAL, PREPAYMENTS

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	PER COMPANY	ADJUSTMENT	PER STAFF
1	Prepayments	$ 3,404	$ (3,404)	$ -

References:

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

Ray Water Company
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Schedule CSB-15

OPERATING INCOME - TEST YEAR AND STAFF RECOMMENDED

LINE NO.	DESCRIPTION	[A] COMPANY TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	ADJ NO.	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF PROPOSED CHANGES	[E] STAFF RECOMMENDED
	REVENUES:						
1	Metered Water Sales	$ 558,323			$ 558,323	$ 164,582	$ 722,905
2	Water Sales - Unmetered	-	-		-		-
3	Other Operating Revenues	17,943	4,548	1	22,491	3,750	26,241
4	**Total Revenues**	$ 576,266	$ 4,548		$ 580,814	$ 168,332	$ 749,146
5							
6	*EXPENSES:*						
7	Salaries and Wages	$ 226,744	$ (30,259)	2	$ 196,485	$ -	$ 196,485
8	Employee Pensions & Benefits	9,070	$ (4,520)	3	4,550	-	4,550
9	Purchased Power	106,874	$ (24,863)	4	82,011	-	82,011
10	Fuel for Power Production	-	$ -		-	-	-
11	Chemicals	-	$ -		-	-	-
12	Materials & Supplies	2,347	$ -		2,347	-	2,347
13	Office Supplies & Expense	22,190	$ -		22,190	-	22,190
14	Contractual Services - Billing	69,767	$ -		69,767	-	69,767
15	Contractual Services - Professional	17,001	$ -		17,001	-	17,001
16	Contractual Services - Testing	5,650	$ 965	5	6,615	-	6,615
17	Contractual Services - Other	10,913	$ -		10,913	-	10,913
18	Equipment Rental	-	$ -		-	-	-
19	Rents	22,000	$ (2,200)	6	19,800	-	19,800
20	Transportation Expenses	13,316	$ (4,110)	7	9,206	-	9,206
21	Insurance - General Liability	10,590	$ -		10,590	-	10,590
22	Insurance - Health and Life	-	$ -		-	-	-
23	Reg. Comm. Exp.	-	$ -		-	-	-
24	Reg. Comm. Exp. - Rate Case	10,000	$ -		10,000	-	10,000
25	Miscellaneous Expense	9,662	$ -		9,662	-	9,662
26	Bad Debt Expense	295	$ -		295	-	295
27	Depreciation Expense	180,559	$ (19,586)	8	160,973	-	160,973
28	Taxes Other Than Income	18,646	$ (1,533)	9	17,113	-	17,113
29	Property Taxes	30,589	$ (6,670)	10	23,919	2,311	26,230
30	Income Taxes	(69,820)	$ 42,435	11	(27,385)	41,921	14,535
31	Interest Expense - Customer Deposits	5,713	$ -		5,713		5,713
32	**Total Operating Expenses**	$ 702,106	$ (50,342)		$ 651,764	$ 44,232	$ 695,996
33							
34	**Operating Income (Loss)**	$ (125,840)	$ 54,890		$ (70,950)	$ 120,350	$ 53,150

References:
Column (A): Company Schedule C-1
Column (B): Schedule CSB-16
Column (C): Column (A) + Column (B)
Column (D): Schedules CSB-1 and CSB-2
Column (E): Column (C) + Column (D)

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SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJ #1 Other Operating Revenues Ref: Sch CSB-17	[C] ADJ #2 Salaries and Wages Ref: Sch CSB-18	[D] ADJ #3 Employee Pensions & Benefits Ref: Sch CSB-19	[E] ADJ #4 Purchased Power Ref: Sch CSB-20	[F] ADJ #5 Contractual Services Water Testing Ref: Sch CSB-21	[G] ADJ #6 Rents Expense Ref: Sch CSB-22	[H] Subtotal
	REVENUES:								
1	Metered Water Sales	$ 558,323	$ -	$ -	$ -	$ -	$ -	$ -	$ 558,323
2	Water Sales - Unmetered	-	-	-	-	-	-	-	-
3	Other Operating Revenues	17,943	4,548	-	-	-	-	-	22,491
4	**Total Revenues**	$ 576,266	$ 4,548	$ -	$ -	$ -	$ -	$ -	$ 580,814
5									
6	*OPERATING EXPENSES:*								
7	Salaries and Wages	$ 226,744	-	(30,259)	-	-	-	-	$ 196,485
8	Employee Pensions & Benefits	9,070	-	-	(4,520)	-	-	-	4,550
9	Purchased Power	106,874	-	-	-	(24,863)	-	-	82,011
10	Fuel for Power Production	-	-	-	-	-	-	-	-
11	Chemicals	-	-	-	-	-	-	-	-
12	Materials & Supplies	2,347	-	-	-	-	-	-	2,347
13	Office Supplies & Expense	22,190	-	-	-	-	-	-	22,190
14	Contractual Services - Billing	69,767	-	-	-	-	-	-	69,767
15	Contractual Services - Professional	17,001	-	-	-	-	-	-	17,001
16	Contractual Services - Testing	5,650	-	-	-	-	965	-	6,615
17	Contractual Services - Other	10,913	-	-	-	-	-	-	10,913
18	Equipment Rental	-	-	-	-	-	-	-	-
19	Rents	22,000	-	-	-	-	-	(2,200)	19,800
20	Transportation Expenses	13,316	-	-	-	-	-	-	13,316
21	Insurance - General Liability	10,590	-	-	-	-	-	-	10,590
22	Insurance - Health and Life	-	-	-	-	-	-	-	-
23	Reg. Comm. Exp.	-	-	-	-	-	-	-	-
24	Reg. Comm. Exp. - Rate Case	10,000	-	-	-	-	-	-	10,000
25	Miscellaneous Expense	9,662	-	-	-	-	-	-	9,662
26	Bad Debt Expense	295	-	-	-	-	-	-	295
27	Depreciation Expense	180,559	-	-	-	-	-	-	180,559
28	Taxes Other Than Income	18,646	-	-	-	-	-	-	18,646
29	Property Taxes	30,589	-	-	-	-	-	-	30,589
30	Income Taxes	(69,820)	-	-	-	-	-	-	(69,820)
31	Interest Expense - Customer Deposits	5,713	-	-	-	-	-	-	5,713
32	**Total Operating Expenses**	$ 702,106	$ -	$ (30,259)	$ (4,520)	$ (24,863)	$ 965	$ (2,200)	$ 641,228
33									
34	**Operating Income (Loss)**	$ (125,840)	$ 4,548	$ 30,259	$ 4,520	$ 24,863	$ (965)	$ 2,200	$ (60,414)

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Schedule CSB-17

OPERATING INCOME ADJUSTMENT NO. 1 - OTHER OPERATING REVENUE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	Other Revenue	$ 17,943	$ 4,548	$ 22,491

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

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Schedule CSB-18

OPERATING INCOME ADJUSTMENT NO. 2 - SALARIES AND WAGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	Rhonda Rosenbaum, Vice President	$ 80,000	$ (8,000)	$ 72,000
2	Joseph Rosenbaum, Vice President	$ 80,000	$ (8,926)	$ 71,074
3	Doreen Mallis, Company President	$ 20,000	$ (13,333)	$ 6,667
4	Dave Rader, Operations Manager	$ 46,744	$ -	$ 46,744
5		$ 226,744	$ (30,259)	$ 196,485
6				
7				
8				Rhonda Rosenbaum, Vice President
9				
10			2011 Salary	$ 80,000
11			Percentage Allocated to Affiliate Business	10%
12			Staff's Adjustment	8,000
13				
14				Joseph Rosenbaum, Vice President
15				
16				
17			Contracting With Professionals, Service Providers, & Suppliers	- Not Broken Out Separately
18			Personnel Decisions	- Not Broken Out Separately
19			Bidding Decisions	- Not Broken Out Separately
20			Total	120 Avg Hours Per Month
21				x 12 Months
22			**Subtotal**	**1,440 Avg Hours Per Year**
23				
24			Oversight of Professional Accountants and Attorneys	- Not Broken Out Separately
25			Banking and Financing	- Not Broken Out Separately
26			Regulatory Compliance	- Not Broken Out Separately
27			Tax Matters	- Not Broken Out Separately
28			Correspondence With Customers and The Business Community	- Not Broken Out Separately
29			Corporate Matters	- Not Broken Out Separately
30			**Subtotal**	**288 Avg Hours Per Year**
31				
32			Land Use and Rights of Way	- Not Broken Out Separately
33			Line Extension Agreements	- Not Broken Out Separately
34			CAGRD Compliance	- Not Broken Out Separately
35			**Subtotal**	**120 Avg Hours Per Year**
36				
37			**TOTAL**	**1,848 Avg Hours Per Year**
38				x $38.46 ($80,000 / 2,080)
39				**$ 71,074 Salary - Per Staff**
40				$ 80,000 Salary - Per Company
41				$ (8,926) Staff's Adjustment
42				
43				
44				Dorleen Mallis President
45				
46				
47			2010	$ - Company Sch E-2
48			2011	$ 20,000 Company Sch E-2
49			2012	$ - Company Sch E-2
50				$ 20,000
51			Divided by 3	3 Years
52				**$ 6,667 Salary - Per Staff**
53				$ 20,000 Salary - Per Company
54				$ (13,333) Staff's Adjustment

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

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Schedule CSB-19

OPERATING INCOME ADJUSTMENT NO. 3 - EMPLOYEE PENSIONS AND BENEFITS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	Employee Pensions & Benefits	$ 9,070	$ (4,520)	$ 4,550
2				
3				
4				
5			Employee	
6			Pensions &	
7			Benefits	
8		2009	$ 4,585	Company Sch E-2
9		2010	$ 9,064	Company Sch E-2
10		2011	$ -	Company Sch E-2
11			$ 13,649	
12		Divided by 3	3	Years
13			$ 4,550	

References:
Column A: Company Schedule C-2
Column B: Testimony, CSB; Company Data Request Responses to CSB 2-26
Column C: Column [A] + Column [B]

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Schedule CSB-20

OPERATING INCOME ADJUSTMENT NO. 4 - PURCHASED POWER

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	2011 Actual Purchased Power Expense	$ 82,011	$ -	$ 82,011
2	Company Pro forma Adjustment	24,863	(24,863)	-
3	Total Purchased Power Expense	$ 106,874	$ (24,863)	$ 82,011
4				
5				
6				

References:

Column A: Company Schedule C-2

Column B: Testimony, CSB

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

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Schedule CSB-21

OPERATING INCOME ADJUSTMENT NO. 5 - CONTRACT SRVCS., WATER TESTING EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Contractual Services - Testing	$ 5,650	$ 965	$ 6,615

References:

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

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Schedule CSB-22

OPERATING INCOME ADJUSTMENT NO. 6 - RENTS EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Rents Expense	$ 22,000	$ (2,200)	$ 19,800

	Rents Expense	
2011 Rents Expense	$ 22,000	CSB 2-16
Percentage Allocated to Affiliate Business	10%	CSB 2-16
Staff's Adjustment	2,200	

References:

Column A: Company Schedule C-1 & E-2
Column B: Testimony, CSB; Data Request CSB 2-16
Column C: Column [A] + Column [B]

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Schedule CSB-23

OPERATING INCOME ADJUSTMENT NO. 7 - TRANSPORTATION EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Transportation Expense	$ 5,777	$ -	$ 5,777
2	Gasoline Expenses - Shell	3,543	(1,329)	2,214
3	Repair and Maintenance Expenses	3,996	(2,781)	1,215
		$ 13,316	$ (4,110)	$ 9,206

	Shell Gasoline Purchases	
1/14/2011	$ 346.09	CSB 2-33
2/18/2011	$ 227.51	CSB 2-33
3/18/2011	$ 270.06	CSB 2-33
4/14/2011	$ 198.02	CSB 2-33
5/18/2011	$ 336.25	CSB 2-33
6/14/2011	$ 226.66	CSB 2-33
7/16/2011	$ 295.35	CSB 2-33
8/22/2011	$ 97.00	CSB 2-33
9/17/2011	$ 436.93	CSB 2-33
10/24/2011	$ 370.97	CSB 2-33
11/15/2011	$ 418.48	CSB 2-33
12/19/2011	$ 319.79	CSB 2-33
	$ 3,543	Total Shell Gas Purchases
Divided by 2	2	Vehicles (Toyota & Lexus)
	$ 1,772	
	x 75%	Allocated to Owner/Affiliates
	$ 1,329	Amount Disallowed
	$ 3,543	Total Shell Gas Purchases
	$ (1,329)	Amount Disallowed
	$ 2,214	Staff as Adjusted

Date	Description	Repair & Maint Expenses	
4/4/2011	Lexus SUV - 1 Tire	$ 138	CSB 2-33
5/16/2011	4 Tires - Ford F250	$ 893	CSB 2-33
7/5/2011	Lexus SUV Brake Pads/Maint	$ 820	CSB 2-33
11/18/2011	Lexus SUV - Radiator	$ 1,124	CSB 2-33
12/30/2011	Lexus SUV - 3 Tire	$ 807	CSB 2-33
		$ 3,644	
	Divided by 3	3	Years
		$ 1,215	Normalized Costs

References:

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

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Schedule CSB-24

OPERATING INCOME ADJUSTMENT NO. 8 - DEPRECIATION EXPENSE ON TEST YEAR PLANT

LINE NO.		DESCRIPTION	[A] PLANT In SERVICE Per Staff	[B] NonDepreciable or Fully Depreciated PLANT	[C] DEPRECIABLE PLANT (Col A - Col B)	[D] DEPRECIATION RATE	[E] DEPRECIATION EXPENSE (Col C x Col D)
1	302	Franchises	$ 700	$ (700)	$ -	0.00%	$ -
2	303	Land and Land Rights	25,519	(26,540)	$ (1,021)	0.00%	
3	304	Structures and Improvements	22,078	-	22,078	3.33%	735
4	306	Lake, River, and Other Intakes	-	-	-	2.50%	-
5	307	Wells and Springs	1,388,986	-	1,388,986	3.33%	46,253
6	309	Supply Mains	-	-	-	2.00%	-
7	310	Power Generation Equipment	-	-	-	5.00%	-
8	311	Pumping Equipment	702,797	-	702,797	12.50%	87,850
9	320	Water Treatment Equipment	-	-	-	3.33%	-
10	330	Distribution Reservoirs and Standpipes	622,302	-	622,302	2.22%	13,815
11	330.2	Pressure Tanks	1,032	-	1,032	5.00%	52
12	331	Transmission and Distribution Mains	1,160,777	-	1,160,777	2.00%	23,216
13	333	Services	526,754	-	526,754	3.33%	17,541
14	334	Meters and Meter Installations	113,643	-	113,643	8.33%	9,466
15	335	Hydrants	105,490	-	105,490	2.00%	2,110
16	336	Backflow Prevention Devices	-	-	-	6.67%	-
17	339	Other Plant and Miscellaneous Equipment	2,902	-	2,902	6.67%	194
18	340	Office Furniture and Equipment	8,901	-	8,901	6.67%	594
19	341	Transportation Equipment	42,152	-	42,152	20.00%	8,430
20	340.1	Computers and Software	8,967	-	8,967	20.00%	1,793
21	343	Tools, Shop, and Garage Equipment	1,932	-	1,932	5.00%	97
22	344	Laboratory Equipment	-	-	-	10.00%	-
23	345	Power Operated Equipment	-	-	-	5.00%	-
24	346	Communication Equipment	1,494	-	1,494	10.00%	149
25	347	Miscellaneous Equipment	-	-	-	10.00%	-
26	348	Other Tangible Equipment	1,253	-	1,253	10.00%	125
27		Total Plant	$ 4,737,679	$ (27,240)	$ 4,710,439		$ 212,420
28							
29							
30							
31		Composite Depreciation Rate (Depr Exp / Depreciable Plant):	4.51%				
32		CIAC:	$ 1,140,839				
33		Amortization of CIAC (Line 31 x Line 32):	$ 51,447				
34							
35		Depreciation Expense Before Amortization of CIAC:	$ 212,420				
36		Less Amortization of CIAC:	$ 51,447				
37		Test Year Depreciation Expense - Staff:	$ 160,973				
38		Depreciation Expense - Company:	180,559				
39		**Staff's Total Adjustment:**	**$ (19,586)**				

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

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Schedule CSB-25

OPERATING INCOME ADJUSTMENT NO. 9 - TAXES OTHER THAN INCOME

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Taxes Other Than Income	$ 18,646	$ (1,533)	$ 17,113
2				
3				
4			Taxes	
5			Other Than	
6			Income	
7	2011 Taxes Other Than Income		$ 18,646	
8	Percentage Allocated to Affiliate Business/Owners		8.22%	($226,744 / $18,646)
9	Staff's Adjustment		1,533	

References:

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

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Schedule CSB-26

OPERATING INCOME ADJUSTMENT NO. 10 - PROPERTY TAX EXPENSE

LINE NO.	Property Tax Calculation	[A] STAFF AS ADJUSTED	[B] STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues	$ 580,814	$ 580,814
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	1,161,628	$ 1,161,628
4	Staff Recommended Revenue, Per Schedule CSB-1	580,814	$ 749,146
5	Subtotal (Line 4 + Line 5)	1,742,442	1,910,774
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	580,814	$ 636,925
8	Department of Revenue Mutilplier	2	2
9	Revenue Base Value (Line 7 • Line 8)	1,161,628	$ 1,273,849
10	Plus: 10% of CWIP -	-	-
11	Less: Net Book Value of Licensed Vehicles	-	$ -
12	Full Cash Value (Line 9 + Line 10 - Line 11)	1,161,628	$ 1,273,849
13	Assessment Ratio	21.0%	21.0%
14	Assessment Value (Line 12 • Line 13)	243,942	$ 267,508
15	Composite Property Tax Rate	9.8053%	9.8053%
			$ -
16	Staff Test Year Adjusted Property Tax (Line 14 * Line 15)	$ 23,919	
17	Company Proposed Property Tax	30,589	
18	Staff Test Year Adjustment (Line 16-Line 17)	$ (6,670)	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		$ 26,230
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		$ 23,919
21	Increase in Property Tax Expense Due to Increase in Revenue Requirement		$ 2,311
22	Increase to Property Tax Expense		$ 2,311
23	Increase in Revenue Requirement		168,332
24	Increase to Property Tax per Dollar Increase in Revenue (Line19/Line 20)		1.372742%

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Schedule CSB-27

OPERATING INCOME ADJUSTMENT NO. 11 - TEST YEAR INCOME TAXES

LINE NO.	DESCRIPTION	(A)	(B)
	Calculation of Income Tax:	Test Year	
1	Revenue	$ 580,814	
2	Less: Operating Expenses - Excluding Income Taxes	$ 679,149	
3	Less: Synchronized Interest (L17)	$ 3,055	
4	Arizona Taxable Income (L1- L2 - L3)	$ (101,390)	
5	Arizona State Income Tax Rate	6.968%	
6	Arizona Income Tax (L4 x L5)		$ (7,065)
7	Federal Taxable Income (L4 - L6)	$ (94,325)	
8	Federal Tax on First Income Bracket ($1 - $50,000) @ 15%	$ (7,500)	
9	Federal Tax on Second Income Bracket ($51,001 - $75,000) @ 25%	$ (6,250)	
10	Federal Tax on Third Income Bracket ($75,001 - $100,000) @ 34%	$ (6,571)	
11	Federal Tax on Fourth Income Bracket ($100,001 - $335,000) @ 39%	$ -	
12	Federal Tax on Fifth Income Bracket ($335,001 - $10,000,000) @ 34%	$ -	
13	Total Federal Income Tax		$ (20,321)
14	Combined Federal and State Income Tax (L6 + L13)		$ (27,385)
	Calculation of Interest Synchronization:		
15	Rate Base	$ 610,922	
16	Weighted Average Cost of Debt	0.50%	
17	Synchronized Interest (L16 x L17)	$ 3,055	
18	Income Tax - Per Staff	$ (27,385)	
19	Income Tax - Per Company	$ (69,820)	
20	**Staff Adjustment**	**$ 42,435**	

Monthly Minimum Charge	Present	Company Proposed	Staff Recommended
Meter Size (All Classes):			
5/8 Inch x 3/4 Inch	$ 11.15	$ 15.00	$ 15.00
3/4 Inch	25.00	25.00	26.00
1 Inch	39.00	39.00	40.00
1 1/2 Inch	62.00	75.00	62.00
2 Inch	110.00	120.00	110.00
3 Inch	125.00	240.00	125.00
4 Inch	165.00	375.00	165.00
6 Inch	330.00	750.00	330.00
Gallons Included In Monthly Minimum Charge	0	0	0
Commodity Charge - Per One Thousand Gallons			
All Meter Sizes			
1 gallon to 3,000 gallons	$ 1.55	$ 0.85	N/A
3,001 gallons to 7,000 gallons	$ 1.55	$ 2.25	N/A
7,001 gallons to 25,000 gallons	$ 1.55	$ 3.35	N/A
over 25,000 gallons	$ 1.55	$ 4.64	N/A
1 gallon to 2,000 gallons	$ 1.55	N/A	$ 0.50
2,001 gallons to 7,000 gallons	$ 1.55	N/A	$ 1.25
7,001 gallons to 25,000 gallons	$ 1.55	N/A	$ 2.00
over 25,000 gallons	$ 1.55	N/A	$ 3.46
Standpipe per 1,000 gallons	$ 1.55	$ 4.64	$ 3.46

Miscellaneous Charges	Present	Company Proposed	Staff Recommended
Establishment	$ 25.00	$ 30.00	$ 30.00
Establishment (After Hours)	37.50	Discontinue	Discontinue
Reconnection (Deliquent)	25.00	35.00	35.00
Meter Test (If Correct)	30.00	35.00	30.00
Deposit	•	•	•
Deposit Interest	•	•	•
Reestablishment (Within 12 Months)	**	**	**
NSF Check	15.00	25.00	25.00
Deferred Payment, Per Month	***	***	1.50%
Meter Re-read (If Correct)	15.00	30.00	20.00
Late Payment Fee (Per Month)	***	2.00%	1.50%
After hours service charge (At the Customer's Request)	NT	25.00	25.00

• Per A. A. C. R-14-2-403 (B)
** Number of months off the system times the monthly minimum.
*** 1.50 percent per month of unpaid balance

NT = No Tariff

	Total Present Charge	Company Proposed Service Line Charge	Company Proposed Meter Installation Charge*	Total Company Proposed Charge
Service and Meter Installation Charges				
5/8 x 3/4 Inch	$ 550	$ 445	$ 155	$ 600
3/4 Inch	$ 550	$ 445	$ 255	$ 700
1 Inch	$ 650	$ 495	$ 315	$ 810
1 1/2 Inch	$ 875	$ 550	$ 525	$ 1,075
2 Inch / Turbine	$ 1,400	$ 830	$ 1,045	$ 1,875
2 Inch / Compound	N/A	$ 830	$ 1,890	$ 2,720
3 Inch / Turbine	$ 1,900	$ 1,045	$ 1,670	$ 2,715
3 Inch / Compound	N/A	$ 1,165	$ 2,545	$ 3,710
4 Inch / Turbine	$ 3,200	$ 1,490	$ 2,670	$ 4,160
4 Inch / Compound	N/A	$ 1,670	$ 3,645	$ 5,315
6 Inch / Turbine	$ 5,800	$ 2,210	$ 5,025	$ 7,235
6 Inch / Compound	N/A	$ 2,330	$ 6,920	$ 9,250
Over 6-Inch	N/A	N/A	Actual Cost	Actual Cost

	Total Present Charge	Staff Recommended Service Line Charge	Staff Recommended Meter Installation Charge	Total Staff Recommended Charge
5/8 x 3/4 Inch	$ 550	$ 445	$ 155	$ 600
3/4 Inch	$ 550	$ 445	$ 255	$ 700
1 Inch	$ 650	$ 495	$ 315	$ 810
1 1/2 Inch	$ 875	$ 550	$ 525	$ 1,075
2 Inch / Turbine	$ 1,400	$ 830	$ 1,045	$ 1,875
2 Inch / Compound	N/A	$ 830	$ 1,890	$ 2,720
3 Inch / Turbine	$ 1,900	$ 1,045	$ 1,670	$ 2,715
3 Inch / Compound	N/A	$ 1,165	$ 2,545	$ 3,710
4 Inch / Turbine	$ 3,200	$ 1,490	$ 2,670	$ 4,160
4 Inch / Compound	N/A	$ 1,670	$ 3,645	$ 5,315
6 Inch / Turbine	$ 5,800	$ 2,210	$ 5,025	$ 7,235
6 Inch / Compound	N/A	$ 2,330	$ 6,920	$ 9,250
Over 6-Inch	N/A	Actual Cost	Actual Cost	Actual Cost

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Schedule CSB-29

TYPICAL BILL ANALYSIS

General Service 5/8 X 3/4 - Inch Meter

Average Number of Customers: 1,453

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	7,832	$23.29	$29.34	$6.05	26.0%
Median Usage	6,467	$21.17	$26.55	$5.38	25.4%
Staff Proposed					
Average Usage	7,832	$23.29	$23.91	$0.62	2.7%
Median Usage	6,467	$21.17	$21.58	$0.41	1.9%

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

Gallons Consumption	Present Rates	Company Proposed Rates	% Increase	Staff Proposed Rates	% Increase
0	$11.15	$15.00	34.5%	$15.00	34.5%
1,000	12.70	15.85	24.8%	15.50	22.0%
2,000	14.25	16.70	17.2%	16.00	12.3%
3,000	15.80	17.55	11.1%	17.25	9.2%
4,000	17.35	19.80	14.1%	18.50	6.6%
5,000	18.90	22.05	16.7%	19.75	4.5%
6,000	20.45	24.30	18.8%	21.00	2.7%
7,000	22.00	26.55	20.7%	22.25	1.1%
8,000	23.55	29.90	27.0%	24.25	3.0%
9,000	25.10	33.25	32.5%	26.25	4.6%
10,000	26.65	36.60	37.3%	28.25	6.0%
15,000	34.40	53.35	55.1%	38.25	11.2%
20,000	42.15	70.10	66.3%	48.25	14.5%
25,000	49.90	86.85	74.0%	58.25	16.7%
50,000	88.65	202.85	128.8%	144.50	63.0%
75,000	127.40	318.85	150.3%	230.75	81.1%
100,000	166.15	434.85	161.7%	317.00	90.8%
125,000	204.90	550.85	168.8%	403.25	96.8%
150,000	243.65	666.85	173.7%	489.50	100.9%
175,000	282.40	782.85	177.2%	575.75	103.9%
200,000	321.15	898.85	179.9%	662.00	106.1%

EXHIBIT
S-4
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP
Chairman
GARY PIERCE
Commissioner
BRENDA BURNS
Commissioner
BOB BURNS
Commissioner
SUSAN BITTER-SMITH
Commissioner

IN THE MATTER OF THE APPLICATION OF RAY WATER COMPANY, INC. FOR APPROVAL OF A PERMANENT RATE INCREASE.	)))))	DOCKET NO. W-01380A-12-0254

SURREBUTTAL

TESTIMONY

OF

CRYSTAL S. BROWN

PUBLIC UTILITIES ANALYST V

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

JANUARY 8, 2013

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EXECUTIVE SUMMARY
RAY WATER COMPANY, INC.
DOCKET NO. W-01380A-12-0254

Staff recommends a revenue increase of $153,226 or 26.38 percent increase over test year revenue of $580,814. The total annual revenue of $734,040 produces an operating income of $57,308 or a 9.50 percent rate of return on an original cost rate base of $603,241. Staff's surrebuttal testimony responds to Ray Water Company ("Ray Water" or "Company") rebuttal testimony on the following issues:

1. Rate Base
    a. Excess Capacity Plant
    b. Not Used and Useful Plant
    c. Allocated Vehicle Cost
    d. Advances in Aid of Construction ("AIAC")
2. Operating Income
    a. Rents Expense
    b. Transportation Expense
    c. Depreciation Expense
    d. Property Taxes
    e. Income Taxes
3. Rate Design

INTRODUCTION

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

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

Q. Are you the same Crystal S. Brown who filed direct testimony in this case?

A. Yes.

PURPOSE OF SURREBUTTAL TESTIMONY

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

A. The purpose of my surrebuttal testimony in this proceeding is to respond, on behalf of Staff, to the rebuttal testimony of Ms. Sonn Rowell who represents Ray Water Company ("Ray Water" or "the Company").

Q. What issues will you address?

A. I will address the issues listed below that are discussed in the rebuttal testimony of the Company's witness Ms. Sonn Rowell.

1. Rate Base
    a. Excess Capacity Plant
    b. Not Used and Useful Plant
    c. Allocated Vehicle Cost
    d. Advances in Aid of Construction ("AIAC")
2. Operating Income
    a. Rents Expense
    b. Transportation Expense
    c. Depreciation Expense
    d. Property Taxes
    e. Income Taxes

Q. Does your silence on any particular issue raised in the Company's rebuttal testimony indicate that Staff agrees with the Company's stated rebuttal position?

A. No. Rather, where I do not respond, I am continuing to rely on my direct testimony.

SUMMARY OF PROPOSED REVENUES

Q. Please summarize Staff's recommended revenue.

A. Staff recommends a revenue increase of $153,226 or 26.38 percent increase over test year revenue of $580,814. The total annual revenue of $734,040 produces an operating income of $57,308 or a 9.50 percent rate of return on an original cost rate base of $603,241.

Q. Has the weighted average cost of capital ("WACC") used to develop the revenue requirement in Staff's direct testimony changed from the WACC in Staff's surrebuttal testimony?

A. Yes. In my direct testimony filed on November 26, 2012, Staff used an 8.70 percent WACC. Staff later updated the WACC to 9.30 percent as discussed in the direct testimony of Staff witness, John Cassidy, filed on December 19, 2012. Staff has since updated the WACC to 9.50 percent.

Q. How does Staff's recommended revenue compare to the recommended revenue in Staff's direct testimony?

A. Staff's recommended revenue has decreased by $15,106, from $749,146 in its direct testimony to $734,040 in its surrebuttal testimony due to various adjustments discussed herein.

RATE BASE

Q. Please summarize Staff's adjustments to Ray Water's rate base shown on Surrebuttal Schedule CSB-3.

A. A summary of the Company's proposed and Staff's recommended rate base follows:

TEST YEAR RATE BASE

Per Company - Direct	Difference	Per Staff - Surrebuttal
$1,073,266	($470,025)	$603,241

Q. How does Staff's recommended rate base compare to the recommended rate base in Staff's direct testimony?

A. Staff recommended rate base rate base has decreased by $7,681, from $610,922 in its direct testimony to $603,241.

PLANT IN SERVICE

Rate Base Adjustment No. 1 – Excess Capacity Plant

Q. Did Staff review the Company's rebuttal testimony regarding excess capacity plant?

A. Yes.

Q. Does Staff agree with the Company?

A. No. Staff witness, Dorothy Hains, will discuss the issue in greater detail in her surrebuttal testimony.

Q. What is Staff's recommendation for the excess capacity plant?

A. Staff continues to recommend the removal of $459,450 in excess capacity plant composed of $36,000 for land and land rights; $268,821 for wells; and $154,629 for pumping equipment.

Q. How does Staff's recommendation for excess capacity plant compare to the recommendation for excess capacity plant in Staff's direct testimony?

A. Staff's recommendation for excess capacity plant is the same as the recommendation made in its direct testimony.

Rate Base Adjustment No. 2 – Not Used and Useful Plant

Q. Did Staff review Ray Water's rebuttal testimony concerning not used and useful plant?

A. Yes.

Q. Does Staff agree?

A. No. Staff witness, Dorothy Hains, will discuss the issue in greater detail in her surrebuttal testimony.

Q. What is Staff's recommendation for not used and useful plant?

A. Staff continues to recommend the removal of $33,853 in not used and useful plant composed of $1,021 for land and land rights; $17,028 for wells; and $15,804 for pumping equipment.

Q. How does Staff's recommendation for not used and useful plant compare to the recommendation for not used and useful plant in Staff's direct testimony?

A. Staff's recommendation for not used and useful plant is the same as the recommendation made in its direct testimony.

Rate Base Adjustment No. 4 – Allocated Vehicle Cost

Q. Did Staff review the Company's rebuttal testimony concerning allocated vehicle cost?

A. Yes.

Q. What were the Company's primary concerns?

A. The Company's primary concerns were that (1) the cost of the Lexus SUV was $27,000 rather than $40,000 and (2) that the allocation of the Lexus SUV to the owner should be 50 percent rather than 75 percent.

Q. Does Staff agree with the Company that the cost of the Lexus SUV is $27,000?

A. Yes, and Staff has changed its calculations accordingly as shown on Surrebuttal Schedule CSB-8.

Q. Does Staff agree with the Company that the allocation of the cost of the Lexus SUV to the owner should be 50 percent rather than 75 percent?

A. No. The Company provided no evidence to substantiate a 50 percent allocation to the owner. Staff's 75 percent allocation to the owner was based on the fact that (1) the Lexus SUV is not used for meter reading, billing, or making bank deposits; (2) recognition that Mrs. Rosenbaum's job duties do not necessitate a high amount of travel; (3) there is a real estate business that conducts business out of the Ray Water Company's office (4) the vehicle is used for personal business and (5) no travel logs are maintained.

Q. What is the importance of maintaining travel logs?

A. Travel logs track the miles that employees *actually* spend traveling on behalf of the Company versus personal use. Since the logs are completed contemporaneously with the travel, the information helps to prevent the recorded mileage from being over or under

stated. Further, one of the principles of the National Association of Regulatory Commissioners ("NARUC") Guidelines for Cost Allocations for Affiliate Transactions is that costs should be collected and classified on a direct basis (i.e. costs which can be specifically identified to the Company). The actual mileage recorded in the logs for Ray Water would also provide an adequate basis in which to allocate expenses between personal and business use.

Q. Does the Internal Revenue Service ("IRS") require mileage logs in order to deduct transportation expense for income tax purposes?

A. Yes, the 2011 IRS Publication 463 "Travel, Entertainment, Gift, and Car Expenses" explains that mileage logs are necessary. Further, it provides examples of the types of information to be recorded such as odometer readings and the purpose of the trip. The Publication also warns on page 26 that you cannot deduct amounts that are approximated or estimated. Since Ray Water does not maintain the appropriate information on mileage logs, none of Ray Water's transportation expense would be an allowable income tax deduction under IRS rules.

Q. Is it appropriate to disallow all of Ray Water's transportation cost for ratemaking purposes because the Company did not maintain travel logs?

A. No, it is not. Staff recognizes that Mrs. Rosenbaum may occasionally need to use this vehicle to conduct business on behalf of Ray Water.

Q. What is Staff's recommendation for the transportation plant account balance?

A. Staff recommends a transportation plant account balance of $51,985 as shown on Surrebuttal Schedule CSB-8.

Q. How does Staff's recommended transportation plant account balance compare to the recommended transportation plant account balance in Staff's direct testimony?

A. Staff's recommended transportation plant account balance has increased by $9,833, from $42,152 in its direct testimony to $51,985 in its surrebuttal testimony.

Q. Does Staff have any other recommendations concerning transportation costs?

A. Yes, as stated in Staff's direct testimony, Staff further recommends that the Company maintain mileage logs in order to support recovery of a reasonable level of transportation costs in any future rate case.

Rate Base Adjustment No. 5 – Accumulated Depreciation

Q. Did Staff review the Company's rebuttal testimony concerning accumulated depreciation?

A. Yes.

Q. What were the Company's primary concerns?

A. The Company disagreed with Staff's plant adjustments made for excess capacity plant and not used and useful plant and, accordingly, disagreed with the accumulated depreciation adjustments related to those plant items. The Company also raised a concern that Staff should have used a five percent rather than a 20 percent depreciation rate to calculate the accumulated depreciation adjustment for transportation plant.

Q. Does Staff agree with the Company concerning the accumulated depreciation adjustment made for excess capacity and not used and useful plant?

A. No. Consistent with Staff's recommendation to remove the excess capacity and not used and useful plant, Staff continues to recommend its adjustment to remove the accumulated depreciation related to those plant items.

Q. Does Staff agree with the Company concerning the depreciation rate used to calculate its accumulated depreciation adjustment for transportation plant?

A. Yes, the Company's current Commission approved depreciation rate for transportation plant is five percent. Staff has corrected its calculations as shown on Surrebuttal Schedule CSB-9.

Q. What is Staff's recommendation for accumulated depreciation?

A. Staff recommends an accumulated depreciation balance of $1,811,097 as shown on Surrebuttal Schedules CSB-4 and CSB-9.

Q. How does Staff's recommended accumulated depreciation balance compare to the recommended accumulated depreciation balance in Staff's direct testimony?

A. Staff's recommended accumulated depreciation balance has increased by $17,514 from $1,793,583 in its direct testimony to $1,811,097 in its surrebuttal testimony.

Rate Base Adjustment No. 3 – Advances In Aid of Construction ("AIAC")

Q. Did Staff review the Company's rebuttal testimony concerning AIAC?

A. Yes.

Q. What was the Company's primary concern?

A. The Company was concerned about Staff's transference of AIAC contract costs that were not fully refunded after 10 years to CIAC. The Company stated that "Certain line extension agreements provide for a 15 or 20 year repayment period, thus arbitrarily transferring amounts to CIAC after 10 years may not always be correct"[1].

[1] Rowell Rebuttal, page 4, line 16.

Q. Did Staff request the related AIAC contracts through a formal data request?

A. Yes, Staff requested the AIAC contracts in data request CSB 2-11.

Q. What was the Company's response?

A. The Company provided a schedule of AIAC contracts but did not provide the contracts.

Q. Did Staff search the Commission's records in an attempt to locate the AIAC contracts?

A. Yes. However, Staff was unable to locate them. On October 18, 2012, Staff sent an email informing the Company of such and again requested the AIAC contracts as follows:

> In your response to CSB 2-11, you provided an exhibit. Staff has attempted to review the AIAC contracts in support of the $246,638 balance shown for the year 2000. Staff has checked with the State of Arizona's Records Retention section and found that we no longer have copies of the related AIAC contracts. Please make available the AIAC contracts if you still have them.

Q. As part of Staff's on-site audit, did Staff discuss this request with the Company?

A. Yes, Mrs. Rosenbaum stated that the Company did not have the AIAC contracts in question.

Q. Is the Company required to maintain the AIAC contracts?

A. Yes, the Arizona Administrative Code R14-2-411 (D) (1) states the following:

> Each utility shall keep general and auxiliary accounting records reflecting the cost of its properties, operating income and expense, assets and liabilities, and all other accounting and statistical data necessary to give ***complete and authentic information as to its properties and operations*** (emphasis added).

Q. For ratemaking purposes, what guidance does Staff use to determine the repayment period when actual contracts no longer exist?

A. Staff uses the Arizona Administrative Code.

Q. What does the Arizona Administrative Code state concerning the repayment period for AIAC contracts?

A. The Arizona Administrative Code R14-2-406 (D) states the following:

> Refunds of advances made pursuant to this rule shall be made in accord with the following method: the Company shall each year pay to the party making an advance under a main extension agreement . . . a minimum amount equal to 10% of the total gross annual revenue from water sales to each bona fide consumer whose service line is connected to main lines covered by the main extension agreement, ***for a period of not less than 10 years . . . A balance remaining at the end of the ten-year period set out shall become non-refundable, in which case the balance not refunded shall be entered as a contribution in aid of construction in the accounts of the Company*** . . . (emphasis added).

Q. What is the effect on customers when AIAC is not properly transferred to CIAC?

A. Depreciation expense and rate base would be over-stated, thus customers would be harmed by paying artificially higher rates.

Q. What is Staff's recommendation for AIAC?

A. Staff continues to recommend an AIAC balance of $1,474,900.

Q. How does Staff's recommended AIAC balance compare to the recommended AIAC balance in Staff's direct testimony?

A. Staff's recommended AIAC balance is the same as the AIAC balance recommended in its direct testimony.

OPERATING INCOME

Operating Income Adjustment No. 6 – Rents Expense

Q. Did Staff review the Company's rebuttal testimony concerning rents expense?

A. Yes.

Q. What was the Company's primary concern?

A. The Company's primary concern was that Staff should make no allocation to the unregulated affiliate for ratemaking purposes.

Q. Does Staff agree with the Company's concern?

A. No, Staff does not. The Company's proposal not to allocate any rents expense to the unregulated affiliate is inappropriate because the unregulated affiliate operates from the Ray Water Office.

Q. Please describe the office?

A. The building is approximately 55 years old (CSB 5.9) and appeared to be a residential home that was converted into an office building. It is located near downtown Tucson and is not near to the Ray Water CC&N service area. The owners[2] also operate R&M Real Estate out of the Ray Water office.

Q. Is the lease agreement a related party transaction?

A. Yes.

Q. Please explain why the lease agreement constitutes a related-party transaction.

A. In general, a related-party transaction refers to a transaction between a company and any other party with which the company may deal where one party has the ability to influence

[2] Mrs. Rosenbaum and Mrs. Mallis

the other to the extent that one party of the transaction may not pursue its own separate best interest. It is not an arm's-length bargaining of parties of opposing interests. The owners lease the office building to Ray Water for $22,000 per year. The Ray Water leasing agreement is a related-party transaction because the owners of the office building are also the owners of Ray Water.

Q. Why do the owners use this particular office building for the Ray Water office?

A. The owner's use this building for the Ray Water Office because they own it. Consequently, the $22,000 in annual rent revenues the customers pay to the owners for the building rental, which may include profit and overhead, flows to the owners and not to an independent third party. The related party transaction serves to maximize the owners' wealth at the expense of the customers because the owners could lease from an independent third party at a lower cost but choose not to.

Q. Is the unregulated affiliate, R&M Real Estate, a "for profit" company?

A. Yes, R&M Real Estate, the unregulated affiliate that leases the office building to Ray Water is a "for profit" company.

Q. Is profit included in the $1,833 per month rent expense that Ray Water pays to the owners?

A. Possibly. Staff asked the Company whether or not profit or overhead was included in the $22,000 amount but the Company refused to answer the question (CSB 5.8).

Q. What is one of the primary goals of cost allocation between an unregulated affiliate and a regulated affiliate?

A. One of the primary goals is that regulated utilities should not subsidize "for-profit" unregulated businesses through unfair allocations of costs.

Q. What effect does an unfair allocation of costs have on rate payers?

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

Q. Does the Company's methodology of allocating all shared office space costs solely to Ray Water follow the NARUC Guideline for Cost Allocations and Affiliate Transactions?

A. No, it does not.

Q. Please discuss the NARUC Guideline for Cost Allocations and Affiliate Transactions.

A. One of the principles contained in the Guideline for Cost Allocations and Affiliate Transactions states that:

> The primary cost driver of common costs, or a relevant proxy in the absence of a primary cost driver, should be identified and used to allocate the cost between regulated and non-regulated services or products. (Emphasis added).

Moreover, the NARUC Guideline for Cost Allocations and Affiliate Transactions states that:

> The indirect costs of each business unit, including the allocated costs of shared services, should be spread to the services or products to which they relate using relevant cost allocators. (Emphasis added).

Q. What is Staff's 10 percent allocation recommendation based on?

A. Since the owners utilize mostly the same work areas when they work on R&M Real Estate business as they do when they work on Ray Water business, Staff allocated the rents expense based upon the amount of time the owners spend on R&M business, i.e., 10 percent.

Q. What is the monthly amount allocated to the unregulated affiliate for rents expense?

A. The amount is $183 (out of the $1,833 that Ray Water pays) per month (i.e., $1,833 x 10%).

Q. What is Staff's recommendation for rents expense?

A. Staff continues to recommend $19,800.

Q. How does Staff's recommended rents expense compare to the recommended annual rents expense in Staff's direct testimony?

A. Staff's recommended annual rents case expense is the same as the annual rents expense recommended in its direct testimony.

Operating Income Adjustment No. 7 – Transportation Expense

Q. Did Staff review the Company's rebuttal testimony concerning transportation expense?

A. Yes.

Q. What were the Company's primary concerns?

A. The Company had two concerns. The first was that the allocation of the Lexus SUV to the unregulated owner should be 50 percent rather than 75 percent. The second was that

Staff's adjustment to normalize certain repair and maintenance items resulted in a transportation expense that was too low.

Q. Does Staff agree with the Company's concern that the allocation of the Lexus SUV to the owner should be 50 percent rather than 75 percent?

A. No, Staff does not. As discussed in Rate Base Adjustment No. 4, "Allocated Vehicle Costs," Staff continues to recommend a 75 percent allocation factor.

Q. Does Staff agree with the Company's concern that Staff's adjustment to normalize certain repair and maintenance items resulted in a transportation expense that was too low?

A. No, Staff does not. Staff's adjustment to normalize certain portions of transportation expense was reasonable and appropriate.

Q. What was the Company's actual transportation expense in the years 2009, 2010, and 2011?

A. The Company's application Schedule E-2 reports the following:

Transportation Expense Schedule E-2		
2009	**2010**	**2011**
$9,465	$9,120	$13,316

Q. How does Staff's recommended transportation expense compare to the prior years?

A. The comparison can be seen in the table below:

Transportation Expense Schedule E-2		
2009	**2010**	**2011 (Per Staff)**
$9,465	$9,120	$9,206

Q. Is Staff's recommended transportation expense reasonable?

A. Yes, Staff's recommended $9,206 in transportation expense is reasonable to pay the on-going transportation expense for the Ford truck, Toyota Tundra, and 25 percent of the transportation expense for the Lexus SUV.

Q. What is Staff's recommendation?

A. Staff continues to recommend transportation expense of $9,206, as shown on Surrebuttal Schedules CSB-16 and CSB-23.

Q. How does Staff's recommended transportation expense compare to the recommended annual transportation expense in Staff's direct testimony?

A. Staff's recommended annual transportation expense is the same as the annual transportation expense recommended in its direct testimony.

Operating Income Adjustment No. 8 – Depreciation Expense

Q. Did Staff review the Company's rebuttal testimony concerning depreciation expense?

A. Yes.

Q. Did Staff make any changes to its depreciation expense based on the review?

A. Yes. In Staff's direct testimony, Staff inadvertently did not reflect the Company's fully depreciated plant in its depreciation expense calculation. Staff has now made this correction as shown on Surrebuttal Schedule CSB-24.

Q. What is Staff's recommendation?

A. Staff recommends depreciation expense of $129,600, as shown on Surrebuttal Schedules CSB-15 and CSB-24.

Q. How does Staff's recommended depreciation expense compare to the recommended depreciation expense in Staff's direct testimony?

A. Staff's recommended depreciation expense has decreased by $31,373 from $160,973 in its direct testimony to $129,600.

Operating Income Adjustment No. 10 – Property Taxes

Q. Did Staff review the Company's rebuttal testimony concerning property tax expense?

A. Yes.

Q. What was the Company's primary concern?

A. The Company's primary concern was with Staff's use of a 9.8053 percent composite property tax rate.

Q. Does Staff accept the Company proposed composite property tax rate of 13.2606 percent?

A. Yes and Staff has changed its property tax calculation accordingly as shown on Surrebuttal Schedule CSB-26.

Q. What is Staff's recommendation?

A. Staff recommends property tax expense of $32,371, as shown on Surrebuttal Schedules CSB-16 and CSB-26.

Q. How does Staff's recommended property tax expense compare to the recommended property tax expense in Staff's direct testimony?

A. Staff's recommended property tax expense has increased by $8,452, from $23,919 in its direct testimony to $32,371 in its surrebuttal testimony.

Operating Income Adjustment No. 11 – Income Taxes

Q. Did Staff review the Company's rebuttal testimony concerning income tax expense?

A. Yes.

Q. What was the Company's primary concern?

A. The Company's primary concern was that Staff should not reflect synchronized interest as Staff did not include the plant to which the loan relates in rate base.

Q. Does Staff agree?

A. Yes and Staff has changed its income tax calculation accordingly as shown on Surrebuttal Schedule CSB-27.

Q. What is Staff's recommendation?

A. Staff recommends an income tax loss of $17,795, as shown on Surrebuttal Schedules CSB-16 and CSB-27.

Q. How does Staff's recommended income tax expense compare to the recommended income tax expense in Staff's direct testimony?

A. Staff's recommended income tax expense has increased by $9,590, from a negative $27,385 in its direct testimony to a negative $17,795 in its surrebuttal testimony.

RATE DESIGN

Q. Has Staff reviewed the Company's rebuttal testimony concerning rate design?

A. Yes.

Q. What are the Company's primary concerns?

A. The Company's primary concerns are that Staff's rate design will cause significant conservation such that the Company will not be able to generate its authorized rate of return and that the Company should be authorized a surcharge mechanism to enable it to recover any difference between its actual and authorized rate of return.

Q. Does Staff agree that Staff's rate design will cause significant conservation?

A. No, Staff does not. The Company provided no evidence that Staff's rate design would cause significant conservation. There are many factors that can cause conservation, for example, a change in a household's finances or the number of people per household. Also, changing attitudes about the environment and the economy can impact conservation. Moreover, the federal government has created mandates for more water efficient plumbing fixtures and appliances, such as, but not limited to the Federal Energy Independence and Security Act of 2007 which has prescribed high efficiency standards for dishwashing and clothes washing machines.

Q. Does Staff agree with the Company's proposed surcharge mechanism that would allow the Company to earn its authorized rate of return?

A. No, Staff does not. Staff typically recommends surcharge mechanisms only for costs or expenses (1) that are a significantly large percentage of a Company's total expenses, (2) that experiences wide fluctuations within a short time frame, and (3) that are out of a Company's control. Examples of such surcharges include purchased power, purchased gas, water hauling, and arsenic remediation. The Company can file an application for a permanent rate increase in accordance with the Commission's rules and regulations should it find that it is not earning its authorized rate of return. Further, the Company can file an emergency rate case should it need immediate rate relief.

Q. Has Staff revised its rate design?

A. No, however, we did have to adjust the third tier rate as shown on Surrebuttal Schedule CSB-28.

Miscellaneous Service Charges

Q. Did Staff review the Company's rebuttal testimony concerning a proposed five dollar late fee?

A. Yes.

Q. Does Staff agree?

A. No. Staff typically recommends a five dollar late fee when the percentage of customers who pay late is significantly large compared to those who do not, such that it would cause a cash flow problem and/or financial hardship to the Company.

Q. What is Staff's recommendation concerning the late payment fee?

A. Staff recommends a one and half percent late payment fee.

Q. How does Staff's recommended late payment fee compare to the recommended late payment fee in Staff's direct testimony?

A. Staff's recommended late payment fee is the same as the late payment fee recommended in its direct testimony.

Tariff for Sharing Customer Information

Q. Is Staff's recommended tariff for sharing customer information attached to your surrebuttal testimony?

A. Yes, it is attached as Exhibit A.

Q. Did Staff review the Company's rebuttal testimony concerning the tariff?

A. Yes.

Q. What was the Company's primary concern?

A. The Company does not believe that the sharing of customer information should be regulated by the Commission.

Q. Does Staff agree?

A. No, Staff does not.

Q. Has the Commission recently approved a similar tariff for another utility?

A. Yes, the Commission approved a similar tariff for Epcor Water Arizona Inc., in Decision No. 73562, dated October 17, 2012.

Q. What is Staff's recommendation concerning the tariff for sharing customer information?

A. Staff continues to recommend approval.

Q. How does Staff's recommendation concerning the tariff for sharing customer information compare to the recommendation in Staff's direct testimony?

A. Staff's recommendation concerning the tariff for sharing customer information is the same as that in its direct testimony.

Q. Does this conclude Staff's surrebuttal testimony?

A. Yes, it does.

Exhibit A

TARIFF

CUSTOMER WATER CONSUMPTION INFORMATION SHARING WITH PIMA COUNTY, WASTEWATER PROVIDER

Ray Water Company, Inc. ("Ray Water" or "Company") is authorized to share water consumption information of individual customers with Pima County ("the County"), a county provider of wastewater service for common customers purchasing water from Ray Water and wastewater from the County. The purpose of this Tariff, and the authorized provision of customer water consumption information, is to assist the County in billing for wastewater utility service. The County agrees that it is only authorized to use such water consumption information for purposes of wastewater services billing and is not authorized to disclose such information to any other party except as may be required by law.

Ray Water entered into an Agreement with the County for providing individual water consumption data, in a form materially similar to the standard form agreement. The Agreement was subject to Arizona Corporation Commission ("Commission") review as set forth in Section 5 of the agreement.

Ray Water shall notify all water utility customers affected by the Agreement between the Company and the County pursuant to this Tariff, by means of a billing insert during the first billing cycle immediately after said tariff is approved.

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Surrebuttal Schedule CSB-1

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY ORIGINAL COST	[B] STAFF ORIGINAL COST
1	Adjusted Rate Base	$ 1,073,266	$ 603,241
2	Adjusted Operating Income (Loss)	$ (125,840)	$ (57,619)
3	Current Rate of Return (L2 / L1)	-11.72%	-9.55%
4	Required Rate of Return	10.57%	9.50%
5	Required Operating Income (L4 * L1)	$ 113,393	$ 57,308
6	Operating Income Deficiency (L5 - L2)	$ 239,233	$ 114,927
7	Gross Revenue Conversion Factor	1.56320	1.33325
8	Increase (Decrease) In Gross Revenue (L7 * L6)	$ 373,969	$ 153,226
9	Adjusted Test Year Revenue	$ 576,266	$ 580,814
10	Proposed Annual Revenue (L8 + L9)	$ 950,235	$ 734,040
11	Required Increase/(Decrease in Revenue) (%) (L8/L9)	64.90%	26.38%

References:
Column [A]: Company Schedules A-1
Column [B]: Staff Schedules CSB-2, CSB-3, & CSB-15

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Surrebuttal Schedule CSB-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
	Calculation of Gross Revenue Conversion Factor:				
1	Revenue	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Income Tax and Property Tax Rate (Line 23)	24.9950%			
5	Subtotal (L3 - L4)	75.0050%			
6	Revenue Conversion Factor (L1 / L5)	133.3245%			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	23.5763%			
9	One Minus Combined Income Tax Rate (L7 - L8)	76.4237%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 * L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 53)	17.8522%			
16	Effective Federal Income Tax Rate (L14 x L15)	16.6083%			
17	Combined Federal and State Income Tax Rate (L13 +L16)		23.5763%		
	Calculation of Effective Property Tax Factor				
18	Unity	100.00%			
19	Combined Federal and State Income Tax Rate (L17)	23.58%			
20	One Minus Combined Income Tax Rate (L18-L19)	76.42%			
21	Property Tax Factor	1.86%			
22	Effective Property Tax Factor (L20*L21)		1.42%		
23	Combined Federal and State Income Tax and Property Tax Rate (L17+L22)			25.00%	
24	Required Operating Income	$ 57,308			
25	AdjustedTest Year Operating Income (Loss)	$ (57,619)			
26	Required Increase in Operating Income (L24 - L25)		$114,927		
27	Income Taxes on Recommended Revenue (Col. [C], L52)	$ 17,660			
28	Income Taxes on Test Year Revenue (Col. [A], L52)	$ (17,795)			
29	Required Increase in Revenue to Provide for Income Taxes (L27 - L28)		$ 35,454		
30	Recommended Revenue Requirement	$ 734,040			
31	Uncollectible Rate (Line 10)	$ -			
32	Uncollectible Expense on Recommended Revenue (L30*L31)	$ -			
33	Adjusted Test Year Uncollectible Expense	$ -			
34	Required Increase in Revenue to Provide for Uncollectible Exp. (L32-L33)		$ -		
35	Property Tax with Recommended Revenue	$ 35,216			
36	Property Tax on Test Year Revenue	$ 32,371			
37	Increase in Property Tax Due to Increase in Revenue (L35-L36)		$ 2,845		
38	Total Required Increase in Revenue (L26 + L29 + L34 + L37)		$153,226		

	Calculation of Income Tax:	Test Year		Staff Recommended
39	Revenue	$ 580,814	$153,226	$ 734,040
40	Operating Expenses Excluding Income Taxes	$ 656,228	$ 2,845	$ 659,073
41	Synchronized Interest (L56)	$ -		$ -
42	Arizona Taxable Income (L39 - L40 - L41)	$ (75,414)		$ 74,968
43	Arizona State Income Tax Rate	6.9680%		6.9680%
44	Arizona Income Tax (L42 x L43)	$ (5,255)		$ 5,224
45	Federal Taxable Income (L42 - L44)	$ (70,159)		$ 69,744
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%	$ (5,040)		$ 4,936
48	Federal Tax on Third Income Bracket ($75,001 - $100,000) @ 34%	$ -		$ -
49	Federal Tax on Fourth Income Bracket ($100,001 - $335,000) @ 39%	$ -		$ -
50	Federal Tax on Fifth Income Bracket ($335,001 - $10,000,000) @ 34%	$ -		$ -
51	Total Federal Income Tax	$ (12,540)		$ 12,436
52	Combined Federal and State Income Tax (L44 + L51)	$ (17,795)		$ 17,660
53	Applicable Federal Income Tax Rate [Col. [C], L51 - Col. [A], L51] / [Col. [C], L45 - Col. [A], L45]			17.8522%
	Calculation of Interest Synchronization:			
54	Rate Base	$ 603,241		
55	Weighted Average Cost of Debt	0.00%		
56	Synchronized Interest (L45 X L46)	0		

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Surrebuttal Schedule CSB-3

RATE BASE - ORIGINAL COST

LINE NO.		(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	ADJ NO.	(C) STAFF AS ADJUSTED
1	Plant in Service	$ 5,261,065	$ (513,553)	1, 2, 3, 4	$ 4,747,512
2	Less: Accumulated Depreciation	1,835,897	(24,800)	5	1,811,097
3	Net Plant in Service	$ 3,425,168	$ (488,753)		$ 2,936,415
	LESS:				
4	Advances in Aid of Construction (AIAC)	$ 1,633,387	$ (158,487)	6	$ 1,474,900
5	Service Line and Meter Advances	$ -	$ -		$ -
6	Contributions in Aid of Construction (CIAC)	$ 982,352	$ 158,487	7	$ 1,140,839
7	Less: Accumulated Amortization	260,433	127,537	8	387,970
8	Net CIAC	$ 721,919	30,950		$ 752,869
9	Total Advances and Contributions	$ 2,355,306	$ (127,537)		$ 2,227,769
10	Customer Deposits	$ -	$ 105,405	9	$ 105,405
11	Accumulated Deferred Income Taxes	$ -	$ -		$ -
	ADD: Working Capital				
12	Prepayments	$ 3,404	$ (3,404)	10	$ -
13	Inventory	$ -	$ -		$ -
14	**Total Rate Base**	$ 1,073,266	$ (470,025)		$ 603,241

References:
Column [A], Company Schedule B-1, Page 1
Column [B]: Schedule CSB-4
Column [C]: Column [A] + Column [B]

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Surrebuttal Schedule CSB-4

SUMMARY OF RATE BASE ADJUSTMENTS

LINE NO.	PLANT IN SERVICE Acct. No. - I Plant Description	[A] COMPANY AS FILED	[B] Adj No.1 Excess Capacity Plant Ref: Sch CSB-5	[C] ADJ No. 2 Not Used and Useful Plant Ref: Sch CSB-6	[D] ADJ No. 3 Pressure Tank Reclassification Ref: Sch CSB-7	[E] ADJ No. 4 Allocated Vehicle Cost Ref: Sch CSB-8	[F] ADJ No. 5 Accumulated Depreciation Ref: Sch CSB-9	[G] ADJ No. 6 AIAC Ref: Sch CSB-10	[H] ADJ No. 7 CIAC Ref: Sch CSB-11	[I] ADJ No. 8 Amortization of CIAC Ref: Sch CSB-12	[J] ADJ No. 9 Customer Deposits Ref: Sch CSB-13	[K] ADJ No. 10 Working Capital Prepayments Ref: Sch CSB-14	STAFF AS ADJUSTED
1	302 Franchises	$ 700	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 700
2	303 Land and Land Rights	62,540	(36,000)	(1,021)	-	-	-	-	-	-	-	-	25,519
3	304 Structures and Improvements	22,078	-	-	-	-	-	-	-	-	-	-	22,078
4	307 Wells and Springs	1,674,835	(268,821)	(17,028)	-	-	-	-	-	-	-	-	1,388,986
5	309 Supply Mains	-	-	-	-	-	-	-	-	-	-	-	-
6	310 Power Generation Equipment	-	-	-	-	-	-	-	-	-	-	-	-
7	311 Pumping Equipment	873,230	(154,629)	(15,804)	-	-	-	-	-	-	-	-	702,797
8	320 Water Treatment Equipment	-	-	-	-	-	-	-	-	-	-	-	-
9	330 Distribution Reservoirs and Standpipes	623,334	-	-	(1,032)	-	-	-	-	-	-	-	622,302
10	330.2 Pressure Tanks	-	-	-	1,032	-	-	-	-	-	-	-	1,032
11	331 Transmission and Distribution Mains	1,160,777	-	-	-	-	-	-	-	-	-	-	1,160,777
12	333 Services	526,754	-	-	-	-	-	-	-	-	-	-	526,754
13	334 Meters and Meter Installations	113,643	-	-	-	-	-	-	-	-	-	-	113,643
14	335 Hydrants	105,490	-	-	-	-	-	-	-	-	-	-	105,490
15	336 Backflow Prevention Devices	-	-	-	-	-	-	-	-	-	-	-	-
16	339 Other Plant and Miscellaneous Equipment	2,902	-	-	-	-	-	-	-	-	-	-	2,902
17	340 Office Furniture and Equipment	8,901	-	-	-	-	-	-	-	-	-	-	8,901
18	340.1 Computers and Software	8,967	-	-	-	-	-	-	-	-	-	-	8,967
19	341 Transportation Equipment	72,235	-	-	-	-	-	-	-	-	-	-	51,985
20	343 Tools, Shop, and Garage Equipment	1,932	-	-	-	(20,250)	-	-	-	-	-	-	1,932
21	344 Laboratory Equipment	-	-	-	-	-	-	-	-	-	-	-	-
22	345 Power Operated Equipment	-	-	-	-	-	-	-	-	-	-	-	-
23	346 Communication Equipment	1,494	-	-	-	-	-	-	-	-	-	-	1,494
24	347 Miscellaneous Equipment	-	-	-	-	-	-	-	-	-	-	-	-
25	348 Other Tangible Equipment	1,253	-	-	-	-	-	-	-	-	-	-	1,253
26	Rounding	-	-	-	-	-	-	-	-	-	-	-	-
27	Total Plant in Service	$ 5,261,065	$ (459,450)	$ (33,853)	$ -	$ (20,250)	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,747,512
28	Less: Accumulated Depreciation	$ 1,835,897	$ -	$ -	$ -	$ -	$ (24,800)	$ -	$ -	$ -	$ -	$ -	$ 1,811,097
29	Net Plant in Service	$ 3,425,168	$ (459,450)	$ (33,853)	$ -	$ (20,250)	$ 24,800	$ -	$ -	$ -	$ -	$ -	$ 2,936,415
30	*LESS:*												
31	Advances in Aid of Construction (AIAC)	$ 1,633,387	$ -	$ -	$ -	$ -	$ -	$ (158,487)	$ -	$ -	$ -	$ -	$ 1,474,900
32	Meter Deposits - Service Line & Meter Advances	$ -	-	-	-	-	-	-	-	-	-	-	-
33	Contributions in Aid of Construction (CIAC)	$ 982,352	-	-	-	-	-	-	158,487	-	-	-	1,140,839
34	Less: Accumulated Amortization of CIAC	$ 260,433	-	-	-	-	-	-	-	127,537	-	-	387,970
35	Net CIAC	$ 721,919	$ -	$ -	$ -	$ -	$ -	$ -	$ 158,487	$ (127,537)	$ -	$ -	$ 752,869
36	Total Advances and Net Contributions	$ 2,355,306	$ -	$ -	$ -	$ -	$ -	$ (158,487)	$ 158,487	$ (127,537)	$ -	$ -	$ 2,227,769
37	Customer Deposits	$ -	-	-	-	-	-	-	-	-	105,405	-	$ 105,405
38	Accumulated Deferred Taxes	$ -	-	-	-	-	-	-	-	-	-	-	$ -
39	*ADD: Working Capital*												
40	Prepayments	$ 3,404	-	-	-	-	-	-	-	-	-	(3,404)	$ -
41		$ -	-	-	-	-	-	-	-	-	-	-	$ -
42	**Total Rate Base**	$ 1,073,266	$ (459,450)	$ (33,853)	$ -	$ (20,250)	$ 24,800	$ 158,487	$ (158,487)	$ 127,537	$ (105,405)	$ (3,404)	$ 603,241

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Surrebuttal Schedule CSB-5

RATE BASE ADJUSTMENT NO. 1 - EXCESS CAPACITY PLANT COSTS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Acct. No. 303 -Land and Land Rights	$ 62,540	$ (36,000)	$ 26,540
2	Acct. No. 307 -Wells and Springs	$ 1,674,835	$ (268,821)	$ 1,406,014
3	Acct. No. 311 - Pumping Equipment	$ 873,230	$ (154,629)	$ 718,601
4	Total Acct. No. 380 -Treatment & Disposal Equip	**$ 2,610,605**	**$ (459,450)**	**$ 2,151,155**
5				
6				

	Year Added	Account No.	Account Description	Amount
7				
8				
9	2010	303	Land & Land Rights (Well No. 8)	$ 36,000
10	2011	307	Wells & Springs (Well No. 8)	$ 268,821
11	2011	311	Pumping Equipment (Well No. 8)	$ 154,629
12			**Total**	**$ 459,450**

References:

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

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Surrebuttal Schedule CSB-6

RATE BASE ADJUSTMENT NO. 2 - NOT USED AND USEFUL PLANT COSTS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Acct No. 303 - Land & Land Rights	$ 62,540	$ (1,021)	$ 61,519
2	Acct No. 307 - Wells & Springs	$ 1,674,835	$ (17,028)	$ 1,657,807
3	Acct No. 311 - Pumping Equipment	$ 873,230	$ (15,804)	$ 857,426
4	**Total**	$ 2,610,605	$ (33,853)	$ 2,576,752
5				
6				
7				
8				

9	Year Added	Account No.	Account Description	Amount
10				
11	2005	303	Land & Land Rights (Well No.1)	$ 1,021
12	2005	307	Wells & Springs (Well No. 1)	$ 950
13	2005	307	Wells & Springs (Well No. 1)	$ 850
14	2005	307	Wells & Springs (Well No. 2C)	$ 350
15	2005	307	Wells & Springs (Well No. 2C)	$ 600
16	2005	307	Wells & Springs (Well No. 2C)	$ 1,032
17	2005	307	Wells & Springs (Well No. 2C)	$ 4,750
18	2005	307	Wells & Springs (Well No. 2C)	$ 4,178
19	2005	307	Wells & Springs (Well No. 2C)	$ 3,593
20	2005	307	Wells & Springs (Well No. 2C)	$ 725
21	2005	311	Pumping Equip (Well No. 2C)	$ 13,324
22	2005	311	Pumping Equip (Well No. 2C)	$ 2,480
23				$ 33,853

References:

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

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Surrebuttal Schedule CSB-7

RATE BASE ADJUSTMENT NO. 3 - PRESSURE TANK RECLASSIFICATION

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Acct No. 307 - Wells & Springs	$ 1,674,835	(1,032)	1,673,803
2	Acct No. 330.2 - Pressure Tanks.	-	1,032	1,032
3	**Plant Total**	$ 1,674,835	$ -	$ 1,674,835

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

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Surrebuttal Schedule CSB-8

RATE BASE ADJUSTMENT NO. 4 - ALLOCATED VEHICLE COST

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Acct No. 341 - Transportation Equipment	$ 72,235	(20,250)	51,985
2				
3				
4				
5	Cost of Lexus SUV		$ 27,000	
6	Percentage Allocated to Owners/Affiliates		75%	
7	Staff's Adjustment		20,250	

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

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Surrebuttal Schedule CSB-9

RATE BASE ADJUSTMENT NO. 5 - ACCUMULATED DEPRECIATION

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Accumulated Depreciation	$ 1,835,897	$ -	$ 1,835,897
2	Excess Capacity Plant	$ -	$ (10,586)	$ (10,586)
3	Not Used & Useful Plant	$ -	$ (10,670)	$ (10,670)
4	Allocated Vehicle Costs	$ -	$ (3,544)	$ (3,544)
5		$ 1,835,897	$ (24,800)	$ 1,811,097
6				
7				
8				

ACCUMULATED DEPRECIATION RELATED TO EXCESS CAPACITY PLANT COSTS

Reference Schedule	Year Placed In Service	Acct No.	Description	Plant Cost	Number of Interim Years	Depreciation Rate	Accumulated Depreciation
CSB-5	2011	307	Wells & Springs (Well No. 8)	$ 268,821	0.5	5.00%	$6,720.53
CSB-5	2011	311	Pumping Equipment (Well No. 8)	$ 154,629	0.5	5.00%	$3,865.73
				$ 423,450			$10,586.25

ACCUMULATED DEPRECIATION RELATED TO NOT USED AND USEFUL PLANT

Reference Schedule	Year Placed In Service	Acct No.	Description	Plant Cost	Number of Interim Years	Depreciation Rate	Accumulated Depreciation
CSB-6	2005	307	Wells & Springs (Well No. 1)	$ 950	6.5	5.00%	$308.75
CSB-6	2005	307	Wells & Springs (Well No. 1)	$ 850	6.5	5.00%	$276.25
CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 350	6.5	5.00%	$113.75
CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 600	6.5	5.00%	$195.00
CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 1,032	6.5	5.00%	$335.39
CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 4,750	6.5	5.00%	$1,543.75
CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 4,178	6.5	5.00%	$1,357.85
CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 3,593	6.5	5.00%	$1,167.65
CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 725	6.5	5.00%	$235.63
CSB-6	2005	311	Pumping Equip (Well No. 2C)	$ 13,324	6.5	5.00%	$4,330.38
CSB-6	2005	311	Pumping Equip (Well No. 2C)	$ 2,480	6.5	5.00%	$806.00
				$ 32,832			$10,670.40

ACCUMULATED DEPRECIATION RELATED TO VEHICLE ALLOCATION

Reference Schedule	Year Placed In Service	Acct No.	Description	Plant Cost	Number of Interim Years	Depreciation Rate	Accumulated Depreciation
CSB-7	2008	341	Transportation Equipment	$ 20,250	3.5	5.00%	$3,543.75

References:

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

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Surrebuttal Schedule CSB-10

RATE BASE ADJUSTMENT NO. 6 - ADVANCES IN AID OF CONSTRUCTION ("AIAC")

LINE NO.	DESCRIPTION	[A] PER COMPANY	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	AIAC - Main Line Extension Contracts	$ 1,633,387	$ (158,487)	$ 1,474,900
2				
3				
4				
5				
6		Date		Amount
7	CSB 2-11	12/31/1997 Ending Balance		$ 185,833
8	CSB 2-11	1998 Net AIAC Additions		$ 22,360
9	CSB 2-11	1999 Net AIAC Additions		$ (284)
10	CSB 2-11	2000 Net AIAC Additions		$ 38,729
11	CSB 2-11	2001 Net AIAC Additions		$ 37,055
12		**Total AIAC That Was Not Fully Refunded After Ten Years**		**$ 283,693**
13				
14	CSB 2-11	2002 Transfer to CIAC - Per Co.		$ 31,060
15	CSB 2-11	2003 Transfer to CIAC - Per Co.		$ 700
16	CSB 2-11	2008 Transfer to CIAC - Per Co.		$ 68,430
17	CSB 2-11	2010 Transfer to CIAC - Per Co.		$ 25,016
18		**Total Transfers to CIAC - Per Company**		**$ 125,206**
19				
20			**Difference**	**$ 158,487**

References:

Column A: Company Schedule B-1
Column B: Testimony, CSB; Data Request Response CSB 2-11
Column C: Column [A] + Column [B]

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Surrebuttal Schedule CSB-11

RATE BASE ADJUSTMENT NO. 7 -CONTRIBUTIONS IN AID OF CONSTRUCTION ("CIAC")

		[A]	[B]	[C]
LINE NO.	**DESCRIPTION**	**COMPANY AS FILED**	**STAFF ADJUSTMENTS**	**STAFF AS ADJUSTED**
1	Gross CIAC	$ 982,352	$ 158,487	$ 1,140,839

References:

Column A: Company Schedule B-2
Column B: Testimony, CSB; Data Request Response CSB 2-11 and Sch CSB-10
Column C: Column [A] + Column [B]

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Surrebuttal Schedule CSB-12

RATE BASE ADJUSTMENT NO. 8 - AMORTIZATION OF CONTRIBUTIONS IN AID OF CONSTRUCTION ("CIAC")

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Amortization of CIAC	$ 260,433	$127,537	$ 387,970
2				
3				
4				

CALCULATION OF AMORTIZATION OF CIAL

	Reference Schedule		AIAC	Year Transferred To CIAC	Number of Interim Years	Depreciation Rate	Amortization of CIAC
8	CSB-5	12/31/1997 Ending AIAC Balance	$ 185,833	2007	10	5.00%	$92,916.50
9	CSB-5	1998 Net CIAC Additions	$ 22,360	2008	9	5.00%	$10,062.00
10	CSB-5	1999 Net CIAC Additions	$ (284)	2009	8	5.00%	($113.60)
11	CSB-5	2000 Net CIAC Additions	$ 38,729	2010	7	5.00%	$13,555.15
12	CSB-5	2000 Net CIAC Additions	$ 37,055	2011	6	5.00%	$11,116.50
13			$ 283,693				$127,536.55

References:

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

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Surrebuttal Schedule CSB-13

RATE BASE ADJUSTMENT NO. 9 - CUSTOMER DEPOSITS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Customer Deposits	$ -	$ 105,405	$ 105,405
2				
3				Test Year
4				Customer Deposits
5				$ 100,696
6				$ 103,158
7				$ 105,443
8				$ 108,028
9				$ 108,636
10				$ 106,615
11				$ 107,823
12				$ 108,938
13				$ 109,474
14				$ 109,849
15				$ 110,119
16				$ 86,080
17				$ 1,264,859
18			Divided by	12 Months
19				$ 105,404.92

References:

Column A: Company Schedule B-2

Column B: Testimony, CSB; Data Request Response CSB 2-12

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

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Surrebuttal Schedule CSB-14

RATE BASE ADJUSTMENT NO. 10 - WORKING CAPITAL, PREPAYMENTS

		[A]	[B]	[C]
LINE NO.	**DESCRIPTION**	**PER COMPANY**	**ADJUSTMENT**	**PER STAFF**
1	Prepayments	$ 3,404	$ (3,404)	$ -

References:

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

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Surrebuttal Schedule CSB-15

OPERATING INCOME - TEST YEAR AND STAFF RECOMMENDED

LINE NO.	DESCRIPTION	[A] COMPANY TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	ADJ NO.	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF PROPOSED CHANGES	[E] STAFF RECOMMENDED
	REVENUES:						
1	Metered Water Sales	$ 558,323			$ 558,323	$ 149,476	$ 707,799
2	Water Sales - Unmetered	-	-		-		-
3	Other Operating Revenues	17,943	4,548	1	22,491	3,750	26,241
4	**Total Revenues**	$ 576,266	$ 4,548		$ 580,814	$ 153,226	$ 734,040
5							
6	*EXPENSES:*						
7	Salaries and Wages	$ 226,744	$ (30,259)	2	$ 196,485	$ -	$ 196,485
8	Employee Pensions & Benefits	9,070	$ (4,520)	3	4,550	-	4,550
9	Purchased Power	106,874	$ (24,863)	4	82,011	-	82,011
10	Fuel for Power Production	-	$ -		-	-	-
11	Chemicals	-	$ -		-	-	-
12	Materials & Supplies	2,347	$ -		2,347	-	2,347
13	Office Supplies & Expense	22,190	$ -		22,190	-	22,190
14	Contractual Services - Billing	69,767	$ -		69,767	-	69,767
15	Contractual Services - Professional	17,001	$ -		17,001	-	17,001
16	Contractual Services - Testing	5,650	$ 965	5	6,615	-	6,615
17	Contractual Services - Other	10,913	$ -		10,913	-	10,913
18	Equipment Rental	-	$ -		-	-	-
19	Rents	22,000	$ (2,200)	6	19,800	-	19,800
20	Transportation Expenses	13,316	$ (4,110)	7	9,206	-	9,206
21	Insurance - General Liability	10,590	$ -		10,590	-	10,590
22	Insurance - Health and Life	-	$ -		-	-	-
23	Reg. Comm. Exp.	-	$ -		-	-	-
24	Reg. Comm. Exp. - Rate Case	10,000	$ -		10,000	-	10,000
25	Miscellaneous Expense	9,662	$ -		9,662	-	9,662
26	Bad Debt Expense	295	$ -		295	-	295
27	Depreciation Expense	180,559	$ (50,959)	8	129,600	-	129,600
28	Taxes Other Than Income	18,646	$ (1,533)	9	17,113	-	17,113
29	Property Taxes	30,589	$ 1,782	10	32,371	2,845	35,216
30	Income Taxes	(69,820)	$ 52,025	11	(17,795)	35,454	17,660
31	Interest Expense - Customer Deposits	5,713	$ -		5,713		5,713
32	***Total Operating Expenses***	$ 702,106	$ (63,673)		$ 638,433	$ 38,299	$ 676,732
33							
34	**Operating Income (Loss)**	$ (125,840)	$ 68,221		$ (57,619)	$ 111,177	$ 57,308

References:
Column (A): Company Schedule C-1
Column (B): Schedule CSB-16
Column (C): Column (A) + Column (B)
Column (D): Schedules CSB-1 and CSB-2
Column (E): Column (C) + Column (D)

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SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJ #1 Other Operating Revenues Ref: Sch CSB-17	[C] ADJ #2 Salaries and Wages Ref: Sch CSB-18	[D] ADJ #3 Employee Pensions & Benefits Ref: Sch CSB-19	[E] ADJ #4 Purchased Power Ref: Sch CSB-20	[F] ADJ #5 Contractual Services Water Testing Ref: Sch CSB-21	[G] ADJ #6 Rents Expense Ref: Sch CSB-22	[H] Subtotal
	REVENUES:								
1	Metered Water Sales	$ 558,323	$ -	$ -	$ -	$ -	$ -	$ -	$ 558,323
2	Water Sales - Unmetered	-	-	-	-	-	-	-	-
3	Other Operating Revenues	17,943	4,548	-	-	-	-	-	22,491
4	**Total Revenues**	$ 576,266	$ 4,548	$ -	$ -	$ -	$ -	$ -	$ 580,814
5									
6	*OPERATING EXPENSES:*								
7	Salaries and Wages	$ 226,744	-	(30,259)	-	-	-	-	$ 196,485
8	Employee Pensions & Benefits	9,070	-	-	(4,520)	-	-	-	4,550
9	Purchased Power	106,874	-	-	-	(24,863)	-	-	82,011
10	Fuel for Power Production	-	-	-	-	-	-	-	-
11	Chemicals	-	-	-	-	-	-	-	-
12	Materials & Supplies	2,347	-	-	-	-	-	-	2,347
13	Office Supplies & Expense	22,190	-	-	-	-	-	-	22,190
14	Contractual Services - Billing	69,767	-	-	-	-	-	-	69,767
15	Contractual Services - Professional	17,001	-	-	-	-	-	-	17,001
16	Contractual Services - Testing	5,650	-	-	-	-	965	-	6,615
17	Contractual Services - Other	10,913	-	-	-	-	-	-	10,913
18	Equipment Rental	-	-	-	-	-	-	-	-
19	Rents	22,000	-	-	-	-	-	(2,200)	19,800
20	Transportation Expenses	13,316	-	-	-	-	-	-	13,316
21	Insurance - General Liability	10,590	-	-	-	-	-	-	10,590
22	Insurance - Health and Life	-	-	-	-	-	-	-	-
23	Reg. Comm. Exp.	-	-	-	-	-	-	-	-
24	Reg. Comm. Exp. - Rate Case	10,000	-	-	-	-	-	-	10,000
25	Miscellaneous Expense	9,662	-	-	-	-	-	-	9,662
26	Bad Debt Expense	295	-	-	-	-	-	-	295
27	Depreciation Expense	180,559	-	-	-	-	-	-	180,559
28	Taxes Other Than Income	18,646	-	-	-	-	-	-	18,646
29	Property Taxes	30,589	-	-	-	-	-	-	30,589
30	Income Taxes	(69,820)	-	-	-	-	-	-	(69,820)
31	Interest Expense - Customer Deposits	5,713	-	-	-	-	-	-	5,713
32	**Total Operating Expenses**	$ 702,106	$ -	$ (30,259)	$ (4,520)	$ (24,863)	$ 965	$ (2,200)	$ 641,228
33									
34	**Operating Income (Loss)**	$ (125,840)	$ 4,548	$ 30,259	$ 4,520	$ 24,863	$ (965)	$ 2,200	$ (60,414)

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SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR CONTINUED

LINE NO.	DESCRIPTION	[I] ADJ #7 Transportation Expense Ref: Sch CSB-23	[J] ADJ #8 Depreciation Expense Ref: Sch CSB-24	[K] ADJ #9 Taxes Other Than Income Ref: Sch CSB-25	[L] ADJ #10 Property Tax Expense Ref: Sch CSB-26	[M] ADJ #11 Income Tax Expense Ref: Sch CSB-27	[N] STAFF ADJUSTED
	REVENUES:						
1	Metered Water Sales	$ -	$ -	$ -	$ -	$ -	$ 558,323
2	Water Sales - Unmetered	-	-	-	-	-	-
3	Other Operating Revenues	-	-	-	-	-	22,491
4	**Total Revenues**	$ -	$ -	$ -	$ -	$ -	$ 580,814
5							
6	*OPERATING EXPENSES:*						
7	Salaries and Wages	-	-	-	-	-	196,485
8	Employee Pensions & Benefits	-	-	-	-	-	4,550
9	Purchased Power	-	-	-	-	-	82,011
10	Fuel for Power Production	-	-	-	-	-	-
11	Chemicals	-	-	-	-	-	-
12	Materials & Supplies	-	-	-	-	-	2,347
13	Office Supplies & Expense	-	-	-	-	-	22,190
14	Contractual Services - Billing	-	-	-	-	-	69,767
15	Contractual Services - Professional	-	-	-	-	-	17,001
16	Contractual Services - Testing	-	-	-	-	-	6,615
17	Contractual Services - Other	-	-	-	-	-	10,913
18	Equipment Rental	-	-	-	-	-	-
19	Rents	-	-	-	-	-	19,800
20	Transportation Expenses	(4,110)	-	-	-	-	9,206
21	Insurance - General Liability	-	-	-	-	-	10,590
22	Insurance - Health and Life	-	-	-	-	-	-
23	Reg. Comm. Exp.	-	-	-	-	-	-
24	Reg. Comm. Exp. - Rate Case	-	-	-	-	-	10,000
25	Miscellaneous Expense	-	-	-	-	-	9,662
26	Bad Debt Expense	-	-	-	-	-	295
27	Depreciation Expense	-	(50,959)	-	-	-	129,600
28	Taxes Other Than Income	-	-	(1,533)	-	-	17,113
29	Property Taxes	-	-	-	1,782	-	32,371
30	Income Taxes	-	-	-	-	52,025	(17,795)
31	Interest Expense - Customer Deposits	-	-	-	-	-	5,713
32	**Total Operating Expenses**	$ (4,110)	$ (50,959)	$ (1,533)	$ 1,782	$ 52,025	$ 638,433
33							
34	**Operating Income (Loss)**	$ 4,110	$ 50,959	$ 1,533	$ (1,782)	$ (52,025)	$ (57,619)

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Surrebuttal Schedule CSB-17

OPERATING INCOME ADJUSTMENT NO. 1 - OTHER OPERATING REVENUE

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	Other Revenue	$ 17,943	$ 4,548	$ 22,491

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

Ray Water Company
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Surrebuttal Schedule CSB-18

OPERATING INCOME ADJUSTMENT NO. 2 - SALARIES AND WAGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	Rhonda Rosenbaum, Vice President	$ 80,000	$ (8,000)	$ 72,000
2	Joseph Rosenbaum, Vice President	$ 80,000	$ (8,926)	$ 71,074
3	Doreen Mallis, Company President	$ 20,000	$ (13,333)	$ 6,667
4	Dave Rader, Operations Manager	$ 46,744	$ -	$ 46,744
5		$ 226,744	**$ (30,259)**	**$ 196,485**
6				
7				
8				Rhonda Rosenbaum, Vice President
9				
10			2011 Salary	$ 80,000
11			Percentage Allocated to Affiliate Business	10%
12			Staff's Adjustment	8,000
13				
14				Joseph Rosenbaum, Vice President
15				
16				
17			Contracting With Professionals, Service Providers, & Suppliers	- Not Broken Out Separately
18			Personnel Decisions	- Not Broken Out Separately
19			Bidding Decisions	- Not Broken Out Separately
20			Total	120 Avg Hours Per Month
21				x 12 Months
22			**Subtotal**	**1,440 Avg Hours Per Year**
23				
24			Oversight of Professional Accountants and Attorneys	- Not Broken Out Separately
25			Banking and Financing	- Not Broken Out Separately
26			Regulatory Compliance	- Not Broken Out Separately
27			Tax Matters	- Not Broken Out Separately
28			Correspondence With Customers and The Business Community	- Not Broken Out Separately
29			Corporate Matters	- Not Broken Out Separately
30			**Subtotal**	**288 Avg Hours Per Year**
31				
32			Land Use and Rights of Way	- Not Broken Out Separately
33			Line Extension Agreements	- Not Broken Out Separately
34			CAGRD Compliance	- Not Broken Out Separately
35			**Subtotal**	**120 Avg Hours Per Year**
36				
37			**TOTAL**	**1,848 Avg Hours Per Year**
38				x $38.46 ($80,000 / 2,080)
39				**$ 71,074 Salary - Per Staff**
40				$ 80,000 Salary - Per Company
41				$ (8,926) Staff's Adjustment
42				
43				
44				Doreen Mallis President
45				
46				
47			2010	$ - Company Sch E-2
48			2011	$ 20,000 Company Sch E-2
49			2012	$ - Company Sch E-2
50				$ 20,000
51			Divided by 3	3 Years
52				**$ 6,667 Salary - Per Staff**
53				$ 20,000 Salary - Per Company
54				$ (13,333) Staff's Adjustment

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

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Surrebuttal Schedule CSB-19

OPERATING INCOME ADJUSTMENT NO. 3 - EMPLOYEE PENSIONS AND BENEFITS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	Employee Pensions & Benefits	$ 9,070	$ (4,520)	$ 4,550
2				
3				
4				
5			Employee Pensions & Benefits	
6				
7				
8		2009	$ 4,585	Company Sch E-2
9		2010	$ 9,064	Company Sch E-2
10		2011	$ -	Company Sch E-2
11			$ 13,649	
12		Divided by 3	3	Years
13			$ 4,550	

References:

Column A: Company Schedule C-2

Column B: Testimony, CSB; Company Data Request Responses to CSB 2-26

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

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Surrebuttal Schedule CSB-20

OPERATING INCOME ADJUSTMENT NO. 4 - PURCHASED POWER

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	2011 Actual Purchased Power Expense	$ 82,011	$ -	$ 82,011
2	*Company Pro forma Adjustment*	24,863	(24,863)	-
3	Total Purchased Power Expense	$ 106,874	$ (24,863)	$ 82,011
4				
5				
6				

References:

Column A: Company Schedule C-2

Column B: Testimony, CSB

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

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Surrebuttal Schedule CSB-21

OPERATING INCOME ADJUSTMENT NO. 5 - CONTRACT SRVCS., WATER TESTING EXPENSE

		[A]	[B]	[C]
LINE NO.	**DESCRIPTION**	**COMPANY AS FILED**	**STAFF ADJUSTMENTS**	**STAFF AS ADJUSTED**
1	Contractual Services - Testing	$ 5,650	$ 965	$ 6,615

References:

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

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Surreabuttal Schedule CSB-22

OPERATING INCOME ADJUSTMENT NO. 6 - RENTS EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Rents Expense	$ 22,000	$ (2,200)	$ 19,800

	Rents Expense	
2011 Rents Expense	$ 22,000	CSB 2-16
Percentage Allocated to Affiliate Business	10%	CSB 2-16
Staff's Adjustment	2,200	

References:

Column A: Company Schedule C-1 & E-2
Column B: Testimony, CSB; Data Request CSB 2-16
Column C: Column [A] + Column [B]

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Surrebuttal Schedule CSB-23

OPERATING INCOME ADJUSTMENT NO. 7 - TRANSPORTATION EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Transportation Expense	$ 5,777	$ -	$ 5,777
2	Gasoline Expenses - Shell	3,543	(1,329)	2,214
3	Repair and Maintenance Expenses	3,996	(2,781)	1,215
		$ 13,316	$ (4,110)	$ 9,206

	Shell Gasoline Purchases	
1/14/2011	$ 346.09	CSB 2-33
2/18/2011	$ 227.51	CSB 2-33
3/18/2011	$ 270.06	CSB 2-33
4/14/2011	$ 198.02	CSB 2-33
5/18/2011	$ 336.25	CSB 2-33
6/14/2011	$ 226.66	CSB 2-33
7/16/2011	$ 295.35	CSB 2-33
8/22/2011	$ 97.00	CSB 2-33
9/17/2011	$ 436.93	CSB 2-33
10/24/2011	$ 370.97	CSB 2-33
11/15/2011	$ 418.48	CSB 2-33
12/19/2011	$ 319.79	CSB 2-33
	$ 3,543	Total Shell Gas Purchases
Divided by 2	2	Vehicles (Toyota & Lexus)
	$ 1,772	
	x 75%	Allocated to Owner/Affiliates
	$ 1,329	Amount Disallowed
	$ 3,543	Total Shell Gas Purchases
	$ (1,329)	Amount Disallowed
	$ 2,214	Staff as Adjusted

Date	Description	Repair & Maint Expenses	
4/4/2011	Lexus SUV - 1 Tire	$ 138	CSB 2-33
5/16/2011	4 Tires - Ford F250	$ 893	CSB 2-33
7/5/2011	Lexus SUV Brake Pads/Maint	$ 820	CSB 2-33
11/18/2011	Lexus SUV - Radiator	$ 1,124	CSB 2-33
12/30/2011	Lexus SUV - 3 Tire	$ 807	CSB 2-33
		$ 3,644	
	Divided by 3	3	Years
		$ 1,215	Normalized Costs

References:

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

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Surrebuttal Schedule CSB-24

OPERATING INCOME ADJUSTMENT NO. 8 - DEPRECIATION EXPENSE ON TEST YEAR PLANT

LINE NO.		DESCRIPTION	[A] PLANT In SERVICE Per Staff	[B] NonDepreciable or Fully Depreciated PLANT	Ref	[C] DEPRECIABLE PLANT (Col A - Col B)	[D] DEPRECIATION RATE	[E] DEPRECIATION EXPENSE (Col C x Col D)
1	302	Franchises	$ 700	$ (700)	1	$ -	0.00%	$ -
2	303	Land and Land Rights	25,519	(26,540)	1	(1,021)	0.00%	
3	304	Structures and Improvements	22,078	(13,781)	2	8,297	3.33%	276
4	306	Lake, River, and Other Intakes	-	-		-	2.50%	-
5	307	Wells and Springs	1,388,986	(181,238)	2	1,207,748	3.33%	40,218
6	309	Supply Mains	-	-		-	2.00%	-
7	310	Power Generation Equipment	-	-		-	5.00%	-
8	311	Pumping Equipment	702,797	-		702,797	12.50%	87,850
9	320	Water Treatment Equipment	-	-		-	3.33%	-
10	330	Distribution Reservoirs and Standpipes	622,302	(106,345)	2	515,957	2.22%	11,454
11	330.2	Pressure Tanks	1,032	-		1,032	5.00%	52
12	331	Transmission and Distribution Mains	1,160,777	(579,693)	2	581,084	2.00%	11,622
13	333	Services	526,754	-		526,754	3.33%	17,541
14	334	Meters and Meter Installations	113,643	(90,046)	2	23,597	8.33%	1,966
15	335	Hydrants	105,490	-		105,490	2.00%	2,110
16	336	Backflow Prevention Devices	-	-		-	6.67%	-
17	339	Other Plant and Miscellaneous Equipment	2,902	-		2,902	6.67%	194
18	340	Office Furniture and Equipment	8,901	-		8,901	6.67%	594
19	341	Transportation Equipment	51,985	-		51,985	20.00%	10,397
20	340.1	Computers and Software	8,967	-		8,967	20.00%	1,793
21	343	Tools, Shop, and Garage Equipment	1,932	-		1,932	5.00%	97
22	344	Laboratory Equipment	-	-		-	10.00%	-
23	345	Power Operated Equipment	-	-		-	5.00%	-
24	346	Communication Equipment	1,494	-		1,494	10.00%	149
25	347	Miscellaneous Equipment	-	-		-	10.00%	-
26	348	Other Tangible Equipment	1,253	(1,253)	2	-	10.00%	-
27		Total Plant	$ 4,747,512	$ (999,596)		$ 3,747,916		$ 186,311
28								
29								
30								
31		Composite Depreciation Rate (Depr Exp / Depreciable Plant):	4.97%					
32		CIAC:	$ 1,140,839					
33		Amortization of CIAC (Line 31 x Line 32):	$ 56,712					
34								
35		Depreciation Expense Before Amortization of CIAC:	$ 186,311					
36		Less Amortization of CIAC:	$ 56,712					
37		Test Year Depreciation Expense - Staff:	$ 129,600					
38		Depreciation Expense - Company:	180,559					
39		**Staff's Total Adjustment:**	**$ (50,959)**					

References:
[1] Nondepreciable Plant
[2] Fully Depreciated Plant

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

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Surrebuttal Schedule CSB-25

OPERATING INCOME ADJUSTMENT NO. 9 - TAXES OTHER THAN INCOME

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Taxes Other Than Income	$ 18,646	$ (1,533)	$ 17,113
2				
3				
4			Taxes	
5			Other Than	
6			Income	
7	2011 Taxes Other Than Income		$ 18,646	
8	Percentage Allocated to Affiliate Business/Owners		8.22%	($226,744 / $18,646)
9	Staff's Adjustment		1,533	

References:

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

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Surrebuttal Schedule CSB-26

OPERATING INCOME ADJUSTMENT NO. 10 - PROPERTY TAX EXPENSE

LINE NO.	Property Tax Calculation	[A] STAFF AS ADJUSTED	[B] STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues	$ 580,814	$ 580,814
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	1,161,628	$ 1,161,628
4	Staff Recommended Revenue, Per Schedule CSB-1	580,814	$ 734,040
5	Subtotal (Line 4 + Line 5)	1,742,442	1,895,668
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	580,814	$ 631,889
8	Department of Revenue Mutilplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	1,161,628	$ 1,263,779
10	Plus: 10% of CWIP -	830	830
11	Less: Net Book Value of Licensed Vehicles	-	$ -
12	Full Cash Value (Line 9 + Line 10 - Line 11)	1,162,458	$ 1,264,609
13	Assessment Ratio	21.0%	21.0%
14	Assessment Value (Line 12 * Line 13)	244,116	$ 265,568
15	Composite Property Tax Rate	13.2606%	13.2606%
			$ -
16	Staff Test Year Adjusted Property Tax (Line 14 * Line 15)	$ 32,371	
17	Company Proposed Property Tax	30,589	
18	Staff Test Year Adjustment (Line 16-Line 17)	$ 1,782	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		$ 35,216
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		$ 32,371
21	Increase in Property Tax Expense Due to Increase in Revenue Requirement		$ 2,845
22	Increase to Property Tax Expense		$ 2,845
23	Increase in Revenue Requirement		153,226
24	Increase to Property Tax per Dollar Increase in Revenue (Line19/Line 20)		1.856484%

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Surrebuttal Schedule CSB-27

OPERATING INCOME ADJUSTMENT NO. 11 - TEST YEAR INCOME TAXES

LINE NO.	DESCRIPTION	(A)	(B)
	Calculation of Income Tax:	Test Year	
1	Revenue	$ 580,814	
2	Less: Operating Expenses - Excluding Income Taxes	$ 656,228	
3	Less: Synchronized Interest (L17)	$ -	
4	Arizona Taxable Income (L1- L2 - L3)	$ (75,414)	
5	Arizona State Income Tax Rate	6.968%	
6	Arizona Income Tax (L4 x L5)		$ (5,255)
7	Federal Taxable Income (L4 - L6)	$ (70,159)	
8	Federal Tax on First Income Bracket ($1 - $50,000) @ 15%	$ (7,500)	
9	Federal Tax on Second Income Bracket ($51,001 - $75,000) @ 25%	$ (5,040)	
10	Federal Tax on Third Income Bracket ($75,001 - $100,000) @ 34%	$ -	
11	Federal Tax on Fourth Income Bracket ($100,001 - $335,000) @ 39%	$ -	
12	Federal Tax on Fifth Income Bracket ($335,001 - $10,000,000) @ 34%	$ -	
13	Total Federal Income Tax		$ (12,540)
14	Combined Federal and State Income Tax (L6 + L13)		$ (17,795)
	Calculation of Interest Synchronization:		
15	Rate Base	$ 603,241	
16	Weighted Average Cost of Debt	0.00%	
17	Synchronized Interest (L16 x L17)	$ -	
18	Income Tax - Per Staff	$ (17,795)	
19	Income Tax - Per Company	$ (69,820)	
20	**Staff Adjustment**	**$ 52,025**	

Monthly Minimum Charge	Present	Company Proposed	Staff Recommended
Meter Size (All Classes):			
5/8 Inch x 3/4 Inch	$ 11.15	$ 15.00	$ 15.00
3/4 Inch	25.00	25.00	26.00
1 Inch	39.00	39.00	40.00
1 1/2 Inch	62.00	75.00	62.00
2 Inch	110.00	120.00	110.00
3 Inch	125.00	240.00	125.00
4 Inch	165.00	375.00	165.00
6 Inch	330.00	750.00	330.00
Gallons Included in Monthly Minimum Charge	0	0	0
Commodity Charge - Per One Thousand Gallons			
All Meter Sizes			
1 gallon to 3,000 gallons	$ 1.55	$ 0.85	N/A
3,001 gallons to 7,000 gallons	$ 1.55	$ 2.25	N/A
7,001 gallons to 25,000 gallons	$ 1.55	$ 3.35	N/A
over 25,000 gallons	$ 1.55	$ 4.64	N/A
1 gallon to 2,000 gallons	$ 1.55	N/A	$ 0.50
2,001 gallons to 7,000 gallons	$ 1.55	N/A	$ 1.25
7,001 gallons to 25,000 gallons	$ 1.55	N/A	$ 2.00
over 25,000 gallons	$ 1.55	N/A	$ 3.24
Standpipe per 1,000 gallons	$ 1.55	$ 4.64	$ 3.24

Miscellaneous Charges	Present	Company Proposed	Staff Recommended
Establishment	$ 25.00	$ 30.00	$ 30.00
Establishment (After Hours)	37.50	Discontinue	Discontinue
Reconnection (Deliquent)	25.00	35.00	35.00
Meter Test (If Correct)	30.00	35.00	30.00
Deposit	*	*	*
Deposit Interest	*	*	*
Reestablishment (Within 12 Months)	**	**	**
NSF Check	15.00	25.00	25.00
Deferred Payment, Per Month	***	***	1.50%
Meter Re-read (If Correct)	15.00	30.00	20.00
Late Payment Fee (Per Month)	***	2.00%	1.50%
After hours service charge (At the Customer's Request)	NT	25.00	25.00

* Per A. A. C. R-14-2-403 (B)
** Number of months off the system times the monthly minimum.
*** 1.50 percent per month of unpaid balance

NT = No Tariff

	Total Present Charge	Company Proposed Service Line Charge	Company Proposed Meter Installation Charge*	Total Company Proposed Charge
Service and Meter Installation Charges				
5/8 x 3/4 Inch	$ 550	$ 445	$ 155	$ 600
3/4 Inch	$ 550	$ 445	$ 255	$ 700
1 Inch	$ 650	$ 495	$ 315	$ 810
1 1/2 Inch	$ 875	$ 550	$ 525	$ 1,075
2 Inch / Turbine	$ 1,400	$ 830	$ 1,045	$ 1,875
2 Inch / Compound	N/A	$ 830	$ 1,890	$ 2,720
3 Inch / Turbine	$ 1,900	$ 1,045	$ 1,670	$ 2,715
3 Inch / Compound	N/A	$ 1,165	$ 2,545	$ 3,710
4 Inch / Turbine	$ 3,200	$ 1,490	$ 2,670	$ 4,160
4 Inch / Compound	N/A	$ 1,670	$ 3,645	$ 5,315
6 Inch / Turbine	$ 5,800	$ 2,210	$ 5,025	$ 7,235
6 Inch / Compound	N/A	$ 2,330	$ 6,920	$ 9,250
Over 6-Inch	N/A	N/A	Actual Cost	Actual Cost

	Total Present Charge	Staff Recommended Service Line Charge	Staff Recommended Meter Installation Charge	Total Staff Recommended Charge
5/8 x 3/4 Inch	$ 550	$ 445	$ 155	$ 600
3/4 Inch	$ 550	$ 445	$ 255	$ 700
1 Inch	$ 650	$ 495	$ 315	$ 810
1 1/2 Inch	$ 875	$ 550	$ 525	$ 1,075
2 Inch / Turbine	$ 1,400	$ 830	$ 1,045	$ 1,875
2 Inch / Compound	N/A	$ 830	$ 1,890	$ 2,720
3 Inch / Turbine	$ 1,900	$ 1,045	$ 1,670	$ 2,715
3 Inch / Compound	N/A	$ 1,165	$ 2,545	$ 3,710
4 Inch / Turbine	$ 3,200	$ 1,490	$ 2,670	$ 4,160
4 Inch / Compound	N/A	$ 1,670	$ 3,645	$ 5,315
6 Inch / Turbine	$ 5,800	$ 2,210	$ 5,025	$ 7,235
6 Inch / Compound	N/A	$ 2,330	$ 6,920	$ 9,250
Over 6-Inch	N/A	Actual Cost	Actual Cost	Actual Cost

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Surrebuttal Schedule CSB-29

TYPICAL BILL ANALYSIS

General Service 5/8 X 3/4 - Inch Meter

Average Number of Customers: 1,453

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	7,832	$23.29	$29.34	$6.05	26.0%
Median Usage	6,467	$21.17	$26.55	$5.38	25.4%
Staff Proposed					
Average Usage	7,832	$23.29	$23.91	$0.62	2.7%
Median Usage	6,467	$21.17	$21.58	$0.41	1.9%

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

Gallons Consumption	Present Rates	Company Proposed Rates	% Increase	Staff Proposed Rates	% Increase
0	$11.15	$15.00	34.5%	$15.00	34.5%
1,000	12.70	15.85	24.8%	15.50	22.0%
2,000	14.25	16.70	17.2%	16.00	12.3%
3,000	15.80	17.55	11.1%	17.25	9.2%
4,000	17.35	19.80	14.1%	18.50	6.6%
5,000	18.90	22.05	16.7%	19.75	4.5%
6,000	20.45	24.30	18.8%	21.00	2.7%
7,000	22.00	26.55	20.7%	22.25	1.1%
8,000	23.55	29.90	27.0%	24.25	3.0%
9,000	25.10	33.25	32.5%	26.25	4.6%
10,000	26.65	36.60	37.3%	28.25	6.0%
15,000	34.40	53.35	55.1%	38.25	11.2%
20,000	42.15	70.10	66.3%	48.25	14.5%
25,000	49.90	86.85	74.0%	58.25	16.7%
50,000	88.65	202.85	128.8%	144.75	63.3%
75,000	127.40	318.85	150.3%	231.25	81.5%
100,000	166.15	434.85	161.7%	317.75	91.2%
125,000	204.90	550.85	168.8%	404.25	97.3%
150,000	243.65	666.85	173.7%	490.75	101.4%
175,000	282.40	782.85	177.2%	577.25	104.4%
200,000	321.15	898.85	179.9%	663.75	106.7%

EXHIBIT
S-5
ADMITTED
ALL-STATE LEGAL®

Ray Water Company
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Revised Surrebuttal Schedule CSB-1

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY ORIGINAL COST	[B] STAFF ORIGINAL COST
1	Adjusted Rate Base	$ 1,073,266	$ 603,241
2	Adjusted Operating Income (Loss)	$ (125,840)	$ (56,708)
3	Current Rate of Return (L2 / L1)	-11.72%	-9.40%
4	Required Rate of Return	10.57%	9.10%
5	Required Operating Income (L4 * L1)	$ 113,393	$ 54,895
6	Operating Income Deficiency (L5 - L2)	$ 239,233	$ 111,603
7	Gross Revenue Conversion Factor	1.56320	1.32946
8	Increase (Decrease) In Gross Revenue (L7 * L6)	$ 373,969	$ 148,371
9	Adjusted Test Year Revenue	$ 576,266	$ 580,814
10	Proposed Annual Revenue (L8 + L9)	$ 950,235	$ 729,185
11	Required Increase/(Decrease in Revenue) (%) (L8/L9)	64.90%	25.55%

References:
Column [A]: Company Schedules A-1
Column [B]: Staff Schedules CSB-2, CSB-3, & CSB-15

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Revised Surrebuttal Schedule CSB-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
	Calculation of Gross Revenue Conversion Factor:				
1	Revenue	100.0000%			
2	Uncollecible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Income Tax and Property Tax Rate (Line 23)	24.7815%			
5	Subtotal (L3 - L4)	75.2185%			
6	**Revenue Conversion Factor (L1 / L5)**	1.329460			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	23.3587%			
9	One Minus Combined Income Tax Rate (L7 - L8)	76.6413%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 * L10)	0.0000%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 53)	17.6183%			
16	Effective Federal Income Tax Rate (L14 x L15)	16.3907%			
17	Combined Federal and State Income Tax Rate (L13 +L16)		23.3587%		
	Calculation of Effective Property Tax Factor				
18	Unity	100.0000%			
19	Combined Federal and State Income Tax Rate (L17)	23.3587%			
20	One Minus Combined Income Tax Rate (L18-L19)	76.6413%			
21	Property Tax Factor	1.8565%			
22	Effective Property Tax Factor (L20*L21)		1.4228%		
23	Combined Federal and State Income Tax and Property Tax Rate (L17+L22)			24.7815%	
24	Required Operating Income	$ 54,895			
25	AdjustedTest Year Operating Income (Loss)	(56,708)			
26	Required Increase in Operating Income (L24 - L25)		$ 111,603		
27	Income Taxes on Recommended Revenue (Col. [C], L52)	$ 15,308			
28	Income Taxes on Test Year Revenue (Col. [A], L52)	(18,706)			
29	Required Increase in Revenue to Provide for Income Taxes (L27 - L28)		34,014		
30	Recommended Revenue Requirement	$ 729,185			
31	Uncollectible Rate (Line 10)	0.0000%			
32	Uncollectible Expense on Recommended Revenue (L30*L31)	$ -			
33	Adjusted Test Year Uncollectible Expense	$ -			
34	Required Increase in Revenue to Provide for Uncollectible Exp. (L32-L33)		-		
35	Property Tax with Recommended Revenue	$ 35,126			
36	Property Tax on Test Year Revenue	32,371			
37	Increase in Property Tax Due to Increase in Revenue (L35-L36)		2,754		
38	Total Required Increase in Revenue (L26 + L29 + L34 + L37)		$ 148,371		

	Calculation of Income Tax:	Test Year		Staff Recommended
39	Revenue	$ 580,814	$ 148,371	$ 729,185
40	Operating Expenses Excluding Income Taxes	$ 656,228	$ 2,754	$ 658,982
41	Synchronized Interest (L56)	$ 3,016		$ 3,016
42	Arizona Taxable Income (L39 - L40 - L41)	$ (78,430)		$ 67,187
43	Arizona State Income Tax Rate	6.9680%		6.9680%
44	Arizona Income Tax (L42 x L43)	$ (5,465)		$ 4,682
45	Federal Taxable Income (L42 - L44)	$ (72,965)		$ 62,505
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%	$ (5,741)		$ 3,126
48	Federal Tax on Third Income Bracket ($75,001 - $100,000) @ 34%	$ -		$ -
49	Federal Tax on Fourth Income Bracket ($100,001 - $335,000) @ 39%	$ -		$ -
50	Federal Tax on Fifth Income Bracket ($335,001 - $10,000,000) @ 34%	$ -		$ -
51	Total Federal Income Tax	$ (13,241)		$ 10,626
52	Combined Federal and State Income Tax (L44 + L51)	$ (18,706)		$ 15,308
53	Applicable Federal Income Tax Rate [Col. [C], L51 - Col. [A], L51] / [Col. [C], L45 - Col. [A], L45]			17.6183%
	Calculation of Interest Synchronization:			
54	Rate Base	$ 603,241		
55	Weighted Average Cost of Debt	0.5000%		
56	Synchronized Interest (L45 X L46)	$ 3,016		

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Revised Surrebuttal Schedule CSB-3

RATE BASE - ORIGINAL COST

LINE NO.		(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	ADJ NO.	(C) STAFF AS ADJUSTED
1	Plant in Service	$ 5,261,065	$ (513,553)	1, 2, 3, 4	$ 4,747,512
2	Less: Accumulated Depreciation	1,835,897	(24,800)	5	1,811,097
3	Net Plant in Service	$ 3,425,168	$ (488,753)		$ 2,936,415
	LESS:				
4	Advances in Aid of Construction (AIAC)	$ 1,633,387	$ (158,487)	6	$ 1,474,900
5	Service Line and Meter Advances	$ -	$ -		$ -
6	Contributions in Aid of Construction (CIAC)	$ 982,352	$ 158,487	7	$ 1,140,839
7	Less: Accumulated Amortization	260,433	127,537	8	387,970
8	Net CIAC	$ 721,919	30,950		$ 752,869
9	Total Advances and Contributions	$ 2,355,306	$ (127,537)		$ 2,227,769
10	Customer Deposits	$ -	$ 105,405	9	$ 105,405
11	Accumulated Deferred Income Taxes	$ -	$ -		$ -
	ADD: Working Capital				
12	Prepayments	$ 3,404	$ (3,404)	10	$ -
13	Inventory	$ -	$ -		$ -
14	**Total Rate Base**	$ 1,073,266	$ (470,025)		$ 603,241

References:
Column [A], Company Schedule B-1, Page 1
Column [B]: Schedule CSB-4
Column [C]: Column [A] + Column [B]

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Revsied Surrebuttal Schedule CSB-4

SUMMARY OF RATE BASE ADJUSTMENTS

LINE NO.	PLANT IN SERVICE Acct. No. - I Plant Description	[A] COMPANY AS FILED	[B] Adj No. 1 Excess Capacity Plant Ref: Sch CSB-5	[C] ADJ No. 2 Not Used and Useful Plant Ref: Sch CSB-6	[D] ADJ No. 3 Pressure Tank Reclassification Ref: Sch CSB-7	[E] ADJ No. 4 Allocated Vehicle Cost Ref: Sch CSB-8	[F] ADJ No. 5 Accumulated Depreciation Ref: Sch CSB-9	[G] ADJ No. 6 AIAC Ref: Sch CSB-10	[H] ADJ No. 7 CIAC Ref: Sch CSB-11	[I] ADJ No. 8 Amortization of CIAC Ref: Sch CSB-12	[J] ADJ No. 9 Customer Deposits Ref: Sch CSB-13	[K] ADJ No. 10 Working Capital Prepayments Ref: Sch CSB-14	STAFF AS ADJUSTED
1													
2	302 Franchises	$ 700	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 700
3	303 Land and Land Rights	62,540	(36,000)	(1,021)	-	-	-	-	-	-	-	-	25,519
4	304 Structures and Improvements	22,078	-	-	-	-	-	-	-	-	-	-	22,078
5	307 Wells and Springs	1,674,835	(268,821)	(17,028)	-	-	-	-	-	-	-	-	1,388,986
6	309 Supply Mains	-	-	-	-	-	-	-	-	-	-	-	-
7	310 Power Generation Equipment	-	-	-	-	-	-	-	-	-	-	-	-
8	311 Pumping Equipment	873,230	(154,629)	(15,804)	-	-	-	-	-	-	-	-	702,797
9	320 Water Treatment Equipment	-	-	-	-	-	-	-	-	-	-	-	-
10	330 Distribution Reservoirs and Standpipes	623,334	-	-	(1,032)	-	-	-	-	-	-	-	622,302
11	330.2 Pressure Tanks	-	-	-	1,032	-	-	-	-	-	-	-	1,032
12	331 Transmission and Distribution Mains	1,160,777	-	-	-	-	-	-	-	-	-	-	1,160,777
13	333 Services	526,754	-	-	-	-	-	-	-	-	-	-	526,754
14	334 Meters and Meter Installations	113,643	-	-	-	-	-	-	-	-	-	-	113,643
15	335 Hydrants	105,490	-	-	-	-	-	-	-	-	-	-	105,490
16	336 Backflow Prevention Devices	-	-	-	-	-	-	-	-	-	-	-	-
17	339 Other Plant and Miscellaneous Equipment	2,902	-	-	-	-	-	-	-	-	-	-	2,902
18	340 Office Furniture and Equipment	8,901	-	-	-	-	-	-	-	-	-	-	8,901
19	340.1 Computers and Software	8,967	-	-	-	-	-	-	-	-	-	-	8,967
20	341 Transportation Equipment	72,235	-	-	-	(20,250)	-	-	-	-	-	-	51,985
21	343 Tools, Shop, and Garage Equipment	1,932	-	-	-	-	-	-	-	-	-	-	1,932
22	344 Laboratory Equipment	-	-	-	-	-	-	-	-	-	-	-	-
23	345 Power Operated Equipment	-	-	-	-	-	-	-	-	-	-	-	-
24	346 Communication Equipment	1,494	-	-	-	-	-	-	-	-	-	-	1,494
25	347 Miscellaneous Equipment	-	-	-	-	-	-	-	-	-	-	-	-
26	348 Other Tangible Equipment	1,253	-	-	-	-	-	-	-	-	-	-	1,253
27	Rounding	-	-	-	-	-	-	-	-	-	-	-	-
28	Total Plant in Service	$ 5,261,065	$ (459,450)	$ (33,853)	$ -	$ (20,250)	$ -		$ -	$ -	$ -	$ -	$ 4,747,512
29	Less: Accumulated Depreciation	$ 1,835,897	$ -	$ -	$ -	$ -	$ (24,800)	$ -	$ -	$ -	$ -	$ -	1,811,097
30	Net Plant in Service	$ 3,425,168	$ (459,450)	$ (33,853)	$ -	$ (20,250)	$ 24,800	$ -	$ -	$ -	$ -	$ -	$ 2,936,415
31													
32	*LESS:*												
33	Advances in Aid of Construction (AIAC)	$ 1,633,387	$ -	$ -	$ -	$ -	$ -	$ (158,487)	$ -	$ -	$ -	$ -	$ 1,474,900
34	Meter Deposits - Service Line & Meter Advances	$ -	-	-	-	-	-	-	-	-	-	-	-
35													
36	Contributions in Aid of Construction (CIAC)	$ 982,352	-	-	-	-	-	-	158,487	-	-	-	1,140,839
37	Less: Accumulated Amortization of CIAC	$ 260,433	-	-	-	-	-	-	-	127,537	-	-	387,970
38	Net CIAC	$ 721,919	$ -	$ -	$ -	$ -	$ -	$ -	$ 158,487	$ (127,537)	$ -	$ -	$ 752,869
39													
40	Total Advances and Net Contributions	$ 2,355,306	$ -	$ -	$ -	$ -	$ -	$ (158,487)	$ 158,487	$ (127,537)	$ -	$ -	$ 2,227,769
41													
42	Customer Deposits	$ -	-	-	-	-	-	-	-	-	105,405	-	$ 105,405
43	Accumulated Deferred Taxes	$ -	-	-	-	-	-	-	-	-	-	-	$ -
44													
45	*ADD: Working Capital*												-
46	Prepayments	$ 3,404	-	-	-	-	-	-	-	-	-	(3,404)	$ -
47		$ -	-	-	-	-	-	-	-	-	-	-	$ -
48	**Total Rate Base**	$ 1,073,266	$ (459,450)	$ (33,853)	$ -	$ (20,250)	$ 24,800	$ 158,487	$ (158,487)	$ 127,537	$ (105,405)	$ (3,404)	$ 603,241

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RATE BASE ADJUSTMENT NO. 1 - EXCESS CAPACITY PLANT COSTS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Acct. No. 303 -Land and Land Rights	$ 62,540	$ (36,000)	$ 26,540
2	Acct. No. 307 -Wells and Springs	$ 1,674,835	$ (268,821)	$ 1,406,014
3	Acct. No. 311 - Pumping Equipment	$ 873,230	$ (154,629)	$ 718,601
4	Total Acct. No. 380 -Treatment & Disposal Equip	**$ 2,610,605**	**$ (459,450)**	**$ 2,151,155**
5				
6				

	Year Added	Account No.	Account Description	Amount
7				
8				
9	2010	303	Land & Land Rights (Well No. 8)	$ 36,000
10	2011	307	Wells & Springs (Well No. 8)	$ 268,821
11	2011	311	Pumping Equipment (Well No. 8)	$ 154,629
12			**Total**	**$ 459,450**

References:

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

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Revised Surrebuttal Schedule CSB-6

RATE BASE ADJUSTMENT NO. 2 - NOT USED AND USEFUL PLANT COSTS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Acct No. 303 - Land & Land Rights	$ 62,540	$ (1,021)	$ 61,519
2	Acct No. 307 - Wells & Springs	$ 1,674,835	$ (17,028)	$ 1,657,807
3	Acct No. 311 - Pumping Equipment	$ 873,230	$ (15,804)	$ 857,426
4	**Total**	$ 2,610,605	$ (33,853)	$ 2,576,752
5				
6				
7				
8				

9	Year Added	Account No.	Account Description	Amount
10				
11	2005	303	Land & Land Rights (Well No.1)	$ 1,021
12	2005	307	Wells & Springs (Well No. 1)	$ 950
13	2005	307	Wells & Springs (Well No. 1)	$ 850
14	2005	307	Wells & Springs (Well No. 2C)	$ 350
15	2005	307	Wells & Springs (Well No. 2C)	$ 600
16	2005	307	Wells & Springs (Well No. 2C)	$ 1,032
17	2005	307	Wells & Springs (Well No. 2C)	$ 4,750
18	2005	307	Wells & Springs (Well No. 2C)	$ 4,178
19	2005	307	Wells & Springs (Well No. 2C)	$ 3,593
20	2005	307	Wells & Springs (Well No. 2C)	$ 725
21	2005	311	Pumping Equip (Well No. 2C)	$ 13,324
22	2005	311	Pumping Equip (Well No. 2C)	$ 2,480
23				$ 33,853

References:

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

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RATE BASE ADJUSTMENT NO. 3 - PRESSURE TANK RECLASSIFICATION

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Acct No. 307 - Wells & Springs	$ 1,674,835	(1,032)	1,673,803
2	Acct No. 330.2 - Pressure Tanks.	-	1,032	1,032
3	**Plant Total**	$ 1,674,835	$ -	$ 1,674,835

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

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Revised Surrebuttal Schedule CSB-8

RATE BASE ADJUSTMENT NO. 4 - ALLOCATED VEHICLE COST

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Acct No. 341 - Transportation Equipment	$ 72,235	(20,250)	51,985
2				
3				
4				
5	Cost of Lexus SUV		$ 27,000	
6	Percentage Allocated to Owners/Affiliates		75%	
7	Staff's Adjustment		20,250	

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

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Revised Surrebuttal Schedule CSB-9

RATE BASE ADJUSTMENT NO. 5 - ACCUMULATED DEPRECIATION

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Accumulated Depreciation	$ 1,835,897	$ -	$ 1,835,897
2	Excess Capacity Plant	$ -	$ (10,586)	$ (10,586)
3	Not Used & Useful Plant	$ -	$ (10,670)	$ (10,670)
4	Allocated Vehicle Costs	$ -	$ (3,544)	$ (3,544)
5		$ 1,835,897	$ (24,800)	$ 1,811,097
6				
7				
8				

ACCUMULATED DEPRECIATION RELATED TO EXCESS CAPACITY PLANT COSTS

	Reference Schedule	Year Placed In Service	Acct No.	Description	Plant Cost	Number of Interim Years	Depreciation Rate	Accumulated Depreciation
12	CSB-5	2011	307	Wells & Springs (Well No. 8)	$ 268,821	0.5	5.00%	$6,720.53
13	CSB-5	2011	311	Pumping Equipment (Well No. 8)	$ 154,629	0.5	5.00%	$3,865.73
14					$ 423,450			$10,586.25
15								
16								

ACCUMULATED DEPRECIATION RELATED TO NOT USED AND USEFUL PLANT

	Reference Schedule	Year Placed In Service	Acct No.	Description	Plant Cost	Number of Interim Years	Depreciation Rate	Accumulated Depreciation
20	CSB-6	2005	307	Wells & Springs (Well No. 1)	$ 950	6.5	5.00%	$308.75
21	CSB-6	2005	307	Wells & Springs (Well No. 1)	$ 850	6.5	5.00%	$276.25
22	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 350	6.5	5.00%	$113.75
23	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 600	6.5	5.00%	$195.00
24	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 1,032	6.5	5.00%	$335.39
25	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 4,750	6.5	5.00%	$1,543.75
26	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 4,178	6.5	5.00%	$1,357.85
27	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 3,593	6.5	5.00%	$1,167.65
28	CSB-6	2005	307	Wells & Springs (Well No. 2C)	$ 725	6.5	5.00%	$235.63
29	CSB-6	2005	311	Pumping Equip (Well No. 2C)	$ 13,324	6.5	5.00%	$4,330.38
30	CSB-6	2005	311	Pumping Equip (Well No. 2C)	$ 2,480	6.5	5.00%	$806.00
31					$ 32,832			$10,670.40
32								

ACCUMULATED DEPRECIATION RELATED TO VEHICLE ALLOCATION

	Reference Schedule	Year Placed In Service	Acct No.	Description	Plant Cost	Number of Interim Years	Depreciation Rate	Accumulated Depreciation
36	CSB-7	2008	341	Transportation Equipment	$ 20,250	3.5	5.00%	$3,543.75

References:

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

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Revised Surrebuttal Schedule CSB-10

RATE BASE ADJUSTMENT NO. 6 - ADVANCES IN AID OF CONSTRUCTION ("AIAC")

LINE NO.	DESCRIPTION	[A] PER COMPANY	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	AIAC - Main Line Extension Contracts	$ 1,633,387	$ (158,487)	$ 1,474,900
2				
3				
4				
5				
6		Date		Amount
7	CSB 2-11	12/31/1997 Ending Balance		$ 185,833
8	CSB 2-11	1998 Net AIAC Additions		$ 22,360
9	CSB 2-11	1999 Net AIAC Additions		$ (284)
10	CSB 2-11	2000 Net AIAC Additions		$ 38,729
11	CSB 2-11	2001 Net AIAC Additions		$ 37,055
12		**Total AIAC That Was Not Fully Refunded After Ten Years**		**$ 283,693**
13				
14	CSB 2-11	2002 Transfer to CIAC - Per Co.		$ 31,060
15	CSB 2-11	2003 Transfer to CIAC - Per Co.		$ 700
16	CSB 2-11	2008 Transfer to CIAC - Per Co.		$ 68,430
17	CSB 2-11	2010 Transfer to CIAC - Per Co.		$ 25,016
18		**Total Transfers to CIAC - Per Company**		**$ 125,206**
19				
20			**Difference**	**$ 158,487**

References:

Column A: Company Schedule B-1
Column B: Testimony, CSB; Data Request Response CSB 2-11
Column C: Column [A] + Column [B]

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Revised Surrebuttal Schedule CSB-11

RATE BASE ADJUSTMENT NO. 7 -CONTRIBUTIONS IN AID OF CONSTRUCTION ("CIAC")

		[A]	[B]	[C]
LINE NO.	**DESCRIPTION**	**COMPANY AS FILED**	**STAFF ADJUSTMENTS**	**STAFF AS ADJUSTED**
1	Gross CIAC	$ 982,352	$ 158,487	$ 1,140,839

References:

Column A: Company Schedule B-2
Column B: Testimony, CSB; Data Request Response CSB 2-11 and Sch CSB-10
Column C: Column [A] + Column [B]

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Revised Surrebuttal Schedule CSB-12

RATE BASE ADJUSTMENT NO. 8 - AMORTIZATION OF CONTRIBUTIONS IN AID OF CONSTRUCTION ("CIAC")

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Amortization of CIAC	$ 260,433	$127,537	$ 387,970
2				
3				
4				

CALCULATION OF AMORTIZATION OF CIAL

	Reference Schedule		AIAC	Year Transferred To CIAC	Number of Interim Years	Depreciation Rate	Amortization of CIAC
8	CSB-5	12/31/1997 Ending AIAC Balance	$ 185,833	2007	10	5.00%	$92,916.50
9	CSB-5	1998 Net CIAC Additions	$ 22,360	2008	9	5.00%	$10,062.00
10	CSB-5	1999 Net CIAC Additions	$ (284)	2009	8	5.00%	($113.60)
11	CSB-5	2000 Net CIAC Additions	$ 38,729	2010	7	5.00%	$13,555.15
12	CSB-5	2000 Net CIAC Additions	$ 37,055	2011	6	5.00%	$11,116.50
13			$ 283,693				$127,536.55

References:

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

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Revised Surrebuttal Schedule CSB-13

RATE BASE ADJUSTMENT NO. 9 - CUSTOMER DEPOSITS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Customer Deposits	$ -	$ 105,405	$ 105,405
2				
3				Test Year
4				Customer Deposits
5				$ 100,696
6				$ 103,158
7				$ 105,443
8				$ 108,028
9				$ 108,636
10				$ 106,615
11				$ 107,823
12				$ 108,938
13				$ 109,474
14				$ 109,849
15				$ 110,119
16				$ 86,080
17				$ 1,264,859
18			Divided by	12 Months
19				$ 105,404.92

References:

Column A: Company Schedule B-2

Column B: Testimony, CSB; Data Request Response CSB 2-12

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

Ray Water Company
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Revised Surrebuttal Schedule CSB-14

RATE BASE ADJUSTMENT NO. 10 - WORKING CAPITAL, PREPAYMENTS

LINE NO.	DESCRIPTION	[A] PER COMPANY	[B] ADJUSTMENT	[C] PER STAFF
1	Prepayments	$ 3,404	$ (3,404)	$ -

References:

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

Ray Water Company
Docket No. W-01380A-12-0254
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Revised Surrebuttal Schedule CSB-15

OPERATING INCOME - TEST YEAR AND STAFF RECOMMENDED

LINE NO.	DESCRIPTION	[A] COMPANY TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	ADJ NO.	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF PROPOSED CHANGES	[E] STAFF RECOMMENDED
	REVENUES:						
1	Metered Water Sales	$ 558,323			$ 558,323	$ 144,621	$ 702,944
2	Water Sales - Unmetered	-	-		-		-
3	Other Operating Revenues	17,943	4,548	1	22,491	3,750	26,241
4	**Total Revenues**	$ 576,266	$ 4,548		$ 580,814	$ 148,371	$ 729,185
5							
6	*EXPENSES:*						
7	Salaries and Wages	$ 226,744	$ (30,259)	2	$ 196,485	$ -	$ 196,485
8	Employee Pensions & Benefits	9,070	$ (4,520)	3	4,550	-	4,550
9	Purchased Power	106,874	$ (24,863)	4	82,011	-	82,011
10	Fuel for Power Production	-	$ -		-	-	-
11	Chemicals	-	$ -		-	-	-
12	Materials & Supplies	2,347	$ -		2,347	-	2,347
13	Office Supplies & Expense	22,190	$ -		22,190	-	22,190
14	Contractual Services - Billing	69,767	$ -		69,767	-	69,767
15	Contractual Services - Professional	17,001	$ -		17,001	-	17,001
16	Contractual Services - Testing	5,650	$ 965	5	6,615	-	6,615
17	Contractual Services - Other	10,913	$ -		10,913	-	10,913
18	Equipment Rental	-	$ -		-	-	-
19	Rents	22,000	$ (2,200)	6	19,800	-	19,800
20	Transportation Expenses	13,316	$ (4,110)	7	9,206	-	9,206
21	Insurance - General Liability	10,590	$ -		10,590	-	10,590
22	Insurance - Health and Life	-	$ -		-	-	-
23	Reg. Comm. Exp.	-	$ -		-	-	-
24	Reg. Comm. Exp. - Rate Case	10,000	$ -		10,000	-	10,000
25	Miscellaneous Expense	9,662	$ -		9,662	-	9,662
26	Bad Debt Expense	295	$ -		295	-	295
27	Depreciation Expense	180,559	$ (50,959)	8	129,600	-	129,600
28	Taxes Other Than Income	18,646	$ (1,533)	9	17,113	-	17,113
29	Property Taxes	30,589	$ 1,782	10	32,371	2,754	35,126
30	Income Taxes	(69,820)	$ 51,114	11	(18,706)	34,014	15,308
31	Interest Expense - Customer Deposits	5,713	$ -		5,713		5,713
32	**Total Operating Expenses**	$ 702,106	$ (64,584)		$ 637,522	$ 36,769	$ 674,290
33							
34	**Operating Income (Loss)**	$ (125,840)	$ 69,132		$ (56,708)	$ 107,853	$ 54,895

References:
Column (A): Company Schedule C-1
Column (B): Schedule CSB-16
Column (C): Column (A) + Column (B)
Column (D): Schedules CSB-1 and CSB-2
Column (E): Column (C) + Column (D)

SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJ #1 Other Operating Revenues Ref: Sch CSB-17	[C] ADJ #2 Salaries and Wages Ref: Sch CSB-18	[D] ADJ #3 Employee Pensions & Benefits Ref: Sch CSB-19	[E] ADJ #4 Purchased Power Ref: Sch CSB-20	[F] ADJ #5 Contractual Services Water Testing Ref: Sch CSB-21	[G] ADJ #6 Rents Expense Ref: Sch CSB-22	[H] Subtotal
	REVENUES:								
1	Metered Water Sales	$ 558,323	$ -	$ -	$ -	$ -	$ -	$ -	$ 558,323
2	Water Sales - Unmetered	-	-	-	-	-	-	-	-
3	Other Operating Revenues	17,943	4,548	-	-	-	-	-	22,491
4	**Total Revenues**	$ 576,266	$ 4,548	$ -	$ -	$ -	$ -	$ -	$ 580,814
5									
6	*OPERATING EXPENSES:*								
7	Salaries and Wages	$ 226,744	-	(30,259)	-	-	-	-	$ 196,485
8	Employee Pensions & Benefits	9,070	-	-	(4,520)	-	-	-	4,550
9	Purchased Power	106,874	-	-	-	(24,863)	-	-	82,011
10	Fuel for Power Production	-	-	-	-	-	-	-	-
11	Chemicals	-	-	-	-	-	-	-	-
12	Materials & Supplies	2,347	-	-	-	-	-	-	2,347
13	Office Supplies & Expense	22,190	-	-	-	-	-	-	22,190
14	Contractual Services - Billing	69,767	-	-	-	-	-	-	69,767
15	Contractual Services - Professional	17,001	-	-	-	-	-	-	17,001
16	Contractual Services - Testing	5,650	-	-	-	-	965	-	6,615
17	Contractual Services - Other	10,913	-	-	-	-	-	-	10,913
18	Equipment Rental	-	-	-	-	-	-	-	-
19	Rents	22,000	-	-	-	-	-	(2,200)	19,800
20	Transportation Expenses	13,316	-	-	-	-	-	-	13,316
21	Insurance - General Liability	10,590	-	-	-	-	-	-	10,590
22	Insurance - Health and Life	-	-	-	-	-	-	-	-
23	Reg. Comm. Exp.	-	-	-	-	-	-	-	-
24	Reg. Comm. Exp. - Rate Case	10,000	-	-	-	-	-	-	10,000
25	Miscellaneous Expense	9,662	-	-	-	-	-	-	9,662
26	Bad Debt Expense	295	-	-	-	-	-	-	295
27	Depreciation Expense	180,559	-	-	-	-	-	-	180,559
28	Taxes Other Than Income	18,646	-	-	-	-	-	-	18,646
29	Property Taxes	30,589	-	-	-	-	-	-	30,589
30	Income Taxes	(69,820)	-	-	-	-	-	-	(69,820)
31	Interest Expense - Customer Deposits	5,713	-	-	-	-	-	-	5,713
32	**Total Operating Expenses**	$ 702,106	$ -	$ (30,259)	$ (4,520)	$ (24,863)	$ 965	$ (2,200)	$ 641,228
33									
34	**Operating Income (Loss)**	$ (125,840)	$ 4,548	$ 30,259	$ 4,520	$ 24,863	$ (965)	$ 2,200	$ (60,414)

SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR CONTINUED

LINE NO.	DESCRIPTION	[I] ADJ #7 Transportation Expense Ref: Sch CSB-23	[J] ADJ #8 Depreciation Expense Ref: Sch CSB-24	[K] ADJ #9 Taxes Other Than Income Ref: Sch CSB-25	[L] ADJ #10 Property Tax Expense Ref: Sch CSB-26	[M] ADJ #11 Income Tax Expense Ref: Sch CSB-27	[N] STAFF ADJUSTED
	REVENUES:						
1	Metered Water Sales	$ -	$ -	$ -	$ -	$ -	$ 558,323
2	Water Sales - Unmetered	-	-	-	-	-	-
3	Other Operating Revenues	-	-	-	-	-	22,491
4	**Total Revenues**	$ -	$ -	$ -	$ -	$ -	$ 580,814
5							
6	*OPERATING EXPENSES:*						
7	Salaries and Wages	-	-	-	-	-	196,485
8	Employee Pensions & Benefits	-	-	-	-	-	4,550
9	Purchased Power	-	-	-	-	-	82,011
10	Fuel for Power Production	-	-	-	-	-	-
11	Chemicals	-	-	-	-	-	-
12	Materials & Supplies	-	-	-	-	-	2,347
13	Office Supplies & Expense	-	-	-	-	-	22,190
14	Contractual Services - Billing	-	-	-	-	-	69,767
15	Contractual Services - Professional	-	-	-	-	-	17,001
16	Contractual Services - Testing	-	-	-	-	-	6,615
17	Contractual Services - Other	-	-	-	-	-	10,913
18	Equipment Rental	-	-	-	-	-	-
19	Rents	-	-	-	-	-	19,800
20	Transportation Expenses	(4,110)	-	-	-	-	9,206
21	Insurance - General Liability	-	-	-	-	-	10,590
22	Insurance - Health and Life	-	-	-	-	-	-
23	Reg. Comm. Exp.	-	-	-	-	-	-
24	Reg. Comm. Exp. - Rate Case	-	-	-	-	-	10,000
25	Miscellaneous Expense	-	-	-	-	-	9,662
26	Bad Debt Expense	-	-	-	-	-	295
27	Depreciation Expense	-	(50,959)	-	-	-	129,600
28	Taxes Other Than Income	-	-	(1,533)	-	-	17,113
29	Property Taxes	-	-	-	1,782	-	32,371
30	Income Taxes	-	-	-	-	51,114	(18,706)
31	Interest Expense - Customer Deposits	-	-	-	-	-	5,713
32	**Total Operating Expenses**	$ (4,110)	$ (50,959)	$ (1,533)	$ 1,782	$ 51,114	$ 637,522
33							
34	**Operating Income (Loss)**	$ 4,110	$ 50,959	$ 1,533	$ (1,782)	$ (51,114)	$ (56,708)

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Revised Surrebuttal Schedule CSB-17

OPERATING INCOME ADJUSTMENT NO. 1 - OTHER OPERATING REVENUE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	Other Revenue	$ 17,943	$ 4,548	$ 22,491

References:

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

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Revised Surrebuttal Schedule CSB-18

OPERATING INCOME ADJUSTMENT NO. 2 - SALARIES AND WAGES

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	Rhonda Rosenbaum, Vice President	$ 80,000	$ (8,000)	$ 72,000
2	Joseph Rosenbaum, Vice President	$ 80,000	$ (8,926)	$ 71,074
3	Doreen Mallis, Company President	$ 20,000	$ (13,333)	$ 6,667
4	Dave Rader, Operations Manager	$ 46,744	$ -	$ 46,744
5		$ 226,744	**$ (30,259)**	**$ 196,485**
6				
7				
8				Rhonda Rosenbaum, Vice President
9				
10			2011 Salary	$ 80,000
11			Percentage Allocated to Affiliate Business	10%
12			Staff's Adjustment	8,000
13				
14				Joseph Rosenbaum, Vice President
15				
16				
17			Contracting With Professionals, Service Providers, & Suppliers	- Not Broken Out Separately
18			Personnel Decisions	- Not Broken Out Separately
19			Bidding Decisions	- Not Broken Out Separately
20			Total	120 Avg Hours Per Month
21				x 12 Months
22			**Subtotal**	**1,440 Avg Hours Per Year**
23				
24			Oversight of Professional Accountants and Attorneys	- Not Broken Out Separately
25			Banking and Financing	- Not Broken Out Separately
26			Regulatory Compliance	- Not Broken Out Separately
27			Tax Matters	- Not Broken Out Separately
28			Correspondence With Customers and The Business Community	- Not Broken Out Separately
29			Corporate Matters	- Not Broken Out Separately
30			**Subtotal**	**288 Avg Hours Per Year**
31				
32			Land Use and Rights of Way	- Not Broken Out Separately
33			Line Extension Agreements	- Not Broken Out Separately
34			CAGRD Compliance	- Not Broken Out Separately
35			**Subtotal**	**120 Avg Hours Per Year**
36				
37			**TOTAL**	**1,848 Avg Hours Per Year**
38				x $38.46 ($80,000 / 2,080)
39				**$ 71,074 Salary - Per Staff**
40				$ 80,000 Salary - Per Company
41				$ (8,926) Staff's Adjustment
42				
43				
44				Dorleen Mallis President
45				
46				
47			2010	$ - Company Sch E-2
48			2011	$ 20,000 Company Sch E-2
49			2012	$ - Company Sch E-2
50				$ 20,000
51			Divided by 3	3 Years
52				**$ 6,667 Salary - Per Staff**
53				$ 20,000 Salary - Per Company
54				$ (13,333) Staff's Adjustment

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

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Revised Surrebuttal Schedule CSB-19

OPERATING INCOME ADJUSTMENT NO. 3 - EMPLOYEE PENSIONS AND BENEFITS

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	Employee Pensions & Benefits	$ 9,070	$ (4,520)	$ 4,550
2				
3				
4				
5			Employee	
6			Pensions &	
7			Benefits	
8		2009	$ 4,585	Company Sch E-2
9		2010	$ 9,064	Company Sch E-2
10		2011	$ -	Company Sch E-2
11			$ 13,649	
12		Divided by 3	3	Years
13			$ 4,550	

References:

Column A: Company Schedule C-2

Column B: Testimony, CSB; Company Data Request Responses to CSB 2-26

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

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Revised Surrebuttal Schedule CSB-20

OPERATING INCOME ADJUSTMENT NO. 4 - PURCHASED POWER

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS (Col C - Col A)	[C] STAFF AS ADJUSTED
1	2011 Actual Purchased Power Expense	$ 82,011	$ -	$ 82,011
2	Company Pro forma Adjustment	24,863	(24,863)	-
3	Total Purchased Power Expense	$ 106,874	$ (24,863)	$ 82,011
4				
5				
6				

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

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Revised Surrebuttal Schedule CSB-21

OPERATING INCOME ADJUSTMENT NO. 5 - CONTRACT SRVCS., WATER TESTING EXPENSE

		[A]	[B]	[C]
LINE NO.	**DESCRIPTION**	**COMPANY AS FILED**	**STAFF ADJUSTMENTS**	**STAFF AS ADJUSTED**
1	Contractual Services - Testing	$ 5,650	$ 965	$ 6,615

References:

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

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Revised Surreabuttal Schedule CSB-22

OPERATING INCOME ADJUSTMENT NO. 6 - RENTS EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Rents Expense	$ 22,000	$ (2,200)	$ 19,800

	Rents Expense	
2011 Rents Expense	$ 22,000	CSB 2-16
Percentage Allocated to Affiliate Business	10%	CSB 2-16
Staff's Adjustment	2,200	

References:

Column A: Company Schedule C-1 & E-2
Column B: Testimony, CSB; Data Request CSB 2-16
Column C: Column [A] + Column [B]

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Revised Surrebuttal Schedule CSB-23

OPERATING INCOME ADJUSTMENT NO. 7 - TRANSPORTATION EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Transportation Expense	$ 5,777	$ -	$ 5,777
2	Gasoline Expenses - Shell	3,543	(1,329)	2,214
3	Repair and Maintenance Expenses	3,996	(2,781)	1,215
		$ 13,316	$ (4,110)	$ 9,206

	Shell Gasoline Purchases	
1/14/2011	$ 346.09	CSB 2-33
2/18/2011	$ 227.51	CSB 2-33
3/18/2011	$ 270.06	CSB 2-33
4/14/2011	$ 198.02	CSB 2-33
5/18/2011	$ 336.25	CSB 2-33
6/14/2011	$ 226.66	CSB 2-33
7/16/2011	$ 295.35	CSB 2-33
8/22/2011	$ 97.00	CSB 2-33
9/17/2011	$ 436.93	CSB 2-33
10/24/2011	$ 370.97	CSB 2-33
11/15/2011	$ 418.48	CSB 2-33
12/19/2011	$ 319.79	CSB 2-33
	$ 3,543	Total Shell Gas Purchases
Divided by 2	2	Vehicles (Toyota & Lexus)
	$ 1,772	
	x 75%	Allocated to Owner/Affiliates
	$ 1,329	Amount Disallowed
	$ 3,543	Total Shell Gas Purchases
	$ (1,329)	Amount Disallowed
	$ 2,214	Staff as Adjusted

Date	Description	Repair & Maint Expenses	
4/4/2011	Lexus SUV - 1 Tire	$ 138	CSB 2-33
5/16/2011	4 Tires - Ford F250	$ 893	CSB 2-33
7/5/2011	Lexus SUV Brake Pads/Maint	$ 820	CSB 2-33
11/18/2011	Lexus SUV - Radiator	$ 1,124	CSB 2-33
12/30/2011	Lexus SUV - 3 Tire	$ 807	CSB 2-33
		$ 3,644	
	Divided by 3	3	Years
		$ 1,215	Normalized Costs

References:

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

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Revised Surrebuttal Schedule CSB-24

OPERATING INCOME ADJUSTMENT NO. 8 - DEPRECIATION EXPENSE ON TEST YEAR PLANT

LINE NO.		DESCRIPTION	[A] PLANT In SERVICE Per Staff	[B] NonDepreciable or Fully Depreciated PLANT	Ref	[C] DEPRECIABLE PLANT (Col A - Col B)	[D] DEPRECIATION RATE	[E] DEPRECIATION EXPENSE (Col C x Col D)
1	302	Franchises	$ 700	$ (700)	1	$ -	0.00%	$ -
2	303	Land and Land Rights	25,519	(26,540)	1	(1,021)	0.00%	
3	304	Structures and Improvements	22,078	(13,781)	2	8,297	3.33%	276
4	306	Lake, River, and Other Intakes	-	-		-	2.50%	-
5	307	Wells and Springs	1,388,986	(181,238)	2	1,207,748	3.33%	40,218
6	309	Supply Mains	-	-		-	2.00%	-
7	310	Power Generation Equipment	-	-		-	5.00%	-
8	311	Pumping Equipment	702,797	-		702,797	12.50%	87,850
9	320	Water Treatment Equipment	-	-		-	3.33%	-
10	330	Distribution Reservoirs and Standpipes	622,302	(106,345)	2	515,957	2.22%	11,454
11	330.2	Pressure Tanks	1,032	-		1,032	5.00%	52
12	331	Transmission and Distribution Mains	1,160,777	(579,693)	2	581,084	2.00%	11,622
13	333	Services	526,754	-		526,754	3.33%	17,541
14	334	Meters and Meter Installations	113,643	(90,046)	2	23,597	8.33%	1,966
15	335	Hydrants	105,490	-		105,490	2.00%	2,110
16	336	Backflow Prevention Devices	-	-		-	6.67%	-
17	339	Other Plant and Miscellaneous Equipment	2,902	-		2,902	6.67%	194
18	340	Office Furniture and Equipment	8,901	-		8,901	6.67%	594
19	341	Transportation Equipment	51,985	-		51,985	20.00%	10,397
20	340.1	Computers and Software	8,967	-		8,967	20.00%	1,793
21	343	Tools, Shop, and Garage Equipment	1,932	-		1,932	5.00%	97
22	344	Laboratory Equipment	-	-		-	10.00%	-
23	345	Power Operated Equipment	-	-		-	5.00%	-
24	346	Communication Equipment	1,494	-		1,494	10.00%	149
25	347	Miscellaneous Equipment	-	-		-	10.00%	-
26	348	Other Tangible Equipment	1,253	(1,253)	2	-	10.00%	-
27		Total Plant	$ 4,747,512	$ (999,596)		$ 3,747,916		$ 186,311
28								
29								
30								
31		Composite Depreciation Rate (Depr Exp / Depreciable Plant):	4.97%					
32		CIAC:	$ 1,140,839					
33		Amortization of CIAC (Line 31 x Line 32):	$ 56,712					
34								
35		Depreciation Expense Before Amortization of CIAC:	$ 186,311					
36		Less Amortization of CIAC:	$ 56,712					
37		Test Year Depreciation Expense - Staff:	$ 129,600					
38		Depreciation Expense - Company:	180,559					
39		**Staff's Total Adjustment:**	**$ (50,959)**					

References:
[1] Nondepreciable Plant
[2] Fully Depreciated Plant

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

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Revised Surrebuttal Schedule CSB-25

OPERATING INCOME ADJUSTMENT NO. 9 - TAXES OTHER THAN INCOME

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Taxes Other Than Income	$ 18,646	$ (1,533)	$ 17,113
2				
3				
4			Taxes	
5			Other Than	
6			Income	
7	2011 Taxes Other Than Income		$ 18,646	
8	Percentage Allocated to Affiliate Business/Owners		8.22%	($226,744 / $18,646)
9	Staff's Adjustment		1,533	

References:

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

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Revised Surrebuttal Schedule CSB-26

OPERATING INCOME ADJUSTMENT NO. 10 - PROPERTY TAX EXPENSE

LINE NO.	Property Tax Calculation	[A] STAFF AS ADJUSTED	[B] STAFF RECOMMENDED
1	Staff Adjusted Test Year Revenues	$ 580,814	$ 580,814
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	1,161,628	$ 1,161,628
4	Staff Recommended Revenue, Per Schedule CSB-1	580,814	$ 729,185
5	Subtotal (Line 4 + Line 5)	1,742,442	1,890,813
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	580,814	$ 630,271
8	Department of Revenue Mutilplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	1,161,628	$ 1,260,542
10	Plus: 10% of CWIP -	830	830
11	Less: Net Book Value of Licensed Vehicles	-	$ -
12	Full Cash Value (Line 9 + Line 10 - Line 11)	1,162,458	$ 1,261,372
13	Assessment Ratio	21.0%	21.0%
14	Assessment Value (Line 12 * Line 13)	244,116	$ 264,888
15	Composite Property Tax Rate	13.2606%	13.2606%
			$ -
16	Staff Test Year Adjusted Property Tax (Line 14 * Line 15)	$ 32,371	
17	Company Proposed Property Tax	30,589	
18	Staff Test Year Adjustment (Line 16-Line 17)	$ 1,782	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		$ 35,126
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		$ 32,371
21	Increase in Property Tax Expense Due to Increase in Revenue Requirement		$ 2,754
22	Increase to Property Tax Expense		$ 2,754
23	Increase in Revenue Requirement		148,371
24	Increase to Property Tax per Dollar Increase in Revenue (Line19/Line 20)		1.856484%

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Revised Surrebuttal Schedule CSB-27

OPERATING INCOME ADJUSTMENT NO. 11 - TEST YEAR INCOME TAXES

LINE NO.	DESCRIPTION	(A)	(B)
	Calculation of Income Tax:	Test Year	
1	Revenue	$ 580,814	
2	Less: Operating Expenses - Excluding Income Taxes	$ 656,228	
3	Less: Synchronized Interest (L17)	$ 3,016	
4	Arizona Taxable Income (L1- L2 - L3)	$ (78,430)	
5	Arizona State Income Tax Rate	6.968%	
6	Arizona Income Tax (L4 x L5)		$ (5,465)
7	Federal Taxable Income (L4 - L6)	$ (72,965)	
8	Federal Tax on First Income Bracket ($1 - $50,000) @ 15%	$ (7,500)	
9	Federal Tax on Second Income Bracket ($51,001 - $75,000) @ 25%	$ (5,741)	
10	Federal Tax on Third Income Bracket ($75,001 - $100,000) @ 34%	$ -	
11	Federal Tax on Fourth Income Bracket ($100,001 - $335,000) @ 39%	$ -	
12	Federal Tax on Fifth Income Bracket ($335,001 - $10,000,000) @ 34%	$ -	
13	Total Federal Income Tax		$ (13,241)
14	Combined Federal and State Income Tax (L6 + L13)		$ (18,706)
	Calculation of Interest Synchronization:		
15	Rate Base	$ 603,241	
16	Weighted Average Cost of Debt	0.50%	
17	Synchronized Interest (L16 x L17)	$ 3,016	
18	Income Tax - Per Staff	$ (18,706)	
19	Income Tax - Per Company	$ (69,820)	
20	**Staff Adjustment**	**$ 51,114**	

Monthly Minimum Charge	Present	Company Proposed	Staff Recommended
Meter Size (All Classes):			
5/8 Inch x 3/4 Inch	$ 11.15	$ 15.00	$ 15.00
3/4 Inch	25.00	25.00	26.00
1 Inch	39.00	39.00	40.00
1 1/2 Inch	62.00	75.00	62.00
2 Inch	110.00	120.00	110.00
3 Inch	125.00	240.00	125.00
4 Inch	165.00	375.00	165.00
6 Inch	330.00	750.00	330.00
Gallons Included In Monthly Minimum Charge	0	0	0
Commodity Charge - Per One Thousand Gallons			
All Meter Sizes			
1 gallon to 3,000 gallons	$ 1.55	$ 0.85	N/A
3,001 gallons to 7,000 gallons	$ 1.55	$ 2.25	N/A
7,001 gallons to 25,000 gallons	$ 1.55	$ 3.35	N/A
over 25,000 gallons	$ 1.55	$ 4.64	N/A
1 gallon to 2,000 gallons	$ 1.55	N/A	$ 0.50
2,001 gallons to 7,000 gallons	$ 1.55	N/A	$ 1.25
7,001 gallons to 25,000 gallons	$ 1.55	N/A	$ 2.00
over 25,000 gallons	$ 1.55	N/A	$ 3.16
Standpipe per 1,000 gallons	$ 1.55	$ 4.64	$ 3.16

Miscellaneous Charges	Present	Company Proposed	Staff Recommended
Establishment	$ 25.00	$ 30.00	$ 30.00
Establishment (After Hours)	37.50	Discontinue	Discontinue
Reconnection (Deliquent)	25.00	35.00	35.00
Meter Test (If Correct)	30.00	35.00	30.00
Deposit	*	*	*
Deposit Interest	*	*	*
Reestablishment (Within 12 Months)	**	**	**
NSF Check	15.00	25.00	25.00
Deferred Payment, Per Month	***	***	1.50%
Meter Re-read (If Correct)	15.00	30.00	20.00
Late Payment Fee (Per Month)	***	2.00%	1.50%
After hours service charge (At the Customer's Request)	NT	25.00	25.00

* Per A. A. C. R-14-2-403 (B)
** Number of months off the system times the monthly minimum.
*** 1.50 percent per month of unpaid balance

NT = No Tariff

	Total Present Charge	Company Proposed Service Line Charge	Company Proposed Meter Installation Charge*	Total Company Proposed Charge
Service and Meter Installation Charges				
5/8 x 3/4 Inch	$ 550	$ 445	$ 155	$ 600
3/4 Inch	$ 550	$ 445	$ 255	$ 700
1 Inch	$ 650	$ 495	$ 315	$ 810
1 1/2 Inch	$ 875	$ 550	$ 525	$ 1,075
2 Inch / Turbine	$ 1,400	$ 830	$ 1,045	$ 1,875
2 Inch / Compound	N/A	$ 830	$ 1,890	$ 2,720
3 Inch / Turbine	$ 1,900	$ 1,045	$ 1,670	$ 2,715
3 Inch / Compound	N/A	$ 1,165	$ 2,545	$ 3,710
4 Inch / Turbine	$ 3,200	$ 1,490	$ 2,670	$ 4,160
4 Inch / Compound	N/A	$ 1,670	$ 3,645	$ 5,315
6 Inch / Turbine	$ 5,800	$ 2,210	$ 5,025	$ 7,235
6 Inch / Compound	N/A	$ 2,330	$ 6,920	$ 9,250
Over 6-Inch	N/A	N/A	Actual Cost	Actual Cost

	Total Present Charge	Staff Recommended Service Line Charge	Staff Recommended Meter Installation Charge	Total Staff Recommended Charge
5/8 x 3/4 Inch	$ 550	$ 445	$ 155	$ 600
3/4 Inch	$ 550	$ 445	$ 255	$ 700
1 Inch	$ 650	$ 495	$ 315	$ 810
1 1/2 Inch	$ 875	$ 550	$ 525	$ 1,075
2 Inch / Turbine	$ 1,400	$ 830	$ 1,045	$ 1,875
2 Inch / Compound	N/A	$ 830	$ 1,890	$ 2,720
3 Inch / Turbine	$ 1,900	$ 1,045	$ 1,670	$ 2,715
3 Inch / Compound	N/A	$ 1,165	$ 2,545	$ 3,710
4 Inch / Turbine	$ 3,200	$ 1,490	$ 2,670	$ 4,160
4 Inch / Compound	N/A	$ 1,670	$ 3,645	$ 5,315
6 Inch / Turbine	$ 5,800	$ 2,210	$ 5,025	$ 7,235
6 Inch / Compound	N/A	$ 2,330	$ 6,920	$ 9,250
Over 6-Inch	N/A	Actual Cost	Actual Cost	Actual Cost

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Revised Surrebuttal Schedule CSB-29

TYPICAL BILL ANALYSIS

General Service 5/8 X 3/4 - Inch Meter

Average Number of Customers: 1,453

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	7,832	$23.29	$29.34	$6.05	26.0%
Median Usage	6,467	$21.17	$26.55	$5.38	25.4%
Staff Proposed					
Average Usage	7,832	$23.29	$23.91	$0.62	2.7%
Median Usage	6,467	$21.17	$21.58	$0.41	1.9%

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

Gallons Consumption	Present Rates	Company Proposed Rates	% Increase	Staff Proposed Rates	% Increase
0	$11.15	$15.00	34.5%	$15.00	34.5%
1,000	12.70	15.85	24.8%	15.50	22.0%
2,000	14.25	16.70	17.2%	16.00	12.3%
3,000	15.80	17.55	11.1%	17.25	9.2%
4,000	17.35	19.80	14.1%	18.50	6.6%
5,000	18.90	22.05	16.7%	19.75	4.5%
6,000	20.45	24.30	18.8%	21.00	2.7%
7,000	22.00	26.55	20.7%	22.25	1.1%
8,000	23.55	29.90	27.0%	24.25	3.0%
9,000	25.10	33.25	32.5%	26.25	4.6%
10,000	26.65	36.60	37.3%	28.25	6.0%
15,000	34.40	53.35	55.1%	38.25	11.2%
20,000	42.15	70.10	66.3%	48.25	14.5%
25,000	49.90	86.85	74.0%	58.25	16.7%
50,000	88.65	202.85	128.8%	137.25	54.8%
75,000	127.40	318.85	150.3%	216.25	69.7%
100,000	166.15	434.85	161.7%	295.25	77.7%
125,000	204.90	550.85	168.8%	374.25	82.7%
150,000	243.65	666.85	173.7%	453.25	86.0%
175,000	282.40	782.85	177.2%	532.25	88.5%
200,000	321.15	898.85	179.9%	611.25	90.3%

EXHIBIT
S-6
ADMITTED
ALL-STATE LEGAL®

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 RAY WATER COMPANY, INC. FOR APPROVAL OF A PERMANENT RATE INCREASE.	)	DOCKET NO. W-01380A-12-0254

DIRECT

TESTIMONY

OF

JOHN A. CASSIDY

PUBLIC UTILITIES ANALYST

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

DECEMBER 19, 2012

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EXECUTIVE SUMMARY
RAY WATER COMPANY
DOCKET NO. W-01380A-12-0254

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 Ray Water Company ("Ray" or "Company") for this proceeding consisting of 92.4 percent debt and 7.6 percent equity.

Cost of Equity – Staff recommends that the Commission adopt a 9.5 percent return on equity ("ROE") for the Company. Staff's estimated ROE for the Company is based on an economic assessment and the results of its DCF and CAPM cost of equity methodology estimates for the sample companies of 8.9 percent for the capital asset pricing model ("CAPM") and 8.9 percent for the discounted cash flow method ("DCF").

Cost of Debt – Staff recommends that the Commission adopt a 6.3 percent cost of debt for the Company.

Overall Rate of Return – Staff recommends that the Commission adopt a 9.3 percent overall rate of return.

Mr. Rowells's Testimony – The Commission should reject the Company's proposed 10.91 percent ROE for the following reasons:

> Mr. Rowell's methodology erroneously assumes that accounting based realized returns on equity ("ROE") are reflective of investor expectations of the cost of equity, and he assigns a two-thirds weighting to the results derived from his comparable earnings analysis and only a one-third weighting to the combined results derived from his market-based DCF and CAPM analyses. The samples used by Mr. Rowell in his comparable earnings analysis differ from those in both his DCF and CAPM analyses, with his comparable earnings sample consisting of fourteen publicly-traded utility companies (7 water, 7 natural gas), his DCF sample consisting of fifteen companies (8 water, 7 natural gas) and his CAPM sample consisting of sixteen companies (8 water, 8 natural gas). A natural gas company excluded from his comparable earnings sample (AGL Resources) is included in his CAPM sample, and among the natural gas companies in that sample has the highest beta coefficient. Mr. Rowell calculates his realized ROE comparable earnings estimate on a weighted average basis, resulting in the gas sample companies having a disproportionate (i.e., 3-to-1) influence on his estimate relative to the water sample companies. The natural gas company (UGI Corporation) he selected to replace AGL Resources in his comparable earnings sample accounts for almost 20 percent (19.73%) of his overall comparable earnings estimate, yet Mr. Rowell makes no adjustment to reduce UGI's weighting factor by removing that portion of UGI's earnings/common equity not subject to domestic rate regulation in the United States (17 percent from its International Propane segment and 22 percent from its Midstream & Marketing segment). Mr.

Rowell's constant growth DCF estimates rely exclusively on analysts' forecasts for earnings per share growth, and the dividend yield has been upwardly adjusted by means of annual compounding. Mr. Rowell's CAPM analyses employ an historical average risk-free rate, measured over the period January 1, 1980 - December 31, 2011, rather than a current spot intermediate- or long-term U.S. Treasury rate. Mr. Rowell's recommended cost of equity includes a 65-basis point upward small-size risk adjustment.

I. INTRODUCTION

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

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

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

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

Q. Please describe your educational background and professional experience.

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

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

A. My testimony provides Staff's recommended capital structure, return on equity ("ROE") and overall rate of return ("ROR") for establishing the revenue requirements for Ray Water Company's ("RWC" or "Company") pending rate application.

Q. Please provide a brief description of RWC.

A. RWC is a Class "B" public service corporation engaged in providing water utility service in Pima County, Arizona pursuant to a certificate of convenience and necessity granted by the Arizona Corporation Commission. During the Test Year, the Company served approximately 1,511 water service connections.

Summary of Testimony and Recommendations

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

A. Staff's cost of capital testimony is presented in eleven sections. Section I is this introduction. Section II discusses the concept of weighted average cost of capital ("WACC"). Section III presents the concept of capital structure and presents Staff's recommended capital structure for RWC in this proceeding. Section IV presents Staff's cost of debt for RWC. Section V discusses the concepts of ROE and risk. Section VI presents the methods employed by Staff to estimate RWC's ROE. Section VII presents the findings of Staff's ROE analysis. Section VIII presents additional factors considered in developing the cost of equity estimate for RWC. Section IX presents Staff's ROR recommendation. Section X presents Staff's comments on the direct testimony of the Company's witness, Mr. Matthew J. Rowell. Finally, section XI presents the conclusions.

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

A. Yes. I prepared ten schedules (JAC-1 to JAC-9) and Exhibit JAC-A in support Staff's cost of capital analysis.

Q. What is Staff's recommended rate of return for RWC?

A. Staff recommends a 9.3 percent overall ROR, as shown in Schedule JAC-1. The ROR is calculated from the capital structure, ROE and cost of debt. Staff's capital structure is

composed of 92.4 percent equity and 7.6 percent debt. Staff's estimated ROE for the Company is based on an economic assessment and the results of its DCF and CAPM cost of equity methodology estimates for the sample companies of 8.9 percent for the capital asset pricing model ("CAPM") and 8.9 percent for the discounted cash flow method ("DCF").

RWC's Proposed Overall Rate of Return

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

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

Table 1

	Weight	Cost	Weighted Cost
Long-term Debt	7.4%	6.25%	0.46%
Common Equity	92.6%	10.91%	10.10%
Cost of Capital/ROR			**10.57%**

RWC is proposing an overall rate of return of 10.57 percent.

II. THE WEIGHTED AVERAGE COST OF CAPITAL

Q. Briefly explain the cost of capital concept.

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

Q. What is the overall cost of capital?

A. The overall cost of capital for a firm issuing a variety of securities (i.e., stock and indebtedness) represents an average of the various cost rates on all securities issued by the firm adjusted to reflect the relative weighting of each security within the firm's capital structure. Thus, for any given firm, the overall cost of capital is the firm's weighted average cost of capital ("WACC").

Q. How is the WACC calculated?

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

Equation 1.

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

In this equation, W_i is the weight given to the ith security (the proportion of the ith security relative to the portfolio) and r_i is the expected return on the ith security.

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

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

$$WACC = (60\% * 6.0\%) + (40\% * 10.5\%)$$

$$WACC = 3.60\% + 4.20\%$$

$$WACC = 7.80\%$$

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

III. CAPITAL STRUCTURE

Background

Q. Please explain the capital structure concept.

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

Q. How is the capital structure expressed?

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

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

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%

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.

RWC's Capital Structure

Q. What capital structure does RWC propose?

A. The Company proposes a capital structure composed of 7.40 percent long-term debt and 92.60 percent common equity. RWC's proposed capital structure reflects the projected long-term debt and common equity balances as of December 31, 2012.

Q. How does RWC's proposed capital structure compare to capital structures of publicly-traded water utilities?

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

Staff's Capital Structure

Q. What is Staff's recommended capital structure for RWC?

A. Staff recommends a pro forma capital structure composed of 7.6 percent debt and 92.4 percent equity. Staff's recommended capital structure consists of $87,346 long-term debt and $1,059,748 common equity. Staff's long-term debt balance as of December 31, 2012, reflects 20-months of debt amortization on RWC's initial debt principal of $100,000, issued on May 1, 2011.[1]

[1] Pursuant to a Promissory Note, signed and negotiated by the Company on April 1, 2011, RWC made the first draw of $100,000 from a $500,000 line of credit executed on May 1, 2011.

Q. Why does Staff's recommended capital structure differ from that proposed by the Company?

A. The pro forma capital structure proposed by RWC consists of $84,653 long-term debt and $1,059,748 common equity. The Company's proposed long-term debt balance as of December 31, 2012, is reflective of 24-months of amortization on the original $100,000 debt principal issued May 1, 2011, rather than twenty months. Thus, having amortized its original long-term debt principal by an additional four months, RWC has understated its pro forma December 31, 2012 long-term debt balance by $2,693 ($87,346 - $84,653), and it is this factor which is attributable to differences between the capital structure recommended by Staff and that proposed by the Company.

Q. For the reasons noted above, should RWC's proposed capital structure be relied upon for purposes of setting rates in this docket?

A. No, it should not.

Q. Did Staff make other adjustments to RWC's capital structure?

A. No, it did not. Staff calculated its recommended capital structure using $87,346 of long-term debt and $1,059,748 of common equity for a total capitalization of $1,147,094.

IV. COST OF DEBT

Q. What is the basis for RWC's proposed 6.25 percent cost of debt?

A. The Company's proposed cost of debt reflects its embedded cost of existing debt. In Decision No. 71691 (dated May 3, 2010), RWC's request for a loan in the amount of $500,000 to finance the replacement of an existing well was approved by the Commission, at an interest rate not to exceed the prime rate plus 3.00 percent.[2]

[2] Docket No. W-01380A-09-0106.

Q. Did Staff's review reveal any concerns related to the executed promissory note?

A. Yes. Decision No. 71691 granted the Company authorization to incur $500,000 of debt financing and for any unused authorization to issue that debt to expire on April 29, 2011. The executed a promissory note dated April 1, 2011, within the period authorized. However, the first draw was on May 1, 2011, subsequent to the end of the authorized borrowing period. Language in the promissory note states the agreement creates a line-of-credit from which the Company may draw from time to time. Exhibit 1 of the Company's application in the financing case[3] provides an example of the proposed promissory note. Exhibit A does not include a line-of credit provision and Decision No. 71691 makes no reference to authorizing a line-of-credit. Staff has made no adjustments in this rate case due to any concern regarding the timing or nature of the promissory note. Under either the provisions of the promissory note or the authorizations granted in Decision No. 71691, the Company's ability to borrow additional funds has expired.

Q. What cost of debt is Staff recommending?

A. Staff recommends a cost of debt of 6.3 percent, as shown in Schedule JAC-1.

V. RETURN ON EQUITY

Background

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

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

[3] Docket No. W-01380A-09-0106.

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

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

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

A. A chronological chart of interest rates is a good tool to show interest rate history and identify trends. Chart 1 graphs intermediate U.S. treasury rates from January 4, 2002, to September 28, 2012.

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

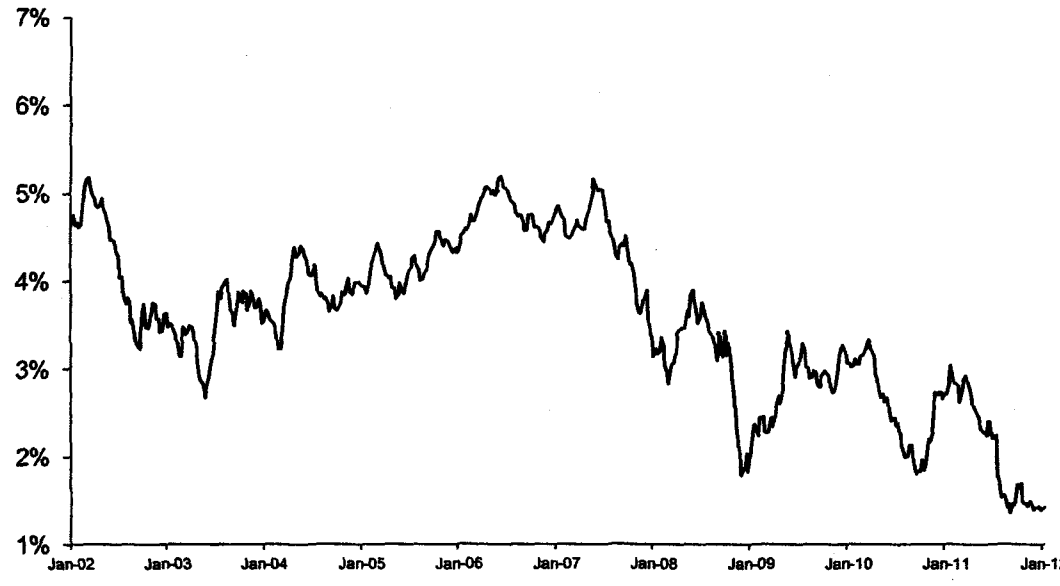

Chart 1 shows that intermediate-term interest rates trended downward from 2002 to mid-2003, trended upward through mid-2007, trended downward through early-2009, trended upward through mid-2010, trended downward through late 2010, trended upward to mid-2011, and are currently trending down from the existing, relatively low rates.

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

A. U.S. Treasury rates from January 1962- September 2012 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.

Source: Federal Reserve

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

A. Yes. As previously noted, interest rates and the 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 market has a beta value of 1.0, with stocks bearing greater risk (less risk) than the market having beta values higher than (lower than) 1.0, respectively. Furthermore, in accordance with the CAPM, the cost of equity capital moves in the same direction as beta. Therefore, because the average beta value (0.71)[4] for a water utility is less than 1.0, the required return on equity for a regulated water utility is below that of the market as a whole.

Risk

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

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

[4] See Schedule JAC-7.

are market risk (systematic risk) and non-market risk (unsystematic risk, diversifiable risk or firm-specific risk).

Q. What is market risk?

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

Q. Please define business risk.

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

Q. Please define financial risk.

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

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

A. Yes.

Q. Is a firm subject to any other risk?

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

Q. How does RWC's financial risk exposure compare to that of Staff's sample group of water companies?

A. JAC-4 shows the capital structures of Staff's six sample water companies as of December 30, 2011, and RWC's adjusted capital structure as of the end of the test year, December 31, 2011. As shown, the sample water utilities were capitalized with approximately 51.6 percent debt and 48.4 percent equity, while RWC's capital structure consists of approximately 7.4 percent debt and 92.6 percent equity. Thus, RWC bears significantly less financial risk than does Staff's sample companies.

Q. Is firm-specific risk measured by beta?

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

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

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

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

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

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

VI. ESTIMATING THE COST OF EQUITY

Introduction

Q. Did Staff directly estimate the cost of equity for RWC?

A. No. RWC is not a publicly-traded company, and as such Staff is unable to directly estimate its market cost of equity due to the lack of firm-specific market data. Instead, Staff must estimate the Company's cost of equity indirectly, using a representative sample group of publicly traded water utilities as a proxy for RWC. Use of a sample is appropriate, as it reduces the sample error resulting from random fluctuations in the market at the time the information is gathered.

Q. What water utilities did Staff select for its proxy group of sample companies?

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

Q. What models did Staff implement to estimate RWC's cost of equity?

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

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

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

Discounted Cash Flow Model Analysis

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

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

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

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

The Constant-Growth DCF

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

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

Equation 2:

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

where:

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

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

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

A. Staff calculated the expected yield component of the DCF formula by dividing the expected annual dividend (D_1) by the spot stock price (P_0) after the close of market on October 24, 2012, as reported by *MSN Money*.

Q. Why did Staff use the October 24, 2012, spot price rather than a historical average stock price to calculate the dividend yield component of the DCF formula?

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

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

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

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

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

[5] Derived from information provided by *Value Line*.
[6] Derived from information provided by *Value Line*.

Q. How did Staff estimate historical DPS growth?

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

Q. How did Staff estimate projected DPS growth?

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

Q. How did Staff estimate historical EPS growth rate?

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

Q. How did Staff estimate projected EPS growth?

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

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

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

Q. What is retention growth?

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

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

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

Equation 3:

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

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

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

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

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

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

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

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

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

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

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

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

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

A. Yes.

Q. What is stock financing growth?

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

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

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

A. The mathematical formula for stock financing growth is:

Equation 4:

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

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

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

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

A. Variable v is calculated as follows:

Equation 5:

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

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

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

In this example, v is equal to 0.33.

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

A. Variable s is calculated as follows:

Equation 6:

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

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

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

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

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

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

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

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

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

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

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

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

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

A. No. As discussed above, when the market-to-book ratio is equal to 1.0, no portion of the funds raised from the sale of stock by the entity accrues to the benefit of existing shareholders because the *v* term is equal to zero; thus, the *vs* term is also equal to zero. When the market-to-book ratio equals 1.0, dividend growth depends solely on the *br* term. Staff's inclusion of the *vs* term assumes that the market-to-book ratio continues to exceed 1.0, and that the sample water utilities will continue to issue and sell stock at prices above book value with the effect of benefitting existing shareholders.

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

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

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

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

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

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

A. Staff's constant-growth DCF estimate is 8.9 percent, as shown in Schedule JAC-3.

The Multi-Stage DCF

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

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

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

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

Equation 7 :

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

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

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 internal rate of return (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.

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

A. Staff calculated the stage-2 growth rate using the arithmetic mean rate of growth in Gross Domestic Product ("GDP") from 1929 to 2011.[8] Using the GDP growth rate assumes that the water utility industry is expected to grow at the same rate as the overall economy.

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

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

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

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

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

A. Staff's overall DCF estimate is 8.9 percent. Staff calculated the overall DCF estimate by averaging the constant growth DCF (8.9%) and multi-stage DCF (8.9%) estimates, as shown in Schedule JAC-3.

Capital Asset Pricing Model

Q. Please describe the CAPM.

A. The CAPM is used to determine the prices of securities in a competitive market. The CAPM model describes the relationship between a security's investment risk and its market rate of return. Under the CAPM, an investor requires the expected return of a security to equal the rate on a risk-free security plus a risk premium. The model also assumes that investors will sufficiently diversify their investments to eliminate any non-systematic or unique risk.[9] In 1990, Professors Harry Markowitz, William Sharpe, and

[8] www.bea.doc.gov.

[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.

Merton Miller earned the Nobel Prize in Economic Sciences for their contribution to the development of the CAPM.

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

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

Q. What is the mathematical formula for the CAPM?

A. The mathematical formula for the CAPM is:

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

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

Q. What is the risk-free rate?

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

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

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

Q. What does beta measure?

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

Q. How did Staff estimate RWC's beta?

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

beta for RWC. A security having a beta value of 0.71 is less volatile than the market as a whole, and thus requires a lower return on equity than does the overall market.

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

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

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

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

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

A. Staff uses the intermediate-term government bond income returns published in the Ibbotson Associates' *Stocks, Bonds, Bills, and Inflation 2012 Yearbook* to calculate the historical market risk premium. Ibbotson Associates calculates the historical risk premium by averaging the historical arithmetic differences between the S&P 500 and the intermediate-term government bond income returns for the period 1926-2011. Staff's historical market risk premium estimate is 7.2 percent, as shown in Schedule JAC-3.

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

A. Staff solves equation 8 above to arrive at a market risk premium using a DCF-derived expected return (K) of 14.77 (2.3 + 12.47[10]) percent using the expected dividend yield (2.3 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%. $1.60^{0.25} - 1 = 12.47\%$.

that *Value Line* projects for all dividend-paying stocks under its review[11] along with the current long-term risk-free rate (30-year Treasury note at 2.93 percent) and the market's average beta of 1.0. Staff calculated the current market risk premium as 11.84 percent,[12] as shown in Schedule JAC-3.

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

A. Staff's cost of equity estimates are 6.4 percent using the historical market risk premium CAPM and 11.3 percent using the current market risk premium CAPM.

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

A. Staff's overall CAPM cost of equity estimate is 8.9 percent which is the average of the historical market risk premium CAPM (6.4 percent) and the current market risk premium CAPM (11.3 percent) estimates, as shown in Schedule JAC-3.

VII. SUMMARY OF STAFF'S COST OF EQUITY ANALYSIS

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

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

$$k = 3.3\% + 4.8\%$$

$$k = \mathbf{8.1\%}$$

[11] October 26, 2012 issue date.
[12] 14.77% = 2.93% + (1) (11.84%).

Staff's constant-growth DCF estimate of the cost of equity for the sample water utilities is 8.1 percent.

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

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

Company	**Equity Cost Estimate (k)**
American States Water	9.4%
California Water	10.0%
Aqua America	9.1%
Connecticut Water	9.6%
Middlesex Water	10.3%
SJW Corp	9.5%
Average	**9.7%**

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

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

A. Staff's overall DCF estimate of the cost of equity for the sample utilities is 8.9 percent. Staff calculated an overall DCF cost of equity estimate by averaging Staff's constant growth DCF (8.1 percent) and Staff's multi-stage DCF (9.7 percent) estimates, as shown in Schedule JAC-3.

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

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

$$k = 1.3\% + 0.71 * 7.2\%$$

$$k = 6.4\%$$

Staff's CAPM estimate (using the historical market risk premium) of the cost of equity for the sample water utilities is 6.4 percent.

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

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

$$k = 2.9\% + 0.71 * 11.8\%$$

$$k = 11.3\%$$

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

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

A. Staff's overall CAPM estimate for the sample utilities is 8.9 percent. Staff's overall CAPM estimate is the average of the historical market risk premium CAPM (6.4 percent) and the current market risk premium CAPM (11.3 percent) estimates, as shown in Schedule JAC-3.

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

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

Table 2

Method	Estimate
Average DCF Estimate	8.9%
Average CAPM Estimate	8.9%
Overall Average	**8.9%**

Staff's average estimate of the cost of equity to the sample water utilities is 8.9 percent.

VIII. OTHER COST OF EQUITY ESTIMATE FACTORS

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

A. The average capital structure for the sample water utilities is composed of 48.4 percent equity and 51.6 percent debt, as shown in Schedule JAC-4. The Company's capital structure is composed of 92.4 percent equity and 7.6 percent debt. In this case, since RWC's capital structure is less leveraged than that of the average sample water utilities' capital structure, its stockholders bear less financial risk than the sample water utilities.

Q. Does RWC's reduced financial risk affect its cost of equity?

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

Q. Is Staff recommending a downward financial risk adjustment to RWC's cost of equity to recognize its lower financial risk?

A. No. Staff normally applies two criteria in assessing whether application of a downward financial risk adjustment is appropriate. The first consideration is whether the utility has a

reasonably economical capital structure. Staff considers a capital structure composed of no more than 60 percent equity to meet this condition. If equity exceeds 60 percent, as it does for RWC, Staff considers application of a downward financial risk adjustment to be appropriate if the utility meets the second criteria. The second condition is whether the utility has access to equity capital markets. Although RWC's equity exceeds 60 percent, it does not have access to the equity capital markets; accordingly, Staff is not recommending a downward financial risk adjustment to RWC's cost of equity. Staff's methodology for applying a downward financial risk adjustment encourages a utility with access to the equity capital markets to use that access to manage its capital structure with economical efficiency and encourages a utility that lacks access to the equity capital markets to maintain a healthy capital structure.

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

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

IX. RATE OF RETURN RECOMMENDATION

Q. What overall rate of return did Staff determine for RWC?

A. Staff determined an 9.3 percent ROR for the Company, as shown in Schedule JAC-1 and the following table:

Table 3

	Weight	Cost	Weighted Cost
Long-term Debt	7.6%	6.3%	0.5%
Common Equity	92.4%	9.5%	8.8%
Overall ROR			**9.3%**

X. STAFF RESPONSE TO COMPANY'S COST OF CAPITAL WITNESS MR. MATTHEW J. ROWELL

Q. Please summarize Mr. Rowell's methodology and recommendations.

A. Mr. Rowell recommends a 10.91 percent ROE based on estimates derived from two DCF analyses (constant growth and multi-stage), three CAPM analyses, and a comparable earnings analysis. In each of his cost of equity estimation methodologies, Mr. Rowell utilizes a sample which includes both publicly-traded water and natural gas utility companies; however, the make-up of each sample differs.[13] For purposes of his recommended cost of equity, Mr. Rowell assumes that realized returns on equity are reflective of investor expectations of the cost of equity, and he provides one-third weight to the market-based results derived from his DCF and CAPM analyses and two-thirds weight to the estimates derived from his comparable earnings analysis. For purposes of his comparable earnings analysis, Mr. Rowell calculates a weighted average sample ROE,

[13] For purposes of his comparable earnings analysis, Mr. Rowell's sample includes seven water companies (American States Water, Aqua America, California Water, Connecticut Water, Middlesex Water, SJW Corporation and York Water) and seven natural gas companies (Atmos Energy, Laclede Group, New Jersey Resources, Northwest Natural Gas, Piedmont Natural Gas, UGI Corporation and WGL Holdings). (Rowell Direct, pp. 16-17, and Schedule MJR-1) Mr. Rowell's DCF sample includes eight water companies (American States Water, Aqua America, California Water, Connecticut Water, Middlesex Water, SJW Corporation, York Water and Artesian Resources) and seven natural gas companies (Atmos Energy, Laclede Group, New Jersey Resources, Northwest Natural Gas, Piedmont Natural Gas, UGI Corporation and WGL Holdings). (Rowell Direct, Schedules MJR-2, MJR-3 and MJR-4) Mr. Rowell's CAPM sample includes eight water companies (American States Water, Aqua America, California Water, Connecticut Water, Middlesex Water, SJW Corporation, York Water and Artesian Resources) and eight natural gas companies (AGL Resources, Atmos Energy, Laclede Group, New Jersey Resources, Northwest Natural Gas, Piedmont Natural Gas, UGI Corporation and WGL Holdings). (Rowell Direct, Schedule MJR-6)

utilizing fiscal year 2011 financial information. Mr. Rowell's recommended ROE includes a 65-basis point upward risk adjustment for firm-specific risk.

Q. Does Staff consider it inappropriate for this Commission to rely on the cost of equity estimates derived from Mr. Rowell's comparable earnings analysis for purposes of establishing new rates for RWC in this docket?

A. No. There are several reasons. First, the cost of equity is determined by investor activity in the capital markets, where market forces -- revealing of investor expectations -- ultimately determine the value of equity securities traded on a daily basis. Mr. Rowell's comparable earnings analysis is predicated on the mistaken notion that realized ROE's, and not investor expectations, are the determinant of the cost of equity. Second, by its nature the cost of equity is a forward looking concept, revealing of an investor's opportunity cost associated with a given equity investment. By using realized ROEs as an indicator of the cost of equity in his comparable earnings analysis, however, Mr. Rowell uses what he, himself, terms "a backward looking accounting measurement" for the cost of equity.[14] Third, implicit in the adoption of Mr. Rowell's comparable earnings analysis as a proxy for RWC's cost of equity is the notion that the returns on equity authorized by other regulatory jurisdictions are appropriate for RWC, and that this Commission should embrace them for purposes of setting rates for RWC. Doing so, however, would be inappropriate, as this Commission has no knowledge of the rate-setting particulars surrounding each of Mr. Rowell's sample companies, or their relevance to RWC. Lastly, to set rates based upon Mr. Rowell's comparable earnings analysis gives rise to the issue of circularity, wherein returns set based upon comparisons with realized or authorized returns on equity established in other regulatory proceedings are assumed to be appropriate going forward, irrespective of the current market level of the cost of equity as

[14] Rowell Direct, page 3.

determined by investors. To rely on the results of a comparable earnings analysis serves to ignore market forces, which is why the Arizona Court of Appeals has strongly criticized the use of a comparable earnings analysis composed of a sample group of utilities for rate making purposes.[15]

Q. How did Mr. Rowell select his comparable earnings sample?

A. As a universe from which to choose, Mr. Rowell began by considering the six publicly-traded water utility companies used by Staff in its cost of capital analysis (American States Water, Aqua America, California Water, Connecticut Water, Middlesex Water and SJW Corporation), and the nine natural gas companies used by the Residential Utility Consumer Office ("RUCO") in its cost of capital analysis (AGL Resources, Atmos Energy, Laclede Group, New Jersey Resources, Northwest Natural Gas, Piedmont Natural Gas, South Jersey Industries, Southwest Gas and WGL Holdings). From the group of nine natural gas companies considered, Mr. Rowell removed the companies having the highest (South Jersey Industries, 14.31%) and lowest (Southwest Gas, 4.51%) realized ROEs, and he also excluded AGL Resources from consideration due to significant one-time expenses associated with a merger. Mr. Rowell then replaced AGL Resources in the sample with another natural gas utility, UGI Corporation.

Q. In his testimony, does Mr. Rowell explain why he selected UGI Corporation to replace AGL Resources in his comparable earnings sample?

A. No.

[15] See *Sun City Water Co. v. Arizona Corp. Comm'n*, 26 Ariz. 464, 556 P.2d 1126 (1976).

Q. What water companies does Mr. Rowell include in his comparable earnings sample?

A. Mr. Rowell includes the six publicly-traded water utilities initially considered for inclusion noted above, plus a seventh water utility, York Water.

Q. In his testimony, does Mr. Rowell indicate the reason for adding York Water to his comparable earnings sample?

A. No, he does not. Mr. Rowell makes no mention of York Water in his discussion of the selection of his comparable earnings sample (See Rowell Direct, pp. 16-17).

Q. Please explain Mr. Rowell's comparable earnings methodology and how he arrived at his 10.47 percent estimated cost of equity.

A. Mr. Rowell's comparable earnings methodology employs a weighted average calculation to estimate the cost of equity. As shown in Schedule MJR-1, Mr. Rowell begins by calculating the realized ROE for each of his water and natural gas sample companies, utilizing the realized net income and equity positions of each for the 2011 fiscal year. Mr. Rowell then calculates an equity weighting factor for each sample company, dividing the equity position of each by the total combined sample equity (a figure not presented in MJR-1). For purposes of arriving at his comparable earnings estimated cost of equity, Mr. Rowell then multiplies the realized ROE achieved by each sample company by its respective equity weighting factor, with the sum of those values equating to his 10.47 percent weighted average ROE.

Q. In his testimony, does Mr. Rowell state the reason he elected to use a weighted average calculation for his comparable earnings estimate?

A. Yes. Mr. Rowell utilized a weighted average ROE calculation in order to produce an estimate of the average return accruing to *each dollar* of equity in the sample. He

considered doing so appropriate, as "taking a simple average of returns produces a number that overstates the influence of the smaller utilities in the sample." (See Rowell Direct, p. 17)

Q. Has Staff prepared a schedule which would shed additional light upon Mr. Rowell's comparable earnings methodology?

A. Yes. Staff has prepared a restatement of Mr. Rowell's Schedule MJR-1 for that purpose. Although his comparable earnings sample consists of seven water companies and seven natural gas companies, as shown in Exhibit JAC-A Mr. Rowell's use of a weighted average calculation has significantly skewed the data such that his comparable earnings estimate is disproportionately influenced by the natural gas companies in the sample. Specifically, the relative weighting of the gas sample, as measured by common equity, is more than three times greater (75.45%) than that of the water sample (24.55%). That the average (i.e., simple average) realized return on equity of the gas sample (10.75%) exceeds by 139 basis points that of the water sample (9.36%) only serves to further exacerbate this disproportionate influence.[16]

Q. What is Staff's comment on Mr. Rowell's replacement of AGL Resources with UGI Corporation in his comparable earnings sample?

A. As noted earlier, Mr. Rowell excluded AGL Resources from consideration for his comparable earnings sample, replacing it with UGI Corporation. As shown in Exhibit JAC-A, UGI Corporation experienced a realized ROE of 11.78 percent in fiscal year 2011. While other natural gas companies in Mr. Rowell's sample experienced higher ROEs than did UGI Corporation, on a weighted average basis no other company in the sample had a

[16] Differences between the 10.49 percent sample weighted average ROE, as shown in Exhibit JAC-1, and the 10.47 percent weighted average ROE, as shown in Schedule MJR-1, are attributable to Mr. Rowell having used total equity, rather than common equity, in his ROE calculations.

larger impact upon Mr. Rowell's comparable earnings estimate, accounting for 19.73 percent of the sample weighted average ROE (2.07% / 10.49% = 19.73%).

Q. Does Staff have any additional observations concerning Mr. Rowell's inclusion of UGI Corporation in his comparable earnings sample?

A. Yes. As noted, of the fourteen companies selected by Mr. Rowell for inclusion in his comparable earnings sample, UGI Corporation had the single largest impact upon his weighted average estimate. However, among the Company's five operating segments, two are not subject to domestic rate regulation in the United States; UGI's International Propane segment, and its Midstream & Marketing segment, which accounted for 17 and 22 percent, respectively, of 2011 UGI corporate net income.[17] For purposes of his comparable earnings analysis, Mr. Rowell should have made a downward adjustment of 39 percent (17% + 22%) to both UGI's net income and common equity to reflect this fact, but no such adjustment was made. As a consequence, as presented in Schedule MJR-1, the weighted average ROE for UGI Corporation has been significantly overstated, resulting in a corresponding overstatement to Mr. Rowell's weighted average sample ROE estimate.

Q. Does Staff have reason to believe that a similar adjustment should be made to other natural gas companies included in Mr. Rowell's comparable earnings sample?

A. Staff has not had an opportunity to research this issue as it relates to the other natural gas companies included in Mr. Rowell's sample and, therefore, can not say with certainty whether similar adjustments might be necessary. However, Staff intends to conduct research on the other natural gas companies, and thus reserves the right to raise the issue in Surrebuttal.

[17] 2011 UGI Annual Report to Shareholders.

Q. Turning now to Mr. Rowell's DCF analyses, does his DCF sample consist of the same fourteen companies selected for inclusion in his comparable earnings sample?

A. No, it does not. Although Mr. Rowell states in his testimony that the same companies presented in his comparable earnings sample are used in his DCF analyses (See Rowell Direct, p. 18), that statement is incomplete, as a review of Schedules MJR-2, MJR-3 and MJR-4 reveal that his DCF sample consists of fifteen companies; the same fourteen (7 water, 7 gas) companies making up his comparable earnings sample, plus an additional water company, Artesian Resources Corporation.

Q. In his testimony, does Mr. Rowell state why he elected to include Artesian Resources in his DCF sample?

A. No. The Direct testimony sponsored by Mr. Rowell makes no mention of Artesian Resources, and one learns that it has been included in his DCF sample only when referring to DCF schedules MJR-2, MJR-3, and MJR-4.

Q. Has Staff reviewed the above referenced schedules to determine if Mr. Rowell's inclusion of Artesian Resources in his DCF sample served to benefit his overall DCF results?

A. Yes. Review of Schedule MJR-2 indicates that Artesian Resources is one of six sample companies having a current dividend yield in excess of four percent (4.05%). Review of Schedule MJR 3 indicates that Artesian Resources has the second highest dividend growth rate (9.21%) of all companies in the sample. Finally, review of Schedule MJR-4 indicates that Artesian Resources is one of five sample companies having a multistage DCF growth rate in excess of ten percent (10.02%). Based upon this cursory review, it appears that inclusion of Artesian Water in Mr. Rowell's DCF sample served to benefit his overall DCF estimate.

Q. For purposes of his CAPM analyses, does Mr. Rowell use the same sample companies in his CAPM sample as he did in his DCF sample?

A. No. Although Mr. Rowell makes a statement to suggest that he does (Rowell Direct at page 26), there are actually sixteen companies in his CAPM sample - the fifteen companies included in his DCF sample plus the natural gas company which he had previously excluded from his comparable earnings sample, AGL Resources.

Q. Does this mean that Mr. Rowell has included both UGI Corporation and AGL Resources in the same sample?

A. Yes. Although Mr. Rowell had previously excluded AGL Resources from his comparable earnings sample and replaced it with UGI Corporation, he has included both companies in his CAPM sample. A review of Schedule MJR-6 shows that both are included in the sample, with AGL Resources having the highest beta coefficient (0.75) of all the natural gas companies included in the sample.

Q. Does Mr. Rowell provide an explanation as to why he has included AGL Resources in his CAPM sample?

A. No, he does not.

Q. Is it a concern that Mr. Rowell used different companies in his various samples without an adequate explanation?

A. Yes. In this instance, there is no apparent good reason for the variances in the samples selected.

Q. Does Staff have any comments on Mr. Rowell's sole reliance on analysts' forecasts to estimate DPS growth in his constant growth DCF analysis?

A. Yes. Generally, analysts' forecasts are known to be overly optimistic. Sole use of analysts' forecasts to calculate the expected dividend growth rate, (g), serves to inflate that component of the DCF model and, consequently, the estimated cost of equity. Also, exclusive reliance on analysts' forecasts of earnings growth to forecast DPS is inappropriate because it assumes that investors do not look at other relevant information such as historical dividend and earnings growth.

Q. How does Staff respond to Mr. Rowell's statement that "the value g in the DCF model is defined as the *expected future* growth rate," and that analysts' forecasts are "the best proxy we have for the expected future growth rate of a given company"?[18]

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

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

A. Yes. Experts in the financial community have commented on the optimism in analysts' forecasts of future earnings.[19] A study cited by David Dreman in his book *Contrarian*

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[18] Direct testimony of Mr. Matthew J. Rowell, page 19.

[19] 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.

Investment Strategies: The Next Generation found that *Value Line* analysts were optimistic in their forecasts by 9 percent annually, on average for the 1987 – 1989 period. Another study conducted by David Dreman found that between 1982 and 1997, analysts overestimated the growth of earnings of companies in the S&P 500 by 188 percent.

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

> When confronted with the poor record of their five-year growth estimates, *the security analysts honestly, if sheepishly, admitted that five years ahead is really too far in advance to make reliable projections*. They protested that although long-term projections are admittedly important, they really ought to be judged on their ability to project earnings changes one year ahead. Believe it or not, it turned out that their one-year forecasts were even worse than their five-year projections.
>
> The analysts fought back gamely. They complained that it was unfair to judge their performance on a wide cross section of industries, because earnings for high-tech firms and various "cyclical" companies are notoriously hard to forecast. *"Try us on utilities," one analyst confidently asserted. At the time they were considered among the most stable group of companies because of government regulation. So we tried it and they didn't like it. Even the forecasts for the stable utilities were far off the mark.*[20] (Emphasis added)

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

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

A. Yes. In addition to books, there are numerous published articles appearing in *The Wall Street Journal* and other financial publications that cast doubt on the accuracy of research analysts' forecasts.[21] Investors, being keenly aware of these inherent biases in forecasts, will use other methods to assess future growth.

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

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

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

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

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[21] 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.

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

Q. Turning to Mr. Rowell's CAPM analyses, what risk-free rates does Mr. Rowell use in his three CAPM methodology?

A. In his CAPM analyses, Mr. Rowell uses historical risk-free rates (R_f) in each of his three CAPM analyses. The risk-free rates used represent a 32-year average intermediate-term (8.4%) and long-term (10.2%) U.S. Treasury rate, covering the period January 1, 1980 – December 31, 2011.

Q. Does Staff agree with Mr. Rowell's use of an historical risk-free interest rate?

A. No. The appropriate risk-free interest rate to be used is the current rate borne by investors in the market. Use of an historical risk-free rate in the CAPM should be avoided, as it reflects stale information. Cost of equity has a positive correlation with interest rates both of which vary over time.

Q. Does Staff have any comment regarding Mr. Rowell's proposed 65-basis point upward small company risk premium?

A. Yes. The Commission previously ruled in Decision No. 64282[23] for Arizona Water that firm size does not warrant recognition of a risk premium stating, "We do not agree with the Company's proposal to assign a risk premium to Arizona Water based on it size relative to other publicly traded water utilities...." The Commission confirmed its previous ruling in Decision No. 64727[24] for Black Mountain Gas agreeing with Staff that "the 'firm size phenomenon' does not exist for regulated utilities, and that therefore there is no need to adjust for risk for small firm size in utility regulation." All companies have firm-specific risks; therefore, the existence of unique risks for a company does not lead to the conclusion that its total risk is greater than other entities. Moreover, as previously

[23] Dated December 28, 2001.
[24] Dated April 17, 2002.

discussed, investors cannot expect compensation for firm-specific risk since it can be eliminated through diversification.

XI. CONCLUSION

Q. Please summarize Staff's recommendations.

A. Staff recommends that the Commission adopt an 9.3 percent overall rate of return for the Company based on a capital structure composed of 7.6 percent debt and 92.4 percent equity, Staff's 9.5 percent cost of equity estimate and 6.3 percent cost of debt.

Q. Does this conclude your direct testimony?

A. Yes, it does.

Ray Water Company Cost of Capital Calculation
Capital Structure
And Weighted Average Cost of Capital
Staff Recommended and Company Proposed

[A]	[B]	[C]	[D]
Description	Weight (%)	Cost	Weighted Cost
Staff Recommended Structure			
Debt	7.6%	6.3%	0.5%
Common Equity	92.4%	9.4%	8.7%
Weighted Average Cost of Capital			**9.2%**
Company Proposed Structure			
Debt	7.4%	6.3%	0.5%
Common Equity	92.6%	10.9%	10.1%
Weighted Average Cost of Capital			**10.6%**

[D] : [B] x [C]

Supporting Schedules: JAC-3 and JAC-4.

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Ray Water Company Cost of Capital Calculation
Final Cost of Equity Estimates
Sample Water Utilities

[A]	[B]		[C]		[D]		[E]
DCF Method			D_1/P_0 [1]	+	g [2]	=	k
Constant Growth DCF Estimate			3.3%	+	4.8%	=	8.1%
Multi-Stage DCF Estimate						=	9.7%
Average DCF Estimate							**8.9%**
CAPM Method	Rf	+	β [5]	x	(Rp)	=	k
Historical Market Risk Premium[3]	1.3%	+	0.71	x	7.2% [6]	=	6.4%
Current Market Risk Premium[4]	2.9%	+	0.71	x	11.8% [7]	=	11.3%
Average CAPM Estimate							**8.9%**
					Average of Overall Estimates		**8.9%**
					Economic Assessment Adjustment		**0.5%**
					Sub-Total		**9.4%**
					Financial risk adjustment		0.0%
					Total		**9.4%**

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 SBBI 2011 Yearbook data

7 Testimony

Ray Water Company Cost of Capital Calculation
Average Capital Structure of Sample Water Utilities

[A]	[B]	[C]	[D]
Company	Debt	Common Equity	Total
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	55.7%	44.3%	100.0%
Average Sample Water Utilities	**51.6%**	**48.4%**	**100.0%**
AWC - Actual Capital Structure	**7.6%**	**92.4%**	**100.0%**

Source:
Sample Water Companies from Value Line

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

[A]	[B]	[C]	[D]	[E]
Company	Dividends Per Share 2002 to 2011 DPS[1]	Dividends Per Share Projected DPS[1]	Earnings Per Share 2002 to 2011 EPS[1,2]	Earnings Per Share Projected EPS[1]
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	4.8%	3.0%	3.7%	4.0%
Average Sample Water Utilities	**3.2%**	**4.1%**	**4.2%**	**6.2%**

1 Value Line

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

Ray Water Company 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%	2.2%	5.8%	7.5%
California Water	2.2%	4.8%	2.1%	4.3%	6.9%
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%	4.9%	6.8%
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]

Ray Water Company Cost of Capital Calculation
Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
Company	Symbol	Spot Price 10/24/2012	Book Value	Mkt To Book	*Value Line* Beta β	Raw Beta βraw
American States Water	AWR	**43.70**	22.03	2.0	**0.70**	0.52
California Water	CWT	**18.33**	11.29	1.6	**0.65**	0.45
Aqua America	WTR	**24.82**	9.39	2.6	**0.60**	0.37
Connecticut Water	CTWS	**30.27**	13.59	2.2	**0.75**	0.60
Middlesex Water	MSEX	**18.88**	11.86	1.6	**0.70**	0.52
SJW Corp	SJW	**23.50**	15.21	1.5	**0.85**	0.75
Average				**1.9**	**0.71**	**0.53**

[C]: Msn Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

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

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

[A]	[B]
Description	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%
Sustainable Growth - Projected[2]	6.3%
Average	**4.8%**

1 Schedule JAC-5

2 Schedule JAC-6

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

[A]	[B]	[C]	[D]	[E]	[F]	[H]	[I]
Company	Current Mkt. Price (P_o)[1] 10/24/2012	Projected Dividends[2] (Stage 1 growth) (D_t) d_1	d_2	d_3	d_4	Stage 2 growth[3] (g_n)	Equity Cost Estimate (K)[4]
American States Water	43.7	1.30	1.37	1.43	1.50	6.5%	9.4%
California Water	18.3	0.66	0.69	0.73	0.76	6.5%	10.0%
Aqua America	24.8	0.67	0.70	0.73	0.77	6.5%	9.1%
Connecticut Water	30.3	0.98	1.03	1.08	1.13	6.5%	9.6%
Middlesex Water	18.9	0.75	0.78	0.82	0.86	6.5%	10.3%
SJW Corp	23.5	0.74	0.78	0.82	0.86	6.5%	9.5%
						Average	**9.7%**

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

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

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

Ray Water Company Cost of Capital Calculation
Capitalization

	Interest Rate	Annual Interest	Amount outstanding as of 12/31/2011	Percentage of Capital Structure
Long-Term Debt				
	6.25%	5,459	87,346	
		$ -		
		$ -		
Long-Term Debt		5,459	$ 87,346	7.61%
Short-Term Debt		-	$ -	0.00%
Total Debt	6.25%	$ 5,459	$ 87,346.00	7.61%
Common Equity				
Common Shares Outstanding				
Paid in Capital				
Retained Earnings				
Total Common Equity			$ 1,059,748	92.39%
Total Capitalization			$ 1,147,094	100.00%

Staff Restatement of Matthew J. Rowell Schedule MJR-1
Calculation of Comparable Earnings ROE

			Fiscal Year 2011				
			[A]	[B]	[C]	[D]	[E]
	Sample Companies		**Net Income**	**Common Equity**	**Realized ROE**	**Equity Weight**	**Weighted ROE**
1	American States Water	AWR	$ 45,859	$ 408,666	11.22%	3.63%	0.41%
2	Aqua America	WTR	143,069	1,251,313	11.43%	11.11%	1.27%
3	California Water	CWT	37,712	449,829	8.38%	3.99%	0.33%
4	Connecticut Water	CTWS	11,262	118,189	9.53%	1.05%	0.10%
5	Middlesex Water	MSEX	13,241	176,981	7.48%	1.57%	0.12%
6	SJW Corp	SJW	20,878	264,004	7.91%	2.34%	0.19%
7	York Water Co.	YORW	9,084	95,265	9.54%	0.85%	0.08%
8	Atmos Energy Corp	ATO	207,601	2,255,421	9.20%	20.03%	1.84%
9	Laclede Group, inc.	LG	63,825	573,331	11.13%	5.09%	0.57%
10	New jersey Resources Corporation	NJR	101,299	776,257	13.05%	6.89%	0.90%
11	Northwest Natural Gas Co.	NWN	63,898	714,488	8.94%	6.34%	0.57%
12	Piedmont Natural Gas Company	PNY	113,568	996,923	11.39%	8.85%	1.01%
13	UGI CORP	UGI	232,900	1,977,700	11.78%	17.56%	2.07%
14	WGL Holdings, inc	WGL	117,050	1,202,715	9.73%	10.68%	1.04%
15							
16	Sample Total Common Equity			$ 11,261,082		100.00%	
17							
18	Sample Weighted Average ROE						10.49%
19							
20							
21			**Relative Weightings:**	**Water Sample**		24.55%	
22				**Gas Sample**		75.45%	
23							
24							
25			**Average Realized ROE:**	**Water Sample**	9.36%		
26				**Gas Sample**	10.75%		

Key:
[A]: Net Income (Source: SEC Form 10-K, Income Statement, Fiscal Year 2011)
[B]: Common Equity (Source: SEC Form 10-K, Balance Sheet, for period ending Fiscal Year 2011)
[C]: [A]/[B]
[D]: [B]/Sample Total Common Equity
[E]: [C]*[D]

Note: Differences between the 10.49% sample weighted average ROE above and the 10.47% weighted ROE, as shown in Schedule MJR-1, are attributable to Mr. Rowell basing his calculations on Total Equity, not Common Equity.

EXHIBIT
S-7
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BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP
Chairman
GARY PIERCE
Commissioner
BRENDA BURNS
Commissioner
BOB BURNS
Commissioner
SUSAN BITTER-SMITH
Commissioner

IN THE MATTER OF THE APPLICATION OF RAY WATER COMPANY, INC. FOR APPROVAL OF A PERMANENT RATE INCREASE.	)))))	DOCKET NO. W-01380A-12-0254

SURREBUTTAL

TESTIMONY

OF

JOHN A. CASSIDY

PUBLIC UTILITIES ANALYST

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

JANUARY 11, 2013

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EXECUTIVE SUMMARY
RAY WATER COMPANY
DOCKET NO. W-01380A-12-0254

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

Capital Structure – Staff recommends that the Commission adopt a capital structure for Ray Water Company ("RWC" or "Company") for this proceeding consisting of 7.6 percent debt and 92.4 percent equity.

Cost of Equity – Staff recommends that the Commission adopt a 9.3 percent return on equity ("ROE") for the Company. Staff's estimated ROE for the Company is based on an economic assessment and the results of its DCF and CAPM cost of equity methodology estimates for the sample companies of 8.8 percent for the capital asset pricing model ("CAPM") and 8.5 percent for the discounted cash flow method ("DCF").

Cost of Debt – Staff recommends that the Commission adopt a 6.3 percent cost of debt for the Company.

Overall Rate of Return – Staff recommends that the Commission adopt a 9.1 percent overall rate of return.

Mr. Rowell's Testimony – The Commission should reject the Company's proposed 10.9 percent ROE for the following reasons:

> Mr. Rowell agreed that the 9.5 percent ROE that Staff recommended in Mr. Cassidy's Direct testimony was, on the whole, reasonable and acceptable to the Company so long as it provides an opportunity for the Company to earn the authorized return. The Company asserts that Staff recommendations for rate design, rent expense, maintenance expense, property tax expense best management practices and Well No. 8, if adopted, would render its opportunity to earn the authorized return illusory. The authorized ROE should provide the Company the opportunity to earn the authorized ROE under efficient operation which should exclude recovery of unnecessary expenses and capital improvements.

I. INTRODUCTION

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

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

Q. Are you the same John A. Cassidy who filed Direct testimony in this case?

A. Yes, I am.

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

A. The purpose of my Surrebuttal testimony is to report on Staff's updated cost of capital analysis with its recommendations regarding Ray Water Company's ("RWC" or "Company") cost of capital, and to respond to the cost of capital Rebuttal Testimony of Company witness, Matthew J. Rowell ("Mr. Rowell's Rebuttal").

Q. Please explain how Staff's surrebuttal testimony is organized.

A. Staff's Surrebuttal testimony is presented in four sections. Section I is this introduction. Section II discusses Staff's updated cost of capital analysis. Section III presents Staff's comments on the Rebuttal Testimony of the Company's cost of capital witness, Mr. Rowell. Lastly, Section IV presents Staff's recommendations.

Q. Before proceeding, would you care to make any corrections to your Direct testimony?

A. Yes, there are several corrections to be made to my pre-filed Direct testimony. First, in the Executive Summary, Staff's recommended capital structure is shown to consist of "92.4 percent debt and 7.6 percent equity;" corrected, these values should read, "7.6

percent debt and 92.4 percent equity." Second, on page 37, line 7, the word/sentence, "No." should be changed to, "Yes." Third, in Schedule JAC-3, there are two corrections: (i) Staff's Economic Assessment Adjustment is shown as "0.5%," and should be changed to, "0.6%;" and (ii) Staff's Total (and Sub-Total) cost of equity is shown as, "9.4%," and should be changed to, "9.5%." Finally, there are three corrections to Schedule JAC-1: (i) Staff's recommended cost of common equity should be changed from, "9.4%" to "9.5%;" Staff's weighted cost of common equity should be changed from "8.7%" to "8.8%;" and Staff's weighted average cost of capital should be changed from, "9.2%" to "9.3%."

II. COST OF EQUITY AND OVERALL RATE OF RETURN

Q. Is Staff recommending a different capital structure for RWC in its Surrebuttal testimony than it did in Direct testimony?

A. No. Despite arguments made by Mr. Rowell in Rebuttal testimony that the debt component of RWC's capital structure should be removed due to Staff's excess capacity determination for Well No. 8, Staff made no adjustment to the Company's capital structure. As noted in Staff's Direct testimony, RWC's existing debt was authorized by the Commission in Decision No. 71691 (dated May 3, 2010), and as contemplated in the Company's financing application,[1] the debt proceeds were to be used to fund the drilling and construction of a new well. At the time, Staff recommended that authorization for the loan be denied the Company, due to concerns that this additional plant – Well No. 8 – was not needed. Nevertheless, the Company was granted authorization for the loan, and in the present docket Staff has determined that Well No. 8 represents excess capacity to RWC's system. While it is true that the debt component in RWC's capital structure came into existence as a consequence of the Company's commitment to proceed with the drilling and construction of Well No. 8, that fact does not serve to justify the removal of those debt

[1] Docket No. W-01380A-09-0106.

proceeds from RWC's capital structure for rate-making purposes. Due to the fungible nature of money, regardless of the sequence in which capital is attained and assets are acquired, each of RWC's assets is funded by a pool of funds represented by both debt and equity. No source of funds can be directly attributed to any single asset as suggested by Mr. Rowell. That is, a dollar spent for one purpose cannot be differentiated from a dollar spent for another.

Q. Does the Surrebuttal testimony filed by Staff witness Crystal Brown reflect Staff surrebuttal cost of capital recommendations?

A. No. Staff's surrebuttal cost of capital analysis was not available at the time Ms. Brown's Surrebuttal testimony was prepared. Staff will be updating its revenue requirement schedules to reflect the appropriate cost of capital.

Q. Has Staff updated its analysis concerning the Company's cost of equity ("COE") since filing Direct testimony in this proceeding?

A. Yes. Staff updated its analysis to include the most recent market data available.

Q. Prior to consideration of an economic assessment adjustment, what is Staff's updated estimate for the COE?

A. Prior to consideration of an economic assessment adjustment, Staff's updated estimate for the COE is 8.7 percent. This figure was derived from cost of equity estimates which range from 8.8 percent for the discounted cash flow ("DCF") method to 8.5 percent for the capital asset pricing model ("CAPM") estimation methodologies, as shown in Surrebuttal Schedule JAC-3. In Direct testimony, Staff's preliminary COE estimate had been 8.9 percent.

Q. In its Surrebuttal testimony, does Staff recommend that an upward economic assessment adjustment be made to RWC's cost of equity?

A. Yes. Staff is recommending a 60 basis point (0.6 percent) upward economic assessment adjustment to RWC's COE, which is the same economic assessment adjustment, corrected as noted above, made in Staff's Direct testimony.

Q. What COE is Staff recommending for RWC?

A. Staff is recommending a COE of 9.3 percent. This figure represents Staff's updated 8.7 percent COE, derived from updated cost of equity estimates ranging from 8.8 percent for the discounted cash flow ("DCF") method to 8.5 percent for the capital asset pricing model ("CAPM") estimation methodologies, and includes Staff's 60 basis point economic assessment adjustment.

Q. Did Staff update its analysis concerning the Company's overall rate of return?

A. Yes, the updated analysis is supported by Surrebuttal Schedules JAC-1 to JAC-9.

Q. What is Staff's updated overall rate of return?

A. Staff's updated overall rate of return is 9.1 percent, a decrease from 9.3 percent, corrected as noted above, in Staff's Direct testimony.

Q. What overall rate of return is Staff recommending for RWC?

A. Staff recommends a 9.1 percent overall rate of return. Staff's recommendation is based on a COE of 9.3 percent, a cost of debt of 6.3 percent and a capital structure consisting of 7.6 percent debt and 92.4 percent equity, as shown in Surrebuttal Schedule JAC-1.

III. STAFF RESPONSE TO COMPANY'S COST OF CAPITAL WITNESS MR. MATTHEW J. ROWELL

Q. What capital structure does Mr. Rowell recommend for the Company in his Rebuttal Testimony?

A. For ratemaking purposes, Mr. Rowell's position concerning RWC's capital structure appears to be dependent upon Staff's treatment of Well No. 8. To the extent Staff includes Well No. 8 in rate base, he has no objection to the inclusion of RWC's debt in the capital structure. However, should Staff continue to exclude Well No. 8 from rate base on grounds that it represents excess capacity, Mr. Rowell is adamant that the debt component must be removed from the capital structure, on grounds that the debt proceeds were used to finance construction of Well No. 8.

Q. When filing direct testimony, Staff recommended a capital structure consisting of 7.6 percent debt, while the Company had proposed a capital structure consisting of 7.4 percent debt. In his Rebuttal Testimony, did Mr. Rowell address this issue?

A. Yes. Although he did not fully agree with Staff's recommended capital structure due to differences in the debt component, Mr. Rowell acknowledged that the difference was immaterial, and thus agreed to accept Staff's recommended capital structure, subject to the caveat noted above regarding the treatment of Well No. 8.

Q. In his Rebuttal Testimony, did Mr. Rowell comment on Staff's recommended 9.5 percent COE for the Company?

A. Yes. Mr. Rowell states that he found Staff's 9.5 percent COE recommendation to be, "on the whole, reasonable." (see Rowell Rebuttal, p. 3, line 7).

Q. Did Mr. Rowell indicate if the Company was willing to accept a 9.5 percent ROE in this docket?

A. Yes, Mr. Rowell indicated that RWC is "willing to agree to the 9.5% ROE" (See Rowell Rebuttal, p.3, lines 23-24). However, he then goes on to characterize Staff's recommended 9.5 percent ROE as, "illusory," asserting that "Staff's other recommendations[2] and adjustments deny the Company the opportunity to earn 9.5%" (Rowell Direct, p.3, lines 25-27).

Q. How does Staff respond to this assertion?

A. Mr. Rowell's characterization is unwarranted. Staff's cost of capital analysis is market based, and relies on estimates derived from both the DCF and CAPM models. Mr. Rowell's proposed 10.9 percent COE was derived, primarily, upon the results obtained from his comparable earnings analysis, and as was demonstrated by Staff in its Direct testimony, that analysis was flawed in a number of ways. First, Mr. Rowell's weighted average ROE methodology allowed his COE estimates to be disproportionately influenced by the natural gas companies in his sample. Second, the selection of UGI Corporation as a replacement for AGL Resources in his comparable earnings sample allowed that company – one of 14 companies in the sample -- to account for almost 20 percent (19.73%) of his comparable earnings estimate. Lastly, the overall influence of UGI Corporation upon Mr. Rowell's comparable earnings estimate was improperly inflated due to a failure to exclude that portion of UGI earnings attributable to its non-regulated operations.

[2] Specifically, Staff's recommendations for rate design, rent expense, maintenance expense, property tax expense best management practices and Well No. 8.

Q. In its direct testimony, Staff reserved the right to conduct research on the other gas companies in Mr. Rowell's comparable earnings sample to determine if they, like UGI Corporation, may have had operational income derived from non-regulated segments. Did Staff conduct such research for purposes of its Surrebuttal testimony?

A. Yes.

Q. What were the results of Staff's research in that regard?

A. Staff conducted research on each of the seven natural gas companies included in Mr. Rowell's comparable earnings sample to determine what portion, if any, of their 2011 fiscal year revenues were derived from non-regulated operations. With the exception of one company (Piedmont Natural Gas), all derived a portion of their revenues from non-regulated operations, and as shown in Surrebuttal Exhibit JAC-A, the overall average of non-regulated revenues for all seven companies -- including Piedmont Natural Gas – was 35.85 percent.

Q. Based on the data shown in surrebuttal Exhibit JAC-A, what additional conclusions can be drawn regarding Mr. Rowell's comparable earnings analysis?

A. The data shown in surrebuttal Exhibit JAC-A is further evidence that Mr. Rowell's comparable earnings estimate for the cost of capital has been overstated. Having utilized a weighted average methodology for purposes of his comparable earnings analysis, Mr. Rowell should have made an adjustment to remove that portion of the earnings attributable to non-regulated operations for each company. His failure to do so results in an inflated weight factor for each gas sample company having non-regulated operations.

IV. STAFF RECOMMENDATIONS

Q. What are Staff's recommendations for RWC's cost of capital?

A. Staff makes the following recommendations for RWC's cost of capital:

1. Staff recommends a capital structure of 7.6 percent debt and 92.4 percent equity.
2. Staff recommends a cost of debt of 6.3 percent.
3. Staff recommends a cost of equity of 9.3 percent.
4. Staff recommends an overall rate of return of 9.1 percent.

Q. Does Staff's silence on any particular issue raised by the Company in its Rebuttal testimony imply that Staff agrees with the stated Rebuttal position?

A. No.

Q. Does this conclude your Surrebuttal testimony?

A. Yes, it does.

Ray Water Company Cost of Capital Calculation
Capital Structure
And Weighted Average Cost of Capital
Staff Recommended and Company Proposed

[A]	[B]	[C]	[D]
Description	Weight (%)	Cost	Weighted Cost
Staff Recommended Structure			
Debt	7.6%	6.3%	0.5%
Common Equity	92.4%	9.3%	8.6%
Weighted Average Cost of Capital			**9.1%**
Company Proposed Structure			
Debt	7.4%	6.3%	0.5%
Common Equity	92.6%	10.9%	10.1%
Weighted Average Cost of Capital			**10.6%**

[D] : [B] x [C]

Supporting Schedules: JAC-3 and JAC-4.

Ray Water Company Cost of Capital Calculation
Final Cost of Equity Estimates
Sample Water Utilities

[A]	[B]		[C]		[D]		[E]
DCF Method			D_1/P_0 [1]	+	g [2]	=	k
Constant Growth DCF Estimate			3.2%	+	4.8%	=	8.0%
Multi-Stage DCF Estimate						=	9.6%
Average DCF Estimate							**8.8%**
CAPM Method	Rf	+	β [5]	x	(Rp)	=	k
Historical Market Risk Premium[3]	1.3%	+	0.71	x	7.1% [6]	=	6.3%
Current Market Risk Premium[4]	3.0%	+	0.71	x	10.9% [7]	=	10.7%
Average CAPM Estimate							**8.5%**
					Average of Overall Estimates		**8.7%**
					Economic Assessment Adjustment		**0.6%**
					Sub-Total		**9.3%**
					Financial risk adjustment		0.0%
					Total		**9.3%**

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 SBBI 2012 Yearbook data

7 Testimony

Ray Water Company Cost of Capital Calculation
Average Capital Structure of Sample Water Utilities

[A]	[B]	[C]	[D]
Company	Debt	Common Equity	Total
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	55.7%	44.3%	100.0%
Average Sample Water Utilities	**51.6%**	**48.4%**	**100.0%**
Ray Water - Actual Capital Structure	**7.6%**	**92.4%**	**100.0%**

Source:
Sample Water Companies from Value Line

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

[A]	[B]	[C]	[D]	[E]
Company	Dividends Per Share 2003 to 2012 DPS[1,2]	Dividends Per Share Projected DPS[1,3]	Earnings Per Share 2002 to 2011 EPS[1]	Earnings Per Share Projected EPS[1]
American States Water	3.9%	5.9%	5.1%	4.7%
California Water	1.2%	3.4%	6.2%	8.6%
Aqua America	7.7%	4.5%	7.3%	5.6%
Connecticut Water	1.7%	No Projection	0.4%	No Projection
Middlesex Water	1.7%	1.9%	2.4%	8.3%
SJW Corp	4.4%	3.0%	3.7%	4.0%
Average Sample Water Utilities	**3.4%**	**3.8%**	**4.2%**	**6.2%**

1 Value Line

2 Value Line -- Ten- year historical dividend growth updated from 2003-2012 as it is known and measureable.

3 Value Line -- Projected DPS growth covers the four-year period, 2012-2016.

Ray Water Company 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%	2.4%	6.0%	7.7%
California Water	2.2%	4.8%	2.0%	4.2%	6.8%
Aqua America	4.4%	5.2%	2.2%	6.6%	7.4%
Connecticut Water	2.2%	No Projection	1.0%	3.2%	No Projection
Middlesex Water	1.3%	3.3%	3.6%	4.9%	6.9%
SJW Corp	3.7%	2.9%	0.1%	3.8%	3.0%
Average Sample Water Utilities	**2.9%**	**4.3%**	**1.9%**	**4.8%**	**6.4%**

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

Ray Water Company Cost of Capital Calculation
Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
Company	Symbol	Spot Price 12/19/2012	Book Value	Mkt To Book	*Value Line* Beta β	Raw Beta βraw
American States Water	AWR	**47.34**	22.18	2.1	**0.70**	0.52
California Water	CWT	**18.15**	11.35	1.6	**0.65**	0.45
Aqua America	WTR	**24.69**	9.45	2.6	**0.60**	0.37
Connecticut Water	CTWS	**30.26**	13.64	2.2	**0.75**	0.60
Middlesex Water	MSEX	**19.14**	11.93	1.6	**0.70**	0.52
SJW Corp	SJW	**25.50**	15.30	1.7	**0.85**	0.75
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

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

[A]	[B]
Description	g
DPS Growth - Historical[1]	3.4%
DPS Growth - Projected[1]	3.8%
EPS Growth - Historical[1]	4.2%
EPS Growth - Projected[1]	6.2%
Sustainable Growth - Historical[2]	4.8%
Sustainable Growth - Projected[2]	6.4%
Average	**4.8%**

1 Schedule JAC-5

2 Schedule JAC-6

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

[A]	[B]	[C]	[D]	[E]	[F]	[H]	[I]
Company	Current Mkt. Price (P_o)[1] 12/19/2012	Projected Dividends[2] (Stage 1 growth) (D_t) d_1	d_2	d_3	d_4	Stage 2 growth[3] (g_n)	Equity Cost Estimate (K)[4]
American States Water	47.3	1.30	1.37	1.43	1.50	6.5%	9.1%
California Water	18.2	0.66	0.69	0.73	0.76	6.5%	10.0%
Aqua America	24.7	0.68	0.71	0.75	0.78	6.5%	9.1%
Connecticut Water	30.3	0.98	1.03	1.08	1.13	6.5%	9.6%
Middlesex Water	19.1	0.75	0.78	0.82	0.86	6.5%	10.3%
SJW Corp	25.5	0.74	0.78	0.82	0.86	6.5%	9.3%
						Average	**9.6%**

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

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

1 [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

Docket No. W-01380A-12-0254

Surrebuttal Exhibit JAC-A

Regulated and Non-regulated Operating Revenues
of Mr. Rowell's Comparable Earnings
Natural Gas Sample Companies

	Company	Ticker	Operating Revenues -- Fiscal Year 2011		
			Total Revenues ($ 1,000s)	Nonregulated Revenues ($ 1,000s)	Nonregulated %
1	Atmos Energy	ATO	$ 4,347,634	$ 1,729,513	39.78%
2	Laclede Group	LG	1,603,307	669,375	41.75%
3	New Jersey Resources	NJR	3,009,209	1,996,997	66.36%
4	Northwest Natural Gas	NWN	369,433	26,463	7.16%
5	Piedmont Natural Gas	PNY	1,433,905	-	0.00%
6	UGI Corp.	UGI	6,091,300	2,548,400	41.84%
7	WGL Holdings	WGL	2,751,501	1,486,921	54.04%
8					
9	**Sample Average**				35.85%

Source: Form 10-Ks filed with the SEC by ATO, LG, NJR, NWN, PNY, UGI and WGL, for the 2011 Fiscal Year.

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EXHIBIT
S-8
ADMITTED

Ray Water Company
Docket No. W-01380A-12-0254

Analysis of Changes in Plant, Rate Base and Operating Revenues -- 1999-2011

							Rate Base			Operating Revenues		
Line	Year	Utility Plant in Service	Accumulated Depreciation	Net Plant	AIAC	Net CIAC	Rate Base	Annual % Change	Periodic % Change	Operating Revenues	Annual % Change	Periodic % Change
1	1999	$ 1,310,536	(550,882)	$ 759,654	(167,481)	(20,200)	$ 571,973			$ 460,720		
2	2000	1,339,214	(595,223)	743,991	(263,443)	(21,939)	$ 458,609	-19.82%		491,970	6.78%	
3	2001	1,413,589	(656,025)	757,564	(330,287)	(23,505)	$ 403,772	-11.96%		497,603	1.14%	
4	2002	1,512,001	(710,490)	801,511	(328,109)	(51,216)	$ 422,186	4.56%		553,842	11.30%	
5	2003	1,776,154	(779,588)	996,566	(568,848)	(49,144)	$ 378,574	-10.33%		518,179	-6.44%	
6	2004	2,178,937	(856,570)	1,322,367	(755,570)	(273,068)	$ 293,729	-22.41%		551,820	6.49%	
7	2005	2,217,135	(916,490)	1,300,645	(956,960)	(258,090)	$ 85,595	-70.86%		598,003	8.37%	
8	2006	2,238,119	(991,815)	1,246,304	(940,109)	(248,185)	$ 58,010	-32.23%	-89.86%	654,707	9.48%	42.11%
9	2007	2,806,599	(1,091,752)	1,714,847	(911,044)	(233,352)	$ 570,451	883.37%		630,028	-3.77%	
10	2008	3,431,339	(1,363,199)	2,068,140	(1,152,879)	(437,452)	$ 477,809	-16.24%		616,307	-2.18%	
11	2009	4,720,689	(1,420,909)	3,299,780	(1,754,066)	(792,948)	$ 752,766	57.55%		635,172	3.06%	
12	2010	4,796,927	(1,625,341)	3,171,586	(1,752,144)	(769,942)	$ 649,500	-13.72%		599,142	-5.67%	
13	2011	5,261,065	(1,831,690)	3,429,375	(1,719,467)	(721,919)	$ 987,989	52.12%		590,656	-1.42%	-9.78%

Source: Ray Water Annual Reports, 1999-2011

Analysis: As per above, Ray's rate base diminished the year following its prior rate increase, falling from a high of $571,973 in 1999, to a low of $58,010 in 2006 (a decrease of 89.86%). Then, in 2007, rate base increased by $512,441 (883.4%) to a level of $570,451. The growth in rate base since that time is largely attributable to the Company's investment in Well No 8.

Analysis: As per above, operating revenues increased 42.11% from 1999-2006, but decreased 9.78% from 2007-2011. Thus, from a revenue standpoint, 2007 would have been the optimal year for Ray to seek a rate increase.

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Alternative Recommendation of Staff

In the prefiled direct and surrebuttal testimonies of Ms. Dorothy Hains, Staff recommended that prior to its next rate application, the Company undertake a formal study to demonstrate that adding multiple variable frequency drive motors is more cost efficient than adding additional hydropneumatic tank capacity, or whether a more cost efficient alternative might exist.

As an alternative to that recommendation, Staff proposes the following:

Staff recommends that the Company be required to monitor, record, and document all instances where a pump was repaired or replaced, clearly specifying which pump needed repairs or replacement, and including documentation supporting the associated repair or replacement costs. Staff further recommends that the Company be required to record the date and nature of all frequency and low pressure complaints by customers. Staff further recommends that these monitoring and recording requirements begin immediately and continue until the Company files its next rate case. If the Company fails to comply with these monitoring and recording requirements, Staff further recommends that the Company be ordered in its next rate case to undertake a formal study to demonstrate that adding multiple variable frequency drive motors is more cost efficient than adding additional hydropneumatic tank capacity, or whether a more cost efficient alternative might exist.

Prepared by: Staff Witness Dorothy Hains

EXHIBIT
S-11
ADMITTED
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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
GARY PIERCE, CHAIRMAN
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP
BRENDA BURNS

APPLICATION OF RAY WATER COMPANY FOR A PERMANENT INCREASE IN ITS RATES	Docket No. W-01380A-12-0254 **RESPONSE TO STAFF'S EIGHTH SET OF DATA REQUESTS**

Ray Water Company, Inc. ("Company"), hereby responds to Staff's Eight Set of Data Requests as follows:

JAC-8.1 Please provide the Cost of Capital work papers of witness Matthew J. Rowell in Excel format with formulas intact.

Response: Providing in a separate attached file.

JAC-8.2 If available, please provide audited financial statements for the Company's most recent fiscal year ended December 31, 2011. The financial statements should include, but not be limited to, balance sheets, income statements, reconciliation of retained earnings (membership capital or equity), cash flow statements, footnotes, disclosures, and any other pertinent documentation including a schedule of general and administrative costs, and all management and accountants' opinion letters. Un-audited

financial statements will suffice if audited statements are not available. If audited financial statements for the year ended December 31, 2011 are not yet available, please indicate when they will be available and provide them at that time.

Response: The Company did not have an audit performed for 2011.

JAC-8.3 Please provide an explanation for the Company's proposed use of a pro forma capital structure reflecting next year's long-term debt balance ($84,653) rather than the current ($100,000) balance. Additionally, provide copies of the loan covenant and the lender's term sheet relating to the Company's long-term debt, and all other documentation supporting the Company's pro forma debt balance.

Response: The $100,000 is not the current debt balance. It was the balance at the end of the test year (2011) over nine months ago. New rates will not be effective until at least several months into next year (2013). The cost of capital is a forward looking concept that deals with the *expected* return necessary to attract capital. In light of the time frames of the rate case and the forward looking nature of cost of capital estimation it is appropriate to use an updated capital structure. The Company previously provided the loan documents to the Commission.

JAC-8.4 The capital structure proposed by the Company consists of 7.4 % debt and 92.6 % equity. Please provide an explanation as to why Ray Water has not employed, to a greater extent, fixed cost debt capital to fund its rate base.

Response: Ray Water is a small utility with limited access to debt markets. Unlike large utilities like Arizona Public Service, issuing bonds is not a practical alternative for a utility the size of Ray. Furthermore, obtaining a bank loan is not easy for a small water utility in Arizona. DMAS has dealt with a multitude of Arizona's small water utilities over the years and we cannot recall a single one that was able to procure a business loan from a traditional bank. Banks are unwilling to deal with Arizona's small water utilities because loan approval from the ACC takes longer than the banks are willing to extend the loan offer.

The only reasonable external source of debt financing available to small water utilities is that provided through government agencies such as WIFA or the USDA. While these sources of debt financing offer low interest rates, their total cost is often much higher than the interest rate alone would imply. WIFA's fees and reserve requirements drive up the cost of WIFA loans well above the interest rate. Further, regulatory requirements associated with WIFA loans, such as Davis-Bacon wages, can increase the costs associated with using them.

Finally, it must be noted that Staff previously opposed the acquisition of Ray's current debt. In Docket No. W-01380A-09-0106 Ray sought approval to

finance the construction of a new well through a loan from an affiliated entity. Over the objection of Staff, the Commission approved the financing.

JAC-8.5 For all publicly traded water and natural gas distribution utility companies included in Mr. Rowell's sample, please provide a schedule showing the capital structure for each sample company, along with the overall sample average capital structure.

Response:

		2011	2011		
Company	**Symbol**	**Debt**	**Equity**	**Debt %**	**Equity %**
American States	AWR	342.69	408.67	46%	54%
Aqua American	WTR	1,583.66	1,251.31	56%	44%
California Water	CWT	535.30	449.83	54%	46%
Connecticut Water	CTWS	156.63	118.96	57%	43%
Middlesex Water	MSEX	160.99	180.33	47%	53%
SJW Corp	SJW	344.69	264.00	57%	43%
American Water	AWK	5,904.99	4,240.38	58%	42%
York Water Co.	YORW	85.02	95.27	47%	53%
AGL Resources, inc.	AGL	4,899.00	3,318.00	60%	40%
Atmos Energy Corp	ATO	2,414.95	2,255.42	52%	48%
Laclede Group, inc.	LG	410.36	573.33	42%	58%
New jersey Resources Corporation	NJR	593.72	776.26	43%	57%
Nicor, inc	GAS	4,899.00	3,318.00	60%	40%
Northwest Natural Gas Co.	NWN	823.30	714.49	54%	46%
Piedmont Natural Gas Company	PNY	1,006.00	996.92	50%	50%
South Jersey Industries, Inc	SJI	747.80	624.11	55%	45%
Southwest Gas Corporation	SWX	1,253.48	1,226.02	51%	49%
UGI CORP	UGI	2,296.40	1,977.70	54%	46%
WGL Holdings, inc	WGL	703.74	1,230.89	36%	64%
			Average	51%	49%

JAC-8.6 In regard to JAC-8.5 above, please identify those companies within Mr. Rowell's sample group of companies whose authorized return on equity (ROE) was established using a hypothetical capital structure, if any, and provide an explanation as to how Mr. Rowell adjusted for this factor in his analysis.

Response: The analysis focused on *realized* ROEs not authorized ROEs. The Company does not possess the requested data on authorized ROEs.

JAC-8.7 On page 11 of his Direct Testimony, Mr. Rowell states that Ray Water's realized ROE was -8.55 % in the 2011 test year, and that in the intervening years since Decision No. 61610 (dated April 1, 1999) was issued, the Company achieved an average ROE of only 4.49 %. Given the Company's inability to achieve its authorized 11.00 % ROE, please explain why management elected to wait almost 14 years from the time Ray Water filed its last rate case (July 20, 1998) to the time it filed this case (June 14, 2012).

Response: First and foremost, rate cases are expensive and time consuming and the amount of resources that are demanded to undertake a rate case discourage frequent rate cases. Second, to our knowledge, there has been no material change in Staff's methodology that would correct the issue. Despite the question's implication, more frequent rate cases do not guarantee that a higher ROE can be maintained. Mr. Rowell's testimony shows clearly that even water utilities that have come in for rate cases much more frequently than Ray have been unable to achieve their authorized ROEs.

For all but one of the years following the last rate case Ray has been unable to achieve its authorized ROE. Prior to 2008 the realized ROEs had been above 4%. In 2008 and thereafter Ray's realized ROEs cratered and fell to 1.97%, then -1.2% (2009), then -2.3% (2010), and then -8.55% (2011). Only when the returns became so low (negative) did the potential benefits of a rate case outweigh its cost.

JAC-8.8 On page 2 of his Direct Testimony, Mr. Rowell states that his testimony "demonstrates that Ray Water is not currently earning the rate of return authorized in its last general rate case and that the previously authorized rate of return is not sufficient to cover Ray's current cost of capital." Please acknowledge the following:

a) The overall rate of return (ROR) authorized by the Commission in Decision No. 61610 was 10.48 %, and that the ROR the Company is presently seeking is 10.56 %; and

b) Since the Company's last rate case, there has been a downward trend in interest rates and the overall cost of capital.

Response: Decision No. 61610 speaks for itself. Further, there has not been a consistent downward trend in interest rates since Ray's last rate case. Interest rates rose slightly following the last rate case, then fell during the early '00s then rose in the mid '00s, and then fell in the post 2008 time frame. A review of ACC authorized overall RORs for water companies since 2001 reveals no consistent trend of any kind.

JAC-8.9 In his testimony, Mr. Rowell uses the Comparable Earnings Analysis as his primary cost of equity estimation methodology, and uses the cost of equity estimates derived from the Discounted Cash Flow ("DCF") and Capital Asset Pricing Model ("CAPM") models to supplement those cost of equity results (Rowell Direct, p.2). Please cite prior cases in which Mr. Rowell has testified where he used the DCF and CAPM to supplement the cost of equity estimates derived from the Comparable Earnings Analysis. If Mr. Rowell has previously not so testified, please indicate why he elected to do so in this case.

Response: Mr. Rowell's analysis is based upon facts, not precedence. Mr. Rowell elected to testify as he did for four main reasons. First, over the past five years, it has become clear that the ACC's historical approach to regulating water companies results in depressed earnings. This significant risk should be incorporated into cost of capital analysis.

Second, as I developed more experience with the Arizona water utility industry it became apparent that Arizona's water utilities are vastly different than the utilities that the Staff, RUCO and some companies include in their samples when developing cost of capital recommendations. The differences between Arizona's water industry and the company's typically included in Cost of Capital analysis samples is one of *kind* not *degree*. It became apparent to me that such differences should be incorporated into cost of capital analysis. This issue is discussed at length in my testimony.

Third, comparing the ROEs recommended by Staff and RUCO to the actual ROEs achieved by the companies included in Staff and RUCOs samples showed that Staff and RUCO's methods generally underestimated the actual ROE. Given this it became apparent that a new approach to Cost of Capital analysis was necessary.

Fourth, the current economic/financial situation has raised serious questions about the current applicability of the CAPM model. This issue is discussed at length in my testimony.

JAC-8.10 Please cite authority for the assertion, "the ACC only began routinely using the CAPM in the last ten years" (Rowell Direct, p.25).

Response: The testimony of the expert witness, Mr. Rowell, is the authority. His testimony is based upon his understanding of ACC practice.

JAC-8.11 Please provide support for the assertion that use of tiered rates contributes to the erosion of earnings among Arizona utilities (Rowell Direct, p. 9).

Response: During his tenure on the ACC Staff Mr. Rowell acted as the Chairman of the Commission's Water Task Force. The policy of tiered rates originated with the Task Force and thus Mr. Rowell speaks with considerable authority regarding the intended results of the policy. The policy of tiered rate was (and still is) *intended to reduce usage*. A policy that reduces usage will necessarily reduce revenue (since revenue is partially based on usage.) When revenue declines earnings also decline.

In a rate case rates are based on *historical* usage. If usage is less than the historical amount revenue (and earnings) will necessarily be less than those anticipated when rates were designed. Additional support for the fact that tiered rates erode earnings can be found in the paper: Effects of High Tiered Rates On the Financial Stability of Regulated Utilities And Necessary Regulatory Response, With Application to Water Utilities Stephen St Marie, California Public Utilities Commission, Prepared for the Center for Research in Regulated Industries, 23rd Annual Conference June 23-25, 2010, Monterey CA available at: http://www.cpuc.ca.gov/NR/rdonlyres/F8121DD0-A38A-4B7F-91BC-F16DDEEFDE9D/0/SST20100625CRRIMontereyPaperFinal1.pdf

It is also notable that NARUC's endorsement of revenue decoupling in the natural gas industry is based on a recognition that programs designed to decrease usage (such as tiered rates) erode utility earnings. See: Resolution on Second Joint Statement of the American Gas Association and the Natural Resources Defense Council in Support of Measures to Promote Increased Energy Efficiency and Reduction in Greenhouse Gas Emissions. Available at: http://www.naruc.org/Resolutions/GS%20Second%20Joint%20Statement.pdf

JAC-8.12 Please indicate the number of large industrial customers Ray Water currently provides service to, and the number of large industrial customers the Company has gained and lost since its last rate case (Rowell Direct, pp. 9-10).

Response: The H-5 schedules in the current rate case indicate the following number of commercial customers:

////

////

Commercial Customers	
5/8th by 3/4	10
1 Inch	18
1.5 inch	1
2 inch Commercial	5
3 inch	1
4 inch	1
6 inch	1

The number of commercial customers at the time of the last rate case can be discerned from the H-5 schedules filed in the last rate case which are on file at the ACC.

The discussion at pages 9 and 10 of Rowell Direct Testimony pertained to the risk associated with large customers conserving water. A review of the H-5 schedules in Ray's current rate case indicates that a handful of commercial users generate a disproportionate amount of revenue. If even one of those users starts to conserve, the revenue impact to Ray will be significant. This is the risk addressed by Mr. Rowell.

JAC-8.13 In his testimony, Mr. Rowell asserts that the regulatory environment in Arizona makes it difficult for water utilities to earn their authorized ROEs, citing as evidence the sale of Chaparral City Water by American States Water Company to EPCOR, and claiming that the transaction demonstrates "private capital is fleeing the Arizona water utility industry" (Rowell Direct, p. 10). In light of the above, please acknowledge the following:

a) American States Water experienced a gain (net of taxes and transaction costs) of approximately $2.2 million on the sale of the Chaparral City Water system to EPCOR;

b) EPCOR purchased the Chaparral City Water system at a premium (not a discount) to book value from American States Water; and

c) The purchase, by EPCOR, of the Chaparral City Water system represents an equity investment of capital into the Arizona water utility industry.

Response: Mr. Rowell has not studied the above-referenced transaction "gain (net of taxes and transaction costs)". If such a $2.2 million gain did occur it is more than offset by the years of under-earning that preceded it and it is the exception to the rule.

JAC-8.14 Please quantify the dividend distributions made to Ray Water equity shareholders, if any, since the filing of the Company's prior rate case, showing the dollar amount of dividends paid in each year, 1999-2011, inclusive.

Response: Ray Water paid no dividends to its shareholders during this period.

JAC-8.15 As evidence that Arizona water utilities are not achieving their authorized ROEs, Mr. Rowell compares realized ROEs for a sample group of Class A Arizona water utilities with those from the publicly traded companies included in Staff's water sample and RUCO's gas sample over the period, 2007-2010 (Rowell Direct, pp. 7-8, Charts 1 and 2). For the Arizona water utilities, realized ROE figures were obtained from net income and equity balances reported in annual reports filed with the Commission, while those of the publicly traded companies were derived from audited financial information reported in *Value Line*. In light of the above, please respond to the following:

a) For each Arizona water utility ROE presented in Charts 1 and 2, identify whether the financial statement information used is certified by an independent accountant; and

Response: The Arizona companies included in Charts 1 and 2 are:

Arizona American (Water and Sewer)
Chaparral City
Arizona Water
Rio Rico (Water and Sewer)
LPSCO (Water)
LPSCO (Sewer)

Arizona America and Chaparral City were subsidiaries of publicly traded entities at the time. The information used in Charts 1 and 2 was included in ACC annual reports. Thus, that information was necessarily subject to audit by independent accountants.

I am not aware of the auditing requirements that the other companies listed above are subject to. However, each of these companies filed multiple rate cases over the time period covered by Charts 1 and 2. The ACC Staff subjects utilities to extensive audits and discrepancies between annual report data and data contained in rate case filings can become issues in rate cases. Given this, it is appropriate to treat the information contained in ACC annual reports as effectively being audited information.

b) Indicate if Mr. Rowell considers unaudited financial information to be as reliable as audited financial statements certified by an independent accountant. To the extent he does so consider unaudited financials to be as reliable, provide an explanation to support such a position.

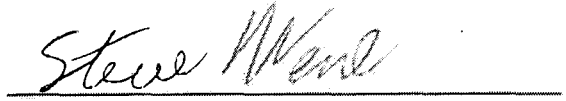
Response: As stated in response to part (a) above information contained in the ACC annual reports of large Arizona utilities is effectively audited information.

JAC-8.16 On page 15 of his Direct Testimony, Mr. Rowell states that Hope and Bluefield established 'commensurate earnings', 'financial integrity', and 'capital attraction' as the three standards for a fair return on the cost of equity. Please acknowledge that Bluefield established a fourth standard; namely, that a fair return can change over time, along with economic conditions and capital markets. (Quote from Bluefield: "A rate of return may be reasonable at one time, and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally.")[1]

Response: I acknowledge that Bluefield established a fourth standard as stated above. My testimony is completely consistent with this standard. In fact, an analysis of "opportunities for investment" and "business conditions generally" forms the basis of my testimony. And this is supplemented by an analysis of "the money market." Cost of Capital testimony that ignores "opportunities for investment" and "business conditions generally" and focuses exclusively on "the money market" misapplies this standard.

RESPECTFULLY SUBMITTED this 16th day of October, 2012.

MOYES SELLERS & HENDRICKS LTD.



Steve Wene

Electronically mailed
this 16th day of October to:

Scott M. Hesla
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John A. Cassidy
jcassidy@azcc.gov

[1] Cited in Parcell, David C., *The Cost of Capital – A Practitioner's Guide* (1997 Edition), p. 3-13.

NEW APPLICATION

ORIGINAL

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
GARY PIERCE, CHAIRMAN
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP
BRENDA BURNS

W-01380A-12-0254

APPLICATION OF RAY WATER COMPANY FOR A PERMANENT INCREASE IN ITS RATES	Docket No. W-01380-12-_____ **RATE APPLICATION**

Ray Water Company, Inc. ("Company" or "Applicant"), hereby applies for an increase in its water rates.

SUPPORTING DOCUMENTATION

Pursuant to A.A.C. Rule 14-2-103, the Company submits the following documentation in support of the proposed increase in rates and charges:

- Direct Testimony of Sonn S. Rowell (*see* Exhibit 1);
- Required Schedules, Statements, and Documentation (*see* Exhibit 2);
- Water Use Flow Data Sheets (*see* Exhibit 3);

- Plant Descriptions (*see* Exhibit 4);
- Direct Testimony of Matt Rowell (*see* Exhibit 5);
- Monitoring Assistance Program Sampling Fee Invoices (*see* Exhibit 6);
- Department of Environmental Quality compliance report (*see* Exhibit 7); and
- Department of Revenue Certificate of Good Standing (*see* Exhibit 8).

RESPECTFULLY SUBMITTED this 14th day of June, 2012.

MOYES SELLERS & HENDRICKS LTD.

Steve Wene

Steve Wene

Original and 13 copies of the foregoing filed this 14th day of June, 2012, with:

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

Donnelly Herbert

EXHIBIT 1

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
GARY PIERCE, CHAIRMAN
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP
BRENDA BURNS

APPLICATION OF RAY WATER COMPANY FOR A PERMANENT INCREASE IN ITS WATER RATES	**DIRECT TESTIMONY OF SONN S. ROWELL**

Q-1 Please state your name and current employment position:

A-1 My name is Sonn S. Rowell, and I am a Certified Public Accountant and Regulatory Consultant. I am also a managing member of Desert Mountain Analytical Services, PLLC ("DMAS").

Q-2 Describe your educational and professional background:

A-2 I hold a Bachelor of Science Degree in Accounting from Arizona State University, as well as my CPA certification from the Arizona State Board of Accountancy. I have worked for many years in the practice of small business public accounting and regulatory consulting, and have held part-time accountancy teaching positions at Mesa Community College. After employment with the Accounting and Rates Section of the Utilities Division at the Arizona Corporation Commission ("Commission") for four years, I formed DMAS and now specialize primarily in regulatory accounting and consulting.

Q-3 By whom are you employed and in what capacity?

A-3 I have been retained by the management and ownership of Ray Water Company, ("Ray" or "Company") to prepare a Class C rate application for submittal to the Commission.

Q-4 What is the purpose of your testimony?

A-4 The purpose of my testimony is to present my analysis and recommendations concerning the development of Ray's gross revenue requirement, taking into account rate base, adjusted operating income, working capital requirements, current rate of return, required operating income, required rate of return for the historic twelve month period, and other relevant factors to sponsor certain exhibits in support of the rate application.

Q-5 Please summarize the Company's proposal.

A-5 Ray is seeking an increase in gross revenue requirement of approximately $373,970, or a rate increase of approximately 64.90% overall, for its customers to pay for increased operational expenses, expenses related to the new well recently placed into service, and a fair rate of return on the owner's investment.

Q-6 What is the basis for your recommendation?

A-6 I analyzed the Company's records to determine the adjusted revenues and expenses during the test year ending December 31, 2011. Next, I calculated a reasonable revenue requirement in order to ensure the Company can earn sufficient revenue to pay ongoing operating expenses, the debt service on the loan, and ongoing system improvements which will enable the Company to continue to provide adequate and reliable water service to its customers. Based upon my analysis, I have prepared the schedules in accordance with A.A.C. Rule 14-2-103 that are set forth in Application Exhibit 2, which I adopt as part of my testimony.

Q-7 Did the Company adjust test year amounts for plant and other rate base items?

A-7 No.

Q-8 Please identify and explain the adjustments made on Schedule C-1 – Adjusted Test Year Income Statement of this application.

A-8 Adjustment A is comprised of two parts, A1 and A2. Adjustment A1 reduces metered water revenue by $1,134 for bills related to a 4-inch meter commercial customer that has discontinued service. Adjustment A2 reduces Other Water Revenue by $8,708 to

remove Commission and Residential Utility Consumer Office ("RUCO") assessments from revenue, and match actual other revenue in this category. Complete details of these adjustments are depicted on Schedule C-2a.

Q-9 Please explain Adjustment B on Schedule C-2b.

A-9 Adjustment B as delineated on Schedule C-2b calculates the amount of employee retirement contribution that should have been made in 2011, which is $9,070. This annual contribution was not made due to the substantial amount of system improvements and the substantial net loss.

Q-10 Please explain Adjustment C on Schedule C-2c.

A-10 Adjustment C increases Purchased Power by $24,863 over actual test year expense of $82,011. Schedule C-2c illustrates this adjustment reflecting the average of the three main well sites, and adds it to the test year amount. This adjustment is necessary due to the fact that near the end of the test year, Ray put well no. 8 into service, but the expense associated with this well was not reflected throughout the test year.

Q-11 Please explain Adjustments D, E and F.

A-11 Adjustment D on Schedule C-2d reclassifies $10,454 from Miscellaneous Expenses as part of Adjustment I (explained below), which is more appropriate. This adjustment also increases Office Supplies and Expenses by an additional $255 to account for security services not included in the test year. Adjustment E reclassifies a $4,275 ADEQ MAP invoice from Miscellaneous Expenses to Contractual Services – Testing Expenses, as depicted on Schedule C-2e, which is more appropriate. Adjustment F reclassifies $546 from Contract Services – Other to Miscellaneous Expenses for expenses related to blue staking fees.

Q-12 How did you determine the amount of proposed rate case expense?

A-12 The estimate for Adjustment G is detailed on Schedule C-2g, and includes $50,000 of total expense amortized over 5 years, or $10,000 per year. Since test year expenses include $3,000 related to rate case expense, $7,000 must be added to total the appropriate amount of recovery until the next anticipated rate case.

Q-13 Please explain Adjustments H and I.

A-13 Adjustment H reclassifies bad debt expense from Miscellaneous Expenses to Bad Debt Expense for 2011 customer account write-offs. Adjustment I to Miscellaneous Expenses in the net amount of ($13,811) is comprised of many elements discussed throughout this testimony:

- $10,454 was reclassified to Office Supplies and Expenses as Adjustment D.
- $4,275 was reclassified to Contractual Services – Testing as Adjustment E.
- $546 was reclassified from Contractual Services – Other for blue stake fees as Adjustment F.
- $295 was reclassified to Bad Debts Expense as Adjustment H.
- $119 was reclassified to Taxes Other than Income as Adjustment K.
- $1,135 was removed from expense for the ACC assessment paid during 2011, and $205 for the RUCO assessment. As this is a flow through amounts much like sales taxes, the amounts collected as revenue and paid as expense have been removed from the income statement.
- $2,126 was added to this expense to account for the 2011 Annual Winter consumption Report for Pima County Wastewater Management, which was prepared during 2011, but not billed until 2012. As a result, 2012 expenses include the fees for 2011 and 2012, and this adjustment corrects that.

Q-14 Please explain how you calculated Adjustment J to depreciation expense.

A-14 Schedule C-2j begins with plant in service at the end of the test year, and applies depreciation rates normally recommended by Staff, resulting in depreciation expense of $228,582. This amount must be reduced by $48,023 to account for CIAC amortization, resulting in adjusted depreciation expense of $180,559. Since test year depreciation expense was $169,486, this represents an increase of $11,073 over actual test year actual expenses.

Q-15 Please explain Adjustment K on Schedule C-1.

A-15 Adjustment K reclassifies $119 of accrued payroll taxes from Miscellaneous Expenses to Taxes Other Than Income, as depicted on Schedule C-2k.

Q-16 Please explain Adjustments L1 and L2 to property tax expenses as illustrated on Schedule C-2l.

A-16 Adjustment L1 decreases test year property tax expense by $1,671 to $30,589, as a result of the standard ADOR calculation. Adjustment L2 increases proposed property tax expense by $6,612, from the adjusted test year calculated amount of $30,589, to $37,201 at proposed rates.

Q-17 Please explain Adjustment M to Income Tax Expense.

A-17 Schedule C-2m delineates the calculation for adjusted test year income tax expense, based upon the test year adjusted income and a 30% average federal tax rate.

Q-18 What is the purpose of Adjustment N?

A-18 Adjustment N removes below-the-line, non-recurring, non-utility expenses.

Q-19 How did you determine the interest expense Adjustment O?

A-19 As reflected on Schedule C-2o, adjusted test year interest expense is the average of the first five years interest expense related to the loan. Due to the relatively small amount of the loan compared with revenue, using a 5 year average as adjusted test year expense seemed more appropriate than the interest expense related to first year of the loan, which would be 2012. There was no interest paid on the Commission-approved loan during the test year ended December 31, 2011.

Q-20 How was Adjustment P determined?

A-20 Adjustment P increased metered water revenue from the adjusted test year amount of $558,323 by $373,970 to $932,293 for Ray, per the calculation set forth on Schedule A-1.

Q-21 Finally, please explain Adjustment Q.

A-21 Adjustment Q is detailed on Schedule C-2q, and calculates proposed income tax expense based upon the income at a 30% federal tax rate and the 6.968% Arizona tax rate.

Q-22 Please summarize your rate design for Ray.

A-22 The rate design proposed by the Company are more consistent with what is normally approved by the ACC, as Ray is proposing an inverted tier rate design to promote conservation. The rate design proposed by Ray is intended to minimize the impact of the increase to the customers that use small amounts of water.

Q-23 Is this rate design consistent with Commission policy?

A-23 Yes. Ray currently has a single commodity rate. The Company is proposing an inverted tiered rate structure, in which large water use customers will bear the brunt of the requested increase, while low use customers may actually see a decrease.

Q-24 Can you explain the impacts of this rate design further?

A-24 The largest class of users, the 5/8 by ¾ inch residential meters will experience an average increase of 37.28% as depicted on Schedule H-1, Line 1, based on average usage of 7,832 gallons per month. However, a customer that uses 3,000 gallons or less and stays in the first low cost tier, their increase is only $1.75 per month, or 11.08%, as depicted on Schedule H-4, Page 1 of 8.

Q-25 What percent of bills in the Test Year were for 3,000 gallons or less?

A-25 During the test year, there were 3,168 bills for using 3,000 gallons or less, which was 18.17% of the total bills.

Q-26 Why are the tier rates and ranges the same for all classes of customers?

A-26 The large meter sizes pay more in fixed costs every month based on the size of their meter, regardless of usage. In addition, some of the larger sized meters do not have high average usage for the test year, so they may be able to take advantage of the lower tiered rates if they keep usage low. In the case of the 3-inch, 4-inch, and 6-inch meters, which have very high usage, they very quickly move into the highest tier and pay for their usage that way, in addition to a higher monthly minimum. These customer classes

also have the highest amount of increase of all the classes, so it seems they are already paying a substantial increase.

Q-27 Does this conclude your testimony?

A-27 Yes.

EXHIBIT 2

INDEX OF FINANCIAL SCHEDULES FOR RAY WATER COMPANY

Summary Schedules	A-1	Computation of Increase in Gross Revenue Requirements
	A-2	Summary Results of Operations
	A-4	Construction Expenditures and Gross Utility Plant In Service
Rate Base Schedules	B-1	Summary of Original Cost and RCND
	B-2	Original Cost Rate Base Proforma Adjustments
	B-5	Computation of Working Capital
Income Stmts	C-1	Adjusted Test Year Income Statement
	C-2a	Detail of adjustments to test year revenue
	C-2b	Detail of employee pensions and benefits adjustment
	C-2c	Detail of purchased power expenses adjustment
	C-2d	Detail of office supplies and expenses adjustment
	C-2e	Detail of contractual services-testing expenses adjustment
	C-2f	Detail of contractual services-other expenses adjustment
	C-2g	Detail of rate case expenses adjustment
	C-2h	Detail of bad debt expenses adjustment
	C-2i	Detail of miscellaneous expenses adjustment
	C-2j	Detail of proposed depreciation expense calculation
	C-2k	Detail of adjustment to taxes other than income
	C-2l	Detail of property tax expense adjustments
	C-2m	Calculation of adjustment to test year income tax expenses
	C-2n	Detail of adjustment to non-utility expenses
	C-2o	Detail of interest expenses adjustment
	C-2p	Detail of adjustment to proposed metered water revenue
	C-2q	Calculation of adjustment to proposed income tax expenses
	C-3	Computation of Gross Revenue Conversion Factor
Cost of Capital	D-1	Summary Cost of Capital
Finan Stmts/ Statis Analysis	E-1	Comparative Balance Sheet
	E-2	Comparative Income Statements
	E-5	Detail of Utility Plant
	E-7	Operating Statistics
	E-8	Taxes Charged to Operations
	E-9	Notes to Financial Statements
Projections and Forecasts	F-1	Projected Income Statements - Present and Proposed Rates
	F-3	Projected Construction Requirements (A&B - 3 years, C&D - 1 year)
	F-4	Assumptions Used in Developing Projections

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule A-1
Title: Computation of Increase in Gross Revenue Requirements

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Special Reqmt	

Explanation:
Schedule showing computation of increase in gross revenue requirements and spread of revenue increase by customer classification.

Line		Original Cost		RCND	
1	Adjusted Rate Base	$ 1,073,266	(a)		(a)
2	Adjusted Operating Income	$ (125,839)	(b)		(b)
3	Current Rate of Return	-11.72%			
4	Required Operating Income	$ 113,394			
5	Required Rate of Return	10.57%			
6	Operating Income Deficiency (4 - 2)	$ 239,233			
7	Gross Revenue Conversion Factor	1.563	(c)		(c)
8	Increase in Gross Revenue Requirements (6 x 7)	$ 373,970			

	Customer Classification	Adjusted Revenue at Present Rates	Revenue at Proposed Rates	Projected Revenue Increase Due to Rates	% Dollar Increase	
9	Residential	$ 491,575	$ 778,532	$ 286,957	58.38%	(d)
10	Commercial	64,867	148,128	83,261	128.36%	
11	Hydrant	1,881	5,633	3,752	199.47%	
12	Other	17,943	17,943	-	0.00%	
13	**Total**	**$ 576,266**	**$ 950,236**	**$ 373,970**	**64.90%**	

Note: For combination utilities, the above information should be presented in total and by department.

Supporting Schedules:
(a) B-1 (c) C-3
(b) C-1 (d) H-1

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule A-2
Title: Summary Results of Operations

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule showing comparative operating results for the test year and the 2 fiscal years ended prior to the end of the test year, compared with the projected year.

		Prior Years		Test Year		Projected Year	
		Year End 31-Dec-09	Year End 31-Dec-10	Actual Rates	Adjusted Rates	Present Rates	Proposed Rates
Line	Description	(a)	(a)	(a)	(b)	(c)	(c)
1	Gross Revenues	$ 635,172	$ 599,142	$ 586,108	$ 576,266	$ 576,266	$ 950,236
2	Revenue Deductions & Operating Expenses	(648,127)	(626,850)	(676,610)	(702,105)	(702,105)	(836,843)
3	Operating Income	$ (12,955)	$ (27,708)	$ (90,502)	$ (125,839)	$ (125,839)	$ 113,394
4	Other Income and Deductions	(1,250)	1,155	8	5,040	5,040	5,040
5	Interest Expense	-	-	-	(5,020)	(5,020)	(5,020)
6	**Net Income**	**$ (14,205)**	**$ (26,553)**	**$ (90,494)**	**$ (125,818)**	**$ (125,818)**	**$ 113,414**
7	Earned Per Average Common Share*	$ (88.78)	$ (165.96)	$ (565.59)	$ (786.36)		
8	Dividends Per Common Share*	-	-	-	-		
9	Payout Ratio*	0.00%	0.00%	0.00%	0.00%		
10	Return on Average Invested Capital	-1.21%	-2.31%	-7.92%	-11.01%	-11.01%	9.93%
11	Return on Year End Capital	-1.21%	-2.34%	-7.85%	-10.92%	-10.92%	9.84%
12	Return on Average Common Equity	-1.21%	-2.31%	-8.26%	-11.48%	-11.48%	10.35%
13	Return on Year End Common Equity	-1.21%	-2.34%	-8.54%	-11.87%	-11.87%	10.70%
14	Times Bond Interest Earned - Before Inc Tax	N/A	N/A	N/A	-2393.15%	-2393.15%	2372.85%
15	Times Total Interest and Preferred Dividends						
16	Earned - After Income Taxes	N/A	N/A	N/A	-2506.97%	-2506.97%	2259.04%

Supporting Schedules:
(a) E-2
(b) C-1
(c) F-1

*Optional for projected year

Ray Water Company
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Test Year Ended December 31, 2011

Schedule A-4
Title: Construction Expenditures and Gross Utility Plant in Service

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing construction expenditures, plant placed in service and gross utility plant in service for the test year and the 2 fiscal years ended prior to the end of the test year, compared with the projected year.

Line	Year	Construction Expenditures (a)	Net Plant Placed In Service (b)	Gross Utility Plant In Service
1	Prior Year 1 - 2009	$ 1,351,039	$ 1,289,348	$ 4,720,689
2	Prior Year 2 - 2010	210,314	76,238	4,796,927
3	Test Year - 2011	319,202	464,138	5,261,065
4	Projected Year 1	42,760	42,760	5,303,825
5	Projected *			
6	Projected *			

* Required only for Class A and B Utilities

NOTE: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) F-3
(b) E-5

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule B-1
Title: Summary of Original Cost and RCND

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule showing elements of adjusted original cost and RCND rate bases.

Line	Description	Original Cost Rate Base*		RCND Rate Base*	
1	Gross Utility Plant in Service	$ 5,261,065			
2	Less: Accumulated Depreciation	(1,835,897)			
3	Net Utility Plant in Service	$ 3,425,168	(a)		(b)
4	**Less:**				
5	Advances in Aid of Construction	$ (1,633,387)	(c)		(c)
6	Contributions in Aid of Construction	(982,352)	(c)		(c)
7	**Add:**				
8	Amortization of Contributions	$ 260,433			
9	Allowance for Working Capital	3,404	(d)		(d)
10	**Total Rate Base**	**$ 1,073,266**	(e)		(e)

* Including pro forma adjustments

NOTE: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) B-2 (d) B-5
(b) N/A
(c) E-1

Recap Schedules:
(e) A-1

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule B-2
Title: Original Cost Rate Base
Proforma Adjustments

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule showing pro forma adjustments to gross plant in service and accumulated depreciation for the original cost rate base.

Line	Description	Actual at End Of Test Year (a)	Pro forma Adjustment	Adjusted at End Of Test Year (b)
1	Gross Utility Plant in Service	$ 5,261,065		$ 5,261,065
2	Less: Accumulated Depreciation	(1,835,897)		(1,835,897)
3	Net Utility Plant in Service	$ 3,425,168		$ 3,425,168
4	Less:			
5	Advances in Aid of Construction	$ (1,633,387)		$ (1,633,387)
6	Contributions in Aid of Construction	(982,352)		(982,352)
7	Plus:			
8	Amortization of Contributions	$ 260,433		$ 260,433
9	Allowance for Working Capital	3,404		3,404
10	**Total Rate Base**	**$ 1,073,266**		**$ 1,073,266**

All pro forma adjustments should be adequately explained on this schedule or on attachments hereto.

NOTE: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) E-1

Recap Schedules:
(b) B-1

Ray Water Company
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Schedule B-5
Title: Computation of Working Capital

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing computation of working capital allowance.

Line	Description	Amount	
1	Cash working capital	$ -	
2	Materials and Supplies Inventories	-	(a)
3	Prepayments	3,404	(a)
4	**Total Working Capital Allowance**	**$ 3,404**	(b)

NOTES:
1. Adequate detail should be provided to determine the bases for the above computations.
2. Adjusted test year operating expenses should be used in computing cash working capital requirements.
3. Combination utilities should compute working capital allowances for each department.

Supporting Schedules:
(a) E-1

Recap Schedules:
(b) B-1

Ray Water Company
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Test Year Ended December 31, 2011

Schedule C-1
Title: Adjusted Test Year Income Statement

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing statement of income for the test year, including pro forma adjustments.

Line	Acct	Description	Actual for Test Year Ended (a) 31-Dec-11	Ref	Proforma Adjustments (b)	Test Year Results After Pro Forma Adjustments	Ref	Proposed Rate Increase	Adjusted Test Year With Rate Increase
		Operating Revenues:							
1	461	Metered Water Revenue	$ 559,457	A1	$ (1,134)	$ 558,323	P	$ 373,970	$ 932,293
2	460	Unmetered Water Revenue	-			-			-
3	474	Other Water Revenue	26,651	A2	(8,708)	17,943			17,943
4		**Total Operating Revenue**	$ 586,108		$ (9,842)	$ 576,266		$ 373,970	$ 950,236
5		**Operating Expenses:**							
6	601	Salaries and Wages	$ 226,744			$ 226,744			$ 226,744
7	604	Employee Pensions and Benefits	-	B	9,070	9,070			9,070
8	610	Purchased Water	-			-			-
9	615	Purchased Power	82,011	C	24,863	106,874			106,874
10	618	Chemicals	-			-			-
11	620	Materials & Supplies	2,347			2,347			2,347
12	621	Office Supplies and Expense	11,481	D	10,709	22,190			22,190
13	630	Contractual Services - Billing	69,767			69,767			69,767
14	631	Contractual Services - Professional	17,001			17,001			17,001
15	635	Contractual Services - Testing	1,375	E	4,275	5,650			5,650
16	636	Contractual Services - Other	11,459	F	(546)	10,913			10,913
17	640	Rents	22,000			22,000			22,000
18	650	TransportationExpenses	13,316			13,316			13,316
19	655	Insurance	10,590			10,590			10,590
20	665	Rate Case Expense	3,000	G	7,000	10,000			10,000
21	670	Bad Debt Expense	-	H	295	295			295
22	675	Miscellaneous Expenses	23,473	I	(13,811)	9,662			9,662
23	403	Depreciation Expenses	169,486	J	11,073	180,559			180,559
24	408	Taxes Other Than Income	18,527	K	119	18,646			18,646
25	408.11	Property Taxes	32,260	L1	(1,671)	30,589	L2	6,612	37,201
26	409	Income Taxes	(43,940)	M	(25,880)	(69,820)	Q	128,126	58,305
27	427.4	Interest Expense - Customer Deposits	5,713			5,713			5,713
28		**Total Operating Expenses**	$ 676,610		$ 25,495	$ 702,105		$ 134,738	$ 836,843
28		**OPERATING INCOME/(LOSS)**	$ (90,502)		$ (35,337)	$ (125,839)	(c)	$ 239,233	$ 113,394
29		**Other Income/(Expense):**							
30	419	Interest Income	$ 492			$ 492			$ 492
31	421	Non-Utility Income	4,548			4,548			4,548
32	426	Miscellaneous Non-Utility Expenses	(5,032)	N	5,032	-			-
33	427	Interest Expense		O	(5,020)	(5,020)			(5,020)
34		**Total Other Income/(Expense)**	$ 8		$ 12	$ 20		$ -	$ 20
35		**NET INCOME/(LOSS)**	**$ (90,494)**		**$ (35,324)**	**$ (125,818)**		**$ 239,233**	**$ 113,414**

Note: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) E-2
(b) C-2a to C-2q

Recap Schedules:
(c) A-1

Ray Water Company
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Test Year Ended December 31, 2011

Schedule C-2a
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENTS A1 AND A2 TO TEST YEAR REVENUE

Line	Description		Amount
1	Remove revenue related to 4-inch customer no longer on the water system.	$	(1,134)
2	**Total Adjustment A1 to Metered Water Revenue**	**$**	**(1,134)**
3	Annual ACC assessment	$	(1,440)
4	Annual RUCO assessment		(176)
5	Accounts Receivable adjustment		(7,092)
6	**Total Adjustment A2 to Other Water Revenue**	**$**	**(8,708)**
7	Test Year Establishment/Reconnect Fees	$	12,323
8	Test Year Late Fees		3,287
9	Test Year Web Fees		2,010
10	Test Year Other Charges		323
11	Adjusted Test Year Other Water Revenue	$	17,943

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Schedule C-2b
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT B TO EMPLOYEE PENSIONS AND BENEFITS

Line	Description		Amount
1	Test Year Salaries and Wages	$	226,744
2	Pension contribution rate		4.00%
3		**Total Adjustment B** **$**	**9,070**

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Schedule C-2c
Title: Income Statement Proforma Adjustments

DETAIL OF PURCHASED POWER EXPENSES ADJUSTMENT C

Line	Description		Amount
1	4310 East Rex Street well test year purchased power expense	$	31,834
2	4410 East Rex Street well test year purchased power expense		22,485
3	5710 South Rex Street well test year purchased power expense		20,270
4	Three well total test year purchased power expense	$	74,589
5	Average		3
6	Three well average test year purchased power expense	$	24,863
7	Test Year Puchased Power expense	$	82,011
8	Proposed Purcashed Power expense including average amount for three wells as estimated expense for new well #8 (6 + 7)		106,874
9	**Total Adjustment C**	**$**	**24,863**

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Schedule C-2d
Title: Income Statement Proforma Adjustments

DETAIL OF OFFICE SUPPLIES AND EXPENSES ADJUSTMENT D

Line	Description		Amount
1	Reclassify internet payment credits from Miscellaneous Expenses	$	(1,958)
2	Reclassify telephone expenses from Miscellaneous Expenses		5,104
3	Reclassify bank fees and other office related costs from Miscellaneous Expenses		7,308
4	Office alarm service not included in test year		255
5	**Total Adjustment D**	**$**	**10,709**

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Schedule C-2e
Title: Income Statement Proforma Adjustments

DETAIL OF CONTRACTUAL SERVICES-TESTING EXPENSES ADJUSTMENT E

Description		Amount
Reclassify ADEQ MAP invoice from Miscellaneous Expenses	$	4,275
Total Adjustment E	**$**	**4,275**

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Test Year Ended December 31, 2011

Schedule C-2f
Title: Income Statement Proforma Adjustments

DETAIL OF CONTRACTUAL SERVICES-OTHER EXPENSES ADJUSTMENT F

Description		Amount
Reclassify Blue Stake invoice to Miscellaneous Expenses	$	(546)
Total Adjustment F	**$**	**(546)**

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Test Year Ended December 31, 2011

Schedule C-2g
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT G TO RATE CASE EXPENSES

Line	Description		Amount
1	Estimated Rate Case Expenses	$	50,000
2	Amortization Period in years		5
3	Annual expense recovery	$	10,000
4	Subtract Actual Test Year Rate Case Expenses		3,000
5	**Total Adjustment G**	**$**	**7,000**

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Test Year Ended December 31, 2011

Schedule C-2h
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT H TO BAD DEBT EXPENSES

Description		Amount
Reclassify bad debts expenses from Miscellaneous Expenses	$	295
Total Adjustment H	**$**	**295**

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Test Year Ended December 31, 2011

Schedule C-2i
Title: Income Statement Proforma Adjustments

DETAIL OF MISCELLANEOUS EXPENSES ADJUSTMENT I

Line	Description	Amount	Account Total	Related Adj #
1	Reclassify internet payment credits to Office Supplies and Expenses	$ 1,958		
2	Reclassify telephone expenses to Office Supplies and Expenses	(5,104)		
3	Reclassify bank fees and other office related costs to Office Supplies and Expenses	(7,308)	$ (10,454)	Adj D
4	Reclassify ADEQ MAP invoice to Contractual Services - Testing	(4,275)	(4,275)	Adj E
5	Reclassify Blue Stake invoice from Contractual Services - Other	546	546	Adj F
6	Reclassify to Bad Debts Expenses	(295)	(295)	Adj H
7	Reclassify accrued payroll taxes to Taxes Other Than Income	(119)	(119)	Adj K
8	Remove ACC 2011 assessment amount paid from expense	(1,135)		N/A
9	Remove RUCO 2011 assessment amount paid from expense	(205)		N/A
10	Include amount incurred for preparation of 2011 Annual Winter Consumption Report for Pima County Wastewater Management	2,126		
11	**Total Adjustment I**	**$ (13,811)**		

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Test Year Ended December 31, 2011

Schedule C-2j
Title: Income Statement Proforma Adjustments

DETAIL OF PROPOSED DEPRECIATION EXPENSE CALCULATION - ADJUSTMENT J

Line	Account Number	Description	Plant @ End of Test Year 31-Dec-11	Proposed Depreciation Rate	Ref	Proposed Depreciation Expense
1	301	Intangibles	$ 700	0.00%		$ -
2	303	Land & Land Rights	62,540	0.00%		-
3	304	Structures & Improvements	22,078	3.33%	1	276
4	307	Wells & Springs	1,674,835	3.33%	2	49,737
5	311	Pumping Equipment	873,230	12.50%		109,154
6	320	Water Treatment Equipment	-	20.00%		-
7	320.1	Water Treatment Plants	-	3.33%		-
8	320.2	Solution Chemical Feeders	-	20.00%		-
9	330	Distribution Reservoirs & Standpipes	106,345	2.22%	3	-
10	330.1	Storage Tanks	516,989	2.22%		11,477
11	330.2	Pressure Tanks.	-	5.00%		-
12	331	Transmission & Distribution Mains	1,160,777	2.00%	4	11,622
13	333	Services	526,754	3.33%		17,541
14	334	Meters & Meter Installations	113,643	8.33%		9,466
15	335	Hydrants	105,490	2.00%		2,110
16	339	Other Plant and Misc Equipment	2,902	6.67%		194
17	340	Office Furniture & Equipment	8,901	6.67%		594
18	340.1	Computers and Software	8,967	20.00%		1,793
19	341	Transportation Equipment	72,235	20.00%		14,447
20	343	Tools, Shop, and Garage Equipment	1,932	5.00%		97
21	346	Communication Equipment	1,494	5.00%		75
22	348	Other Tangible Plant	1,253	5.00%	5	-
23		**Totals**	**$ 5,261,065**			**$ 228,582**
24				Test Year Amortization of CIAC		(48,023)
25				Adjusted Depreciation Expense		$ 180,559
26				Test Year Depreciation Expense		169,486
27	Ref			**Total Adjustment J**		**$ 11,073**

28	1	$13,781 of the total is fully depreciated.
29	2	$181,238 of the total is fully depreciated.
30	3	The full $106,345 in this category is fully depreciated.
31	4	$579,693 of the total is fully depreciated.
32	5	The total $1,253 is fully depreciated.

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Schedule C-2k
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT K TO TAXES OTHER THAN INCOME

Description		Amount
Reclassify accrued payroll taxes from Miscellaneous Expenses	$	119
Total Adjustment K	**$**	**119**

Ray Water Company
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Test Year Ended December 31, 2011

Schedule C-2l
Title: Income Statement Proforma Adjustments

DETAIL OF PROPERTY TAX EXPENSE ADJUSTMENTS L1 AND L2

Line			Test Year as Adjusted		Company at Proposed Rates
1	Adjusted 2011 Test Year Revenue	$	576,266	$	576,266
2	Weight Factor		2		2
3	Subtotal	$	1,152,532	$	1,152,532
4	Company Recommended Revenue		576,266		950,236
5	Subtotal	$	1,728,798	$	2,102,768
6	Number of Years		3		3
7	Three Year Revenue Average	$	576,266	$	700,923
8	AZ Department of Revenue Multiplier		2		2
9	Revenue Base Value	$	1,152,532	$	1,401,846
10	Plus 10% of CWIP		830		830
11	Less: Net Book Value of Licensed Vehicles		-		-
12	**Full Cash Value**	**$**	**1,153,362**	**$**	**1,402,675**
13	Assessment Ratio		20.00%		20.00%
14	**Assessment Value**	**$**	**230,672**	**$**	**280,535**
15	**Composite Property Tax Rate ***		13.2606%		13.2606%
16	Adjusted Test Year Property Tax Expense	$	30,589		
17	Actual Test Year Property Tax Expense		32,260		
18	**Total Adjustment L1**	**$**	**(1,671)**		
19	Projected Property Tax Expense			$	37,201
20	Adjusted Test Year Property Tax Expense				30,589
21	**Total Adjustment L2**			**$**	**6,612**
22	** Property tax composite rate calculation:*				
23	Assessed Value per 2011 Property Tax Notices	$	242,022		
24	Property Tax due per 2011 Notices		32,094		
25	Composite Property Tax Rate		13.2606%		
26	*For Gross Revenue Conversion Factor:*				
27	Change in Property Tax Expense	$	6,612		
28	Change in Revenue Requirement		373,970		
29	Change in Property Tax per Dollar Increase in Revenue		1.7681%		

Ray Water Company
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Schedule C-2m
Title: Income Statement Proforma Adjustments

CALCULATION OF ADJUSTMENT M TO TEST YEAR INCOME TAX EXPENSES

Line	Description				
1	Operating Income/(Loss) Before Taxes	$ (195,659)			
2	Add Interest Income	492			
3	Less Estimated Interest Expense	(5,020)			
4	Arizona Taxable Income		$ (200,187)		
5	Arizona Income Tax Rate		6.9680%		
6	Arizona Income Tax Expense			$	(13,949)
7	Federal Taxable Income		$ (186,238)		
8	Federal Income Tax Rate		30.0000%		
9	Federal Income Tax Expense				(55,871)
10	Adjusted Test Year Income Tax Expense			$	(69,820)
11	Test Year Income Tax Expense				(43,940)
12	**Total Adjustment M to Income Taxes**			**$**	**(25,880)**

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Schedule C-2n
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT N TO NON-UTILITY EXPENSES

Description		Amount
Remove non-recurring expense	$	5,032
Total Adjustment N	**$**	**5,032**

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Schedule C-2o
Title: Income Statement Proforma Adjustments

DETAIL OF INTEREST EXPENSES ADJUSTMENT O

Line	Description		Amount
1	Year 1 loan interest expense	$	6,039
2	Year 2 loan interest expense		5,561
3	Year 3 loan interest expense		5,052
4	Year 4 loan interest expense		4,511
5	Year 5 loan interest expense		3,934
6	Total interest on loan during 5 year period	$	25,098
7	Averaging period in years		5
8	**Total Adjustment O**	**$**	**5,020**

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Schedule C-2p
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT P TO PROPOSED METERED WATER REVENUE

Line	Description		Amount
1	Proposed Metered Water Revenue per Schedule A	$	932,293
2	Adjusted Test Year Metered Water Revenue		558,323
3	**Total Adjustment P to Metered Water Revenue**	**$**	**373,970**

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Schedule C-2q
Title: Income Statement Proforma Adjustments

CALCULATION OF ADJUSTMENT Q FOR PROPOSED INCOME TAX EXPENSES

Line				
1	Revenue	$ 950,236		
2	Operating Expenses Excluding Income Tax	(778,537)		
3	Interest Income	492		
4	Estimated Interest Expense	(5,020)		
5	Arizona Taxable Income		$ 167,172	
6	Arizona Income Tax Rate		6.9680%	
7	Arizona Income Tax Expense			$ 11,649
8	Federal Taxable Income		$ 155,523	
9	Federal Tax Rate		30.00%	
10	Total Federal Income Tax Expense			$ 46,657
11	Combined Federal and State Income Tax Expense			$ 58,305
12	Adjusted Test Year Income Tax Expense			(69,820)
13	**Adjustment Q to Proposed Income Tax Expense**			**$ 128,126**
14	Revenue Check:			
15	Required Operating Income	$ 113,394		
16	Adjusted Test Year Operating Income/(Loss)	(125,839)		
17	Proposed Increase In Operating Income		$ 239,233	
18	Income Taxes On Proposed Revenue	$ 58,305		
19	Income Taxes On Test Year Revenue	(69,820)		
20	Proposed Revenue Increase For Income Taxes		$ 128,126	
21	Property Taxes On Proposed Revenue	$ 37,201		
22	Property Taxes On Test Year Revenue	30,589		
23	Proposed Revenue Increase For Property Taxes		$ 6,612	
24	**Total Proposed Increase In Revenue**			**$ 373,970**

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Schedule C-3
Title: Computation of Gross Revenue Conversion Factor

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule showing incremental taxes on gross revenues and the development of a gross revenue conversion factor.

Line	Description	Rate	Calculation
1	Revenues		1.0000
2	Property Taxes	1.768%	(0.0177)
3	Arizona Taxable Income		0.9823
4	Arizona Income Tax	6.968%	(0.0684)
5	Federal Taxable Income		0.9139
6	Federal Income Tax	30.00%	(0.2742)
7	Operating Income		0.6397
8	**Gross Revenue Conversion Factor (Line 1 / Line 7)**		**1.5632**

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Schedule D-1
Title: Summary Cost of Capital

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule showing elements of capital structure and the related cost.

		End of Test Year				End of Projected Year			
Line	Invested Capital	Amount	%	Cost Rate (e)	Composite Cost %	Amount	%	Cost Rate (e)	Composite Cost %
1	Long-Term Debt (a)	$ 100,000	8.62%	6.25%	0.54%	$ 84,653	7.40%	6.25%	0.46%
2	Preferred Stock (b)	-				-			
3	Common Equity (c)	1,059,748	91.38%	10.91%	9.97%	1,059,748	92.60%	10.91%	10.10%
4	Deferrals (d)	-				-			
5	Totals	$ 1,159,748	100.00%		10.51%	$ 1,144,401	100.00%		10.57%

Supporting Schedules:
(a) N/A
(b) N/A
(c) N/A
(d) E-1

Recap Schedules:
(e) N/A

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Schedule E-1
Title: Comparative Balance Sheet

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing comparative balance sheets at the end of the test year and the 2 fiscal years ended prior to the test year.

Line	Acct #		Test Year At 31-Dec-11	Prior Year 31-Dec-10	Prior Year 31-Dec-09
		ASSETS			
1		Property, Plant & Equipment: (a)			
2	101	Utility Plant In Service	$ 5,261,065	$ 4,796,927	$ 4,720,689
3	103	Property Held for Future Use			
4	105	Construction Work in Process	8,298	160,604	26,528
5	108	Accumulated Depreciation	(1,835,897)	(1,647,179)	(1,430,896)
6		Total Property Plant & Equipment	$ 3,433,466	$ 3,310,352	$ 3,316,321
7		Current Assts:			
8	131	Cash	$ 10,497	$ 131,380	$ 82,903
9	135	Temporary Cash Investments	66,109	141,617	286,388
10	141	Customer Accounts Receivable	33,285	39,590	24,336
11	146	Notes/Receivables from Associated Companies			
12	151	Plant Material and Supplies			
13	162	Prepayments	3,404	6,455	10,817
14	174	Miscellaneous Current and Accrued Assets	100,789	58,528	28,373
15		Total Current Assets	$ 214,084	$ 377,570	$ 432,817
16		**TOTAL ASSETS**	**$ 3,647,550**	**$ 3,687,922**	**$ 3,749,138**
17		**LIABILITIES and CAPITAL**			
18		Capitalization: (b)			
19	201	Common Stock Issued	$ 16,000	$ 16,000	$ 16,000
20	211	Paid in Capital in Excess of Par Value	41,333	41,333	41,333
21	215	Retained Earnings	1,002,415	1,075,278	1,113,682
22	218	Proprietary Capital	-	-	-
23		Total Capital	$ 1,059,748	$ 1,132,611	$ 1,171,015
24		Current Liabilities:			
25	231	Accounts Payable	$ 17,880	$ -	$ -
26	232	Notes Payable (Current Portion)	7,224	-	-
27	234	Notes/Accounts Payable to Associated Companies		-	-
28	235	Customer Deposits	86,080	100,516	94,600
29	236	Accrued Taxes	24,109	23,608	25,565
30	237	Accrued Interest	4,167	-	-
31	241	Miscellaneous Current and Accrued Liabilities	-	9,064	4,585
32		Total Current Liabilities	$ 139,460	$ 133,188	$ 124,750
33	224	Long-Term Debt (Over 12 Months)	$ 92,776	$ -	$ -
34		Deferred Credits:			
35	252	Advances In Aid Of Construction	$ 1,633,387	$ 1,651,628	$ 1,659,466
36	255	Accumulated Deferred Investment Tax Credits	260	553	959
37	271	Contributions In Aid Of Construction	982,352	982,352	957,335
38	272	Less: Amortization of Contributions	(260,433)	(212,410)	(164,387)
39	281	Accumulated Deferred Income Tax	-	-	
40		Total Deferred Credits	$ 2,355,566	$ 2,422,123	$ 2,453,373
41		Total Liabilities	$ 2,587,802	$ 2,555,311	$ 2,578,123
42		**TOTAL LIABILITIES and CAPITAL**	**$ 3,647,550**	**$ 3,687,922**	**$ 3,749,138**

Supporting Schedules:
(a) E-5

Recap Schedules:
(b) N/A

Ray Water Company
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Schedule E-2
Title: Comparative Income Statements

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing comparative income statements for the test year and the 2 fiscal years ended prior to the test year.

Line	Acct #		Test Year Ended 31-Dec-11	Prior Year Ended 31-Dec-10	Prior Year Ended 31-Dec-09
		Revenues: (a)			
1	461	Metered Water Revenue	$ 559,457	$ 579,956	$ 592,308
2	460	Unmetered Water Revenue	-		
3	474	Other Water Revenue	26,651	19,186	42,864
4		Total Revenues	$ 586,108	$ 599,142	$ 635,172
5		Operating Expenses (a)			
6	601	Salaries and Wages	$ 226,744	$ 226,621	$ 229,174
7	604	Employee Pensions and Benefits	-	9,064	4,585
8	610	Purchased Water	-	-	-
9	615	Purchased Power	82,011	88,843	89,421
10	618	Chemicals	-		
11	620	Materials & Supplies	2,347	3,522	1,869
12	621	Office Supplies and Expense	11,481	15,126	17,318
13	630	Contractual Services - Billing	69,767		
14	631	Contractual Services - Professional	17,001	38,055	39,407
15	635	Contractual Services - Testing	1,375		
16	636	Contractual Services - Other	11,459		
17	640	Rents	22,000	22,000	22,000
18	650	Transportation Expenses	13,316	9,120	9,465
19	655	Insurance	10,590	17,448	18,982
20	665	Rate Case Expense	3,000	-	
21	670	Bad Debt Expense	-	-	-
22	675	Miscellaneous Expenses	23,473	20,987	24,879
23	403	Depreciation Expenses	169,486	156,411	135,116
24	408	Taxes Other Than Income	18,527	17,991	18,281
25	408.11	Property Taxes	32,260	33,202	35,705
26	409	Income Taxes	(43,940)	(31,936)	1,556
27	427.4	Interest Expense - Customer Deposits	5,713	396	369
28		Total Operating Expenses	$ 676,610	$ 626,850	$ 648,127
28		**OPERATING INCOME/(LOSS)**	**$ (90,502)**	**$ (27,708)**	**$ (12,955)**
29		Other Income/(Expense)			
30	419	Interest and Dividend Income	$ 492	$ 2,252	$ 2,200
31	421	Non-Utility Income	4,548	-	(3,200)
32	426	Miscellaneous Non-Utility Expense	(5,032)	(1,097)	(250)
33	427	Interest Expense	-	-	-
34		Total Other Income/(Expense)	$ 8	$ 1,155	$ (1,250)
35		**NET INCOME/(LOSS)**	**$ (90,494)**	**$ (26,553)**	**$ (14,205)**

Supporting Schedules:
(a) N/A

Recap Schedules:
A-2

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Schedule E-5
Title: Detail of Utility Plant

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing utility plant balance, by detailed account number, at the end of the test year and the end of the prior fiscal year.

Line	Account Number	Description	End of Prior Year at 31-Dec-10	Net Additions	End of Test Year at 31-Dec-11
1	302	Franchises	$ 700		$ 700
2	303	Land & Land Rights	62,540		62,540
3	304	Structures & Improvements	15,868	6,210	22,078
4	307	Wells & Springs	1,401,600	273,235	1,674,835
5	311	Pumping Equipment	712,466	160,764	873,230
6	320	Water Treatment Equipment	-		-
7	320.1	Water Treatment Plants	-		-
8	320.2	Solution Chemical Feeders	-		-
9	330	Distribution Reservoirs & Standpipes	106,345		106,345
10	330.1	Storage Tanks	516,989		516,989
11	330.2	Pressure Tanks.	-		-
12	331	Transmission &Distribution Mains	1,139,554	21,223	1,160,777
13	333	Services	526,281	473	526,754
14	334	Meters & Meter Installations	112,671	972	113,643
15	335	Hydrants	105,490		105,490
16	339	Other Plant and Misc Equipment	2,902		2,902
17	340	Office Furniture & Equipment	8,901		8,901
18	340.1	Computers and Software	8,967		8,967
19	341	Transportation Equipment	72,235		72,235
20	343	Tools, Shop, and Garage Equipment	671	1,261	1,932
21	346	Communications Equipment	1,494		1,494
22	348	Other Tangible Plant	1,253		1,253
23		**Total Plant In Service**	**$ 4,796,927**	**$ 464,138**	**$ 5,261,065**
24	108	Accumulated Depreciation	(1,647,179)	(188,718)	(1,835,897)
25		Net Plant In Service	$ 3,149,748	$ 275,420	$ 3,425,168
26	103	Property Held for Future Use	-	-	-
27	105	Construction Work in Process	160,604	(152,306)	8,298
28		**Total Net Plant**	**$ 3,310,352**	**$ 123,114**	**$ 3,433,466**

Supporting Schedules:

Recap Schedules:
E-1 A-4

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Schedule E-7
Title: Operating Statistics

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing key operating statistics in comparative format, for the test year and the 2 fiscal years ended prior to the test year.

Line	Water Statistics:	Test Year Ended 31-Dec-11	Prior Year Ended 31-Dec-10	Prior Year Ended 31-Dec-09
1	Gallons Sold - By Class of Service:			
2	Residential	180,262,689	201,277,469	205,138,238
3	Commercial	28,391,223	31,709,531	32,317,762
4	Average Number of Customers - By Class of Service:			
5	Residential	1,473	1,473	1,485
6	Commercial	38	38	38
7	Average Annual Gallons Per Residential Customer	122,357	136,621	138,161
8	Average Annual Revenue Per Residential Customer	$ 323.45	$ 345.56	$ 347.95
9	Pumping Cost Per 1,000 Gallons	$ 0.3930	$ 0.3813	$ 0.3766

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Schedule E-8
Title: Taxes Charged to Operations

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing all significant taxes charged to operations for the test year and the 2 fiscal years ended prior to the test year.

Line	Description	Test Year Ended 31-Dec-11	Prior Year Ended 31-Dec-10	Prior Year Ended 31-Dec-09
1	Federal Taxes:			
2	Income	$ (30,083)	$ (21,934)	$ (526)
3	Payroll	17,820	17,929	18,124
4	Total Federal Taxes	$ (12,263)	$ (4,005)	$ 17,598
5	State Taxes:			
6	Income	$ (13,857)	$ (10,002)	$ 2,082
7	Payroll	157	62	157
8	Total State Taxes	$ (13,700)	$ (9,940)	$ 2,239
9	Local Taxes:			
10	Property	$ 32,260	$ 33,202	$ 35,705
11	Rental Tax	550	-	-
12	Total Local Taxes	32,810	33,202	35,705
13	**Total Taxes**	**$ 6,847**	**$ 19,257**	**$ 55,542**

NOTE: For combination utilities, the above should be presented in total and by department.

Supporting Schedules:

Recap Schedules:

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Schedule E-9
Title: Notes to Financial Statements

Required for:		
	All Utilities	X
	Class A	
	Class B	
	Class C	
	Class D	
	Specl Reqmt	

Explanation:
Disclosure of important facts pertaining to the understanding of the financial statements.

Disclosures should include, but not be limited to the following:

1 Accounting Method.
Accrual basis using the NARUC USoA.

2 Depreciation lives and methods employed by major classification of utility property.
For years up to and including the test year 2011, the depreciation rate was 5% for all plant asset categories. Proposed depreciation rates are depicted on Schedule C-2j, and were taken from ACC Engineering Staff Memo regarding their recommended rates for depreciation.

3 Income tax treatment - normalization or flow through.
Normalization.

4 Interest rate used to charge interest during construction, if applicable.
Not Applicable.

Supporting Schedules: Recap Schedules:

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Schedule F-1
Title: Projected Income Statements - Present and Proposed Rates

Required for:		
	All Utilities	X
	Class A	
	Class B	
	Class C	
	Class D	
	Specl Reqmt	

Explanation:
Schedule showing an income statement for the projected year, compared with actual test year results, at present and proposed rates.

Line			Actual Test Year Ended (a) 31-Dec-11	Projected Year At Present Rates Year Ended (b) 31-Dec-12	Projected Year At Proposed Rates Year Ended (b) 31-Dec-12
		Operating Revenues:			
1	461	Metered Water Revenue	$ 559,457	$ 558,323	$ 932,293
2	460	Unmetered Water Revenue	-	-	-
3	474	Other Water Revenue	26,651	17,943	17,943
4		**Total Operating Revenue**	$ 586,108	$ 576,266	$ 950,236
5		**Operating Expenses:**			
6	601	Salaries and Wages	$ 226,744	$ 226,744	$ 226,744
7	604	Employee Pensions and Benefits	-	9,070	9,070
8	610	Purchased Water	-	-	-
9	615	Purchased Power	82,011	106,874	106,874
10	618	Chemicals	-	-	-
11	620	Materials & Supplies	2,347	2,347	2,347
12	621	Office Supplies and Expense	11,481	22,190	22,190
13	630	Contractual Services - Billing	69,767	69,767	69,767
14	631	Contractual Services - Professional	17,001	17,001	17,001
15	635	Contractual Services - Testing	1,375	5,650	5,650
16	636	Contractual Services - Other	11,459	10,913	10,913
17	640	Rents	22,000	22,000	22,000
18	650	Transportation Expenses	13,316	13,316	13,316
19	655	Insurance	10,590	10,590	10,590
20	665	Rate Case Expense	3,000	10,000	10,000
21	670	Bad Debt Expense	-	295	295
22	675	Miscellaneous Expenses	23,473	9,662	9,662
23	403	Depreciation Expenses	169,486	180,559	180,559
24	408	Taxes Other Than Income	18,527	18,646	18,646
25	408.1	Property Taxes	32,260	30,589	37,201
26	409	Income Taxes	(43,940)	(69,820)	58,305
27	427.4	Interest Expense - Customer Deposits	5,713	5,713	5,713
28		**Total Operating Expenses**	$ 676,610	$ 702,105	$ 836,843
28		**OPERATING INCOME/(LOSS)**	$ (90,502)	$ (125,839)	$ 113,394
29		**Other Income/(Expense):**			
30	419	Interest Income	$ 492	$ 492	$ 492
31	421	Non-Utility Income	4,548	4,548	4,548
32	426	Miscellaneous Non-Utility Expenses	(5,032)	-	-
33	427	Interest Expense	-	(5,020)	(5,020)
34		**Total Other Income/(Expense)**	$ 8	$ 20	$ 20
35		**NET INCOME/(LOSS)**	**$ (90,494)**	**$ (125,818)**	**$ 113,414**
36		Earnings per share of average Common Stock Outstanding	$ (566)	$ (786)	$ 709
37		% Return on Common Equity	-0.053%	-0.074%	0.067%

Supporting Schedules:
(a) E-2

Recap Schedules:
(b) A-2

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Schedule F-3
Title: Projected Construction Requirements

Explanation:
Schedule showing projected annual construction requirements, by property classification, for 1 to 3 years subsequent to the test year compared with the test year.

Required for:		
All Utilities		
Class A	X	3 yrs projected
Class B	X	
Class C	X	1 yrs projected
Class D	X	
Specl Reqmt		

Line	Property Classification	Actual Test Year Ended 12/31/2011	End of Projected Year 1
1	Production Plant	$ 433,999	$ 17,360
2	Transmission Plant	21,696	23,000
3	Other Plant	8,443	2,400
4	**Total Plant**	**$ 464,138**	**$ 42,760**

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Schedule F-4
Title: Assumptions Used in Developing Projection

Required for:		
	All Utilities	X
	Class A	
	Class B	
	Class C	
	Class D	
	Specl Reqmt	

Explanation:
Documentation of important assumptions used in preparing *forecasts and projections*

Important assumptions used in preparing projections should be explained.

Areas covered should include:

1 Customer growth
As the system is nearly built out, no significant growth is expected in the service area in the future.

2 Growth in consumption and customer demand

Consumer demand has declined each year for the past three years, and the Company anticipates further decreases in customer consumption and demand as a result of the proposed tiered rate structure.

3 Changes in expenses

The Company believes the 2011 Test Year, with the proforma adjustments included in this application, accurately depict expense levels for the utility going forward.

4 Construction requirements including production reserves and changes in plant capacity
None projected.

5 Capital structure changes
None projected.

6 Financing costs, interest rates
The Company has one loan that was approved by the Commission at an interest rate of 6.25%

Supporting Schedules:

Recap Schedules:

INDEX OF BILL COUNT SCHEDULES FOR RAY WATER COMPANY

H-1	Summary of Revenues by Customer Class - Present and Proposed Rates
H-3	Changes In Representative Rate Schedules - (2 pages)
H-4 P1	Typical Bill Analysis - 5/8 x 3/4-inch Meter
H-4 P2	Typical Bill Analysis - 1-inch Meter
H-4 P3	Typical Bill Analysis - 1 1/2-inch Meter
H-4 P4	Typical Bill Analysis - 2-inch Meter
H-4 P5	Typical Bill Analysis - 3-inch Meter
H-4 P6	Typical Bill Analysis - 4-inch Meter
H-4 P7	Typical Bill Analysis - 6-inch Meter
H-4 P8	Typical Bill Analysis - Hydrant Sales
H-5 P1	Bill Count - 5/8 x 3/4-inch Residential
H-5 P2	Bill Count - 5/8 x 3/4-inch Commercial
H-5 P3	Bill Count - 1-inch Residential
H-5 P4	Bill Count - 1-inch Commercial
H-5 P5	Bill Count - 1 1/2-inch Residential
H-5 P6	Bill Count - 1 1/2-inch Commercial
H-5 P7	Bill Count - 2-inch Residential
H-5 P8	Bill Count - 2-inch Commercial
H-5 P9	Bill Count - 3-inch Commercial
H-5 P10	Bill Count - 4-inch Residential
H-5 P11	Bill Count - 4-inch Commercial
H-5 P12	Bill Count - 6-inch Commercial
H-5 P13	Bill Count - Hydrant Sales

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule H-1
Title: Summary of Revenues by Customer Classification - Present and Proposed Rates

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule comparing revenues by customer classification for the Test Year, at present and proposed rates.

		Revenues in the Test Year (a)			Proposed Increase (b)		
Line	Customer Classification	Present Rates	Adjustments	Adjusted Present Rates	Proposed Rates	Amount	%
	Residential						
1	5/8 by 3/4-inch	$ 404,695		$ 404,695	$ 555,567	$ 150,872	37.28%
2	1-inch	12,343		12,343	23,426	11,083	89.79%
3	1 1/2-inch	2,332		2,332	3,676	1,344	57.63%
4	2-inch	12,402		12,402	22,241	9,839	79.33%
5	4-inch	59,803		59,803	173,622	113,819	190.32%
6	*Total Residential*	$ 491,575	$ -	$ 491,575	$ 778,532	$ 286,957	58.38%
	Commercial						
7	5/8 by 3/4-inch	$ 10,853		$ 10,853	$ 27,448	$ 16,595	152.91%
8	1-inch	11,691		11,691	14,457	2,766	23.66%
9	1 1/2-inch	760		760	909	149	19.61%
10	2-inch	7,736		7,736	9,626	1,890	24.43%
11	3-inch	12,051		12,051	33,921	21,870	181.48%
12	4-inch	1,134	(1,134)	-	-	-	0.00%
13	6-inch	21,776		21,776	61,767	39,991	183.65%
14	*Total Commercial*	$ 66,001	$ (1,134)	$ 64,867	$ 148,128	$ 83,261	128.36%
15	Hydrant Sales	1,881		1,881	$ 5,633	3,752	199.47%
16	Total Metered Water Revenue	$ 559,457	$ (1,134)	$ 558,323	$ 932,293	373,970	66.98%
17	Other Revenue	26,651	(8,708)	17,943	17,943	-	0.00%
18	***Total Revenue***	**$ 586,108**	**$ (9,842)**	**$ 576,266**	**$ 950,236**	**$ 373,970**	64.90%

Note: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) N/A

Recap Schedules:
(b) A-1

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule H-3
Title: Changes in Representative Rate Schedules - Page 1 of 2

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule comparing present rate schedules with proposed rate schedule.

(Rates apply to both residential and commercial usage)

Description	Present Rate	Proposed Rate	% change
MONTHLY USAGE CHARGE:			
5/8" x 3/4" Meter	$ 11.15	$ 15.00	34.53%
3/4" Meter	25.00	25.00	0.00%
1" Meter	39.00	39.00	0.00%
1-1/2" Meter	62.00	75.00	20.97%
2" Meter	110.00	120.00	9.09%
3" Meter	125.00	240.00	92.00%
4" Meter	165.00	375.00	127.27%
6" Meter	330.00	750.00	127.27%

Description	Present Rate	Proposed Rate
COMMODITY CHARGES - Per 1,000 Gallons		
All Meter Sizes		
1 - 3,000 Gallons	$ 1.55	$ 0.85
3,001 to 7,000 Gallons	1.55	2.25
7,001 to 25,000 Gallons	1.55	3.35
Over 25,000 Gallons	1.55	4.64
Standpipe sales		
Per 1,000 gallons	$ 1.55	$ 4.64

Description	Present Rate	Proposed Rate	% change
SERVICE CHARGES			
Establishment	$ 25.00	$ 30.00	20.00%
Establishment (After Hours)	37.50	N/A	
Reconnection (Delinquent)	25.00	35.00	40.00%
Meter Test (If Correct)	30.00	35.00	16.67%
Deposit	*	*	0.00%
Deposit Interest	*	*	0.00%
Reestablishment (Within 12 Months)	**	**	0.00%
NSF Check	$ 15.00	$ 25.00	66.67%
Deferred Payment	***	***	0.00%
Meter Re-read (If Correct)	$ 15.00	$ 30.00	100.00%
Late Payment Fee	***	2.00%	
After Hours Charge	N/A	$ 25.00	

* Per A.A.C. R14-2-403(B)
** Months off system times the minimum (R14-2-403.D)
*** 1.50 percent per month of unpaid balance

SERVICE LINE AND METER INSTALLATION CHARGES:

Refundable Pursuant to A.A.C. R14-2-405		Proposed Rates			
Description	**Present Rate**	**Service Line**	**Meter Charge**	**Total Charge**	**% change**
5/8" x 3/4" Meter	$ 410.00	$ 445.00	$ 155.00	$ 600.00	46.34%
3/4" Meter	455.00	445.00	255.00	700.00	53.85%
1" Meter	520.00	495.00	315.00	810.00	55.77%
1-1/2" Meter	740.00	550.00	525.00	1,075.00	45.27%
2" Meter - Turbine	1,235.00	830.00	1,045.00	1,875.00	51.82%
2" Meter - Compound	1,800.00	830.00	1,890.00	2,720.00	51.11%
3" Meter - Turbine	1,705.00	1,045.00	1,670.00	2,715.00	59.24%
3" Meter - Compound	2,340.00	1,165.00	2,545.00	3,710.00	58.55%
4" Meter - Turbine	2,700.00	1,490.00	2,670.00	4,160.00	54.07%
4" Meter - Compound	3,405.00	1,670.00	3,645.00	5,315.00	56.09%
6" Meter - Turbine	5,035.00	2,210.00	5,025.00	7,235.00	43.69%
6" Meter - Compound	6,510.00	2,330.00	6,920.00	9,250.00	42.09%
8" Meter	Cost			Cost	0.00%

NOTES:

A - Additional costs associated with service line installations in major traffic thoroughfares, such as but not limited to, underground borings, cutting and repaving, and traffic control, may be added to the above tariff at actual cost.

B - Major thoroughfares are as follows: Alvernon Way, Drexal Road, Benson Highway, Irvington Road, Palo Verde, Valencia, Country Club, Columbus, East Side of Belvedere, Felix, Nebraska between Palo Verde and Madison, Northeast side of Concord Strav.

C - Charges for meters and service lines larger than 6 inches shall be at actual cost.

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule H-4
Title: Typical Bill Analysis

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

5/8 x 3/4-inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 11.15	$ 15.00	34.53%
1,000	12.70	15.85	24.80%
2,000	14.25	16.70	17.19%
3,000	15.80	17.55	11.08%
4,000	17.35	19.80	14.12%
5,000	18.90	22.05	16.67%
6,000	20.45	24.30	18.83%
7,000	22.00	26.55	20.68%
8,000	23.55	29.90	26.96%
9,000	25.10	33.25	32.47%
10,000	26.65	36.60	37.34%
15,000	34.40	53.35	55.09%
20,000	42.15	70.10	66.31%
25,000	49.90	86.85	74.05%
50,000	88.65	202.85	128.82%
75,000	127.40	318.85	150.27%
100,000	166.15	434.85	161.72%
125,000	204.90	550.85	168.84%
150,000	243.65	666.85	173.69%
175,000	282.40	782.85	177.21%
200,000	321.15	898.85	179.88%

Supporting Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

1-inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 39.00	$ 39.00	0.00%
1,000	40.55	39.85	-1.73%
2,000	42.10	40.70	-3.33%
3,000	43.65	41.55	-4.81%
4,000	45.20	43.80	-3.10%
5,000	46.75	46.05	-1.50%
6,000	48.30	48.30	0.00%
7,000	49.85	50.55	1.40%
8,000	51.40	53.90	4.86%
9,000	52.95	57.25	8.12%
10,000	54.50	60.60	11.19%
15,000	62.25	77.35	24.26%
20,000	70.00	94.10	34.43%
25,000	77.75	110.85	42.57%
50,000	116.50	226.85	94.72%
75,000	155.25	342.85	120.84%
100,000	194.00	458.85	136.52%
125,000	232.75	574.85	146.98%
150,000	271.50	690.85	154.46%
175,000	310.25	806.85	160.06%
200,000	349.00	922.85	164.43%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule H-4
Title: Typical Bill Analysis

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

1 1/2-inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 62.00	$ 75.00	20.97%
1,000	63.55	75.85	19.35%
2,000	65.10	76.70	17.82%
3,000	66.65	77.55	16.35%
4,000	68.20	79.80	17.01%
5,000	69.75	82.05	17.63%
6,000	71.30	84.30	18.23%
7,000	72.85	86.55	18.81%
8,000	74.40	89.90	20.83%
9,000	75.95	93.25	22.78%
10,000	77.50	96.60	24.65%
15,000	85.25	113.35	32.96%
20,000	93.00	130.10	39.89%
25,000	100.75	146.85	45.76%
50,000	139.50	262.85	88.42%
75,000	178.25	378.85	112.54%
100,000	217.00	494.85	128.04%
125,000	255.75	610.85	138.85%
150,000	294.50	726.85	146.81%
175,000	333.25	842.85	152.92%
200,000	372.00	958.85	157.76%

Supporting Schedules:

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

2-Inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 110.00	$ 120.00	9.09%
1,000	111.55	120.85	8.34%
2,000	113.10	121.70	7.60%
3,000	114.65	122.55	6.89%
4,000	116.20	124.80	7.40%
5,000	117.75	127.05	7.90%
6,000	119.30	129.30	8.38%
7,000	120.85	131.55	8.85%
8,000	122.40	134.90	10.21%
9,000	123.95	138.25	11.54%
10,000	125.50	141.60	12.83%
15,000	133.25	158.35	18.84%
20,000	141.00	175.10	24.18%
25,000	148.75	191.85	28.97%
50,000	187.50	307.85	64.19%
75,000	226.25	423.85	87.34%
100,000	265.00	539.85	103.72%
125,000	303.75	655.85	115.92%
150,000	342.50	771.85	125.36%
175,000	381.25	887.85	132.88%
200,000	420.00	1,003.85	139.01%

Supporting Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

3-inch Meter (Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 125.00	$ 240.00	92.00%
1,000	126.55	240.85	90.32%
2,000	128.10	241.70	88.68%
3,000	129.65	242.55	87.08%
4,000	131.20	244.80	86.59%
5,000	132.75	247.05	86.10%
6,000	134.30	249.30	85.63%
7,000	135.85	251.55	85.17%
8,000	137.40	254.90	85.52%
9,000	138.95	258.25	85.86%
10,000	140.50	261.60	86.19%
15,000	148.25	278.35	87.76%
20,000	156.00	295.10	89.17%
25,000	163.75	311.85	90.44%
50,000	202.50	427.85	111.28%
75,000	241.25	543.85	125.43%
100,000	280.00	659.85	135.66%
125,000	318.75	775.85	143.40%
150,000	357.50	891.85	149.47%
175,000	396.25	1,007.85	154.35%
200,000	435.00	1,123.85	158.36%

Supporting Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

4-inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 165.00	$ 375.00	127.27%
1,000	166.55	375.85	125.67%
2,000	168.10	376.70	124.09%
3,000	169.65	377.55	122.55%
4,000	171.20	379.80	121.85%
5,000	172.75	382.05	121.16%
6,000	174.30	384.30	120.48%
7,000	175.85	386.55	119.82%
8,000	177.40	389.90	119.79%
9,000	178.95	393.25	119.75%
10,000	180.50	396.60	119.72%
15,000	188.25	413.35	119.58%
20,000	196.00	430.10	119.44%
25,000	203.75	446.85	119.31%
50,000	242.50	562.85	132.10%
75,000	281.25	678.85	141.37%
100,000	320.00	794.85	148.39%
125,000	358.75	910.85	153.90%
150,000	397.50	1,026.85	158.33%
175,000	436.25	1,142.85	161.97%
200,000	475.00	1,258.85	165.02%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule H-4
Title: Typical Bill Analysis

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

6-inch Meter (Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 330.00	$ 750.00	127.27%
1,000	331.55	750.85	126.47%
2,000	333.10	751.70	125.67%
3,000	334.65	752.55	124.88%
4,000	336.20	754.80	124.51%
5,000	337.75	757.05	124.15%
6,000	339.30	759.30	123.78%
7,000	340.85	761.55	123.43%
8,000	342.40	764.90	123.39%
9,000	343.95	768.25	123.36%
10,000	345.50	771.60	123.33%
15,000	353.25	788.35	123.17%
20,000	361.00	805.10	123.02%
25,000	368.75	821.85	122.87%
50,000	407.50	937.85	130.15%
75,000	446.25	1,053.85	136.16%
100,000	485.00	1,169.85	141.21%
125,000	523.75	1,285.85	145.51%
150,000	562.50	1,401.85	149.22%
175,000	601.25	1,517.85	152.45%
200,000	640.00	1,633.85	155.29%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule H-4
Title: Typical Bill Analysis

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

Hydrant Sales

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ -	$ -	0.00%
1,000	1.55	4.64	199.35%
2,000	3.10	9.28	199.35%
3,000	4.65	13.92	199.35%
4,000	6.20	18.56	199.35%
5,000	7.75	23.20	199.35%
6,000	9.30	27.84	199.35%
7,000	10.85	32.48	199.35%
8,000	12.40	37.12	199.35%
9,000	13.95	41.76	199.35%
10,000	15.50	46.40	199.35%
15,000	23.25	69.60	199.35%
20,000	31.00	92.80	199.35%
25,000	38.75	116.00	199.35%
50,000	77.50	232.00	199.35%
75,000	116.25	348.00	199.35%
100,000	155.00	464.00	199.35%
125,000	193.75	580.00	199.35%
150,000	232.50	696.00	199.35%
175,000	271.25	812.00	199.35%
200,000	310.00	928.00	199.35%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule H-5
Title: Bill Count

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

5/8 x 3/4-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	405	-	405	2.32%	-	0.00%
1,000	616	308,000	1,021	5.86%	308,000	0.23%
2,000	928	1,392,000	1,949	11.18%	1,700,000	1.24%
3,000	1,219	3,047,500	3,168	18.17%	4,747,500	3.48%
4,000	1,465	5,127,500	4,633	26.57%	9,875,000	7.23%
5,000	1,706	7,677,000	6,339	36.35%	17,552,000	12.85%
6,000	1,683	9,256,500	8,022	46.00%	26,808,500	19.63%
7,000	1,491	9,691,500	9,513	54.55%	36,500,000	26.73%
8,000	1,387	10,402,500	10,900	62.51%	46,902,500	34.34%
9,000	1,124	9,554,000	12,024	68.95%	56,456,500	41.34%
10,000	1,162	11,039,000	13,186	75.62%	67,495,500	49.42%
10,001 to 12,000	1,230	13,530,000	14,416	82.67%	81,025,500	59.33%
12,001 to 14,000	887	11,531,000	15,303	87.76%	92,556,500	67.77%
14,001 to 16,000	624	9,360,000	15,927	91.34%	101,916,500	74.63%
16,001 to 18,000	422	7,174,000	16,349	93.76%	109,090,500	79.88%
18,001 to 20,000	325	6,175,000	16,674	95.62%	115,265,500	84.40%
20,001 to 25,000	435	9,787,500	17,109	98.11%	125,053,000	91.57%
25,001 to 30,000	162	4,455,000	17,271	99.04%	129,508,000	94.83%
30,001 to 35,000	77	2,502,500	17,348	99.48%	132,010,500	96.66%
35,001 to 40,000	34	1,275,000	17,382	99.68%	133,285,500	97.60%
40,001 to 50,000	29	1,305,000	17,411	99.85%	134,590,500	98.55%
50,001 to 60,000	13	715,000	17,424	99.92%	135,305,500	99.08%
60,001 to 70,000	6	390,000	17,430	99.95%	135,695,500	99.36%
70,001 to 80,000	1	75,000	17,431	99.96%	135,770,500	99.42%
80,001 to 90,000	-	-	17,431	99.96%	135,770,500	99.42%
90,001 to 100,000	2	190,000	17,433	99.97%	135,960,500	99.55%
107,860	1	107,860	17,434	99.98%	136,068,360	99.63%
110,830	1	110,830	17,435	99.98%	136,179,190	99.71%
115,170	1	115,170	17,436	99.99%	136,294,360	99.80%
118,270	1	118,270	17,437	99.99%	136,412,630	99.89%
156,030	1	156,030	17,438	100.00%	136,568,660	100.00%
	17,438	136,568,660				

Average Number of Customers	1,453
Average Consumption	7,832
Median Consumption	6,467

Supporting Schedules:

Recap Schedules:

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

5/8 x 3/4-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	11	-	11	8.94%	-	0.00%
1,000	17	8,500	28	22.76%	8,500	0.14%
2,000	6	9,000	34	27.64%	17,500	0.29%
3,000	12	30,000	46	37.40%	47,500	0.78%
4,000	7	24,500	53	43.09%	72,000	1.18%
5,000	5	22,500	58	47.15%	94,500	1.54%
6,000	4	22,000	62	50.41%	116,500	1.90%
7,000	2	13,000	64	52.03%	129,500	2.12%
8,000	1	7,500	65	52.85%	137,000	2.24%
9,000		-	65	52.85%	137,000	2.24%
10,000		-	65	52.85%	137,000	2.24%
10,001 to 12,000	4	44,000	69	56.10%	181,000	2.96%
12,001 to 14,000	6	78,000	75	60.98%	259,000	4.23%
14,001 to 16,000	2	30,000	77	62.60%	289,000	4.72%
16,001 to 18,000	4	68,000	81	65.85%	357,000	5.84%
18,001 to 20,000		-	81	65.85%	357,000	5.84%
20,001 to 25,000	7	157,500	88	71.54%	514,500	8.41%
25,001 to 30,000	8	220,000	96	78.05%	734,500	12.01%
30,001 to 35,000	2	65,000	98	79.67%	799,500	13.07%
35,001 to 40,000	1	37,500	99	80.49%	837,000	13.68%
40,001 to 50,000	2	90,000	101	82.11%	927,000	15.15%
50,001 to 60,000	1	55,000	102	82.93%	982,000	16.05%
60,001 to 70,000	1	65,000	103	83.74%	1,047,000	17.12%
70,001 to 80,000		-	103	83.74%	1,047,000	17.12%
80,001 to 90,000		-	103	83.74%	1,047,000	17.12%
90,001 to 100,000		-	103	83.74%	1,047,000	17.12%
100,800	1	100,800	104	84.55%	1,147,800	18.76%
105,900	1	105,900	105	85.37%	1,253,700	20.50%
110,600	1	110,600	106	86.18%	1,364,300	22.30%
112,200	1	112,200	107	86.99%	1,476,500	24.14%
138,000	1	138,000	108	87.80%	1,614,500	26.39%
143,000	1	143,000	109	88.62%	1,757,500	28.73%
143,400	1	143,400	110	89.43%	1,900,900	31.08%
157,300	1	157,300	111	90.24%	2,058,200	33.65%
159,800	1	159,800	112	91.06%	2,218,000	36.26%
160,200	1	160,200	113	91.87%	2,378,200	38.88%
164,700	1	164,700	114	92.68%	2,542,900	41.57%
170,000	1	170,000	115	93.50%	2,712,900	44.35%
225,100	1	225,100	116	94.31%	2,938,000	48.03%
229,800	1	229,800	117	95.12%	3,167,800	51.79%
267,400	1	267,400	118	95.93%	3,435,200	56.16%
268,700	1	268,700	119	96.75%	3,703,900	60.55%
375,700	1	375,700	120	97.56%	4,079,600	66.69%
381,700	1	381,700	121	98.37%	4,461,300	72.93%
805,000	1	805,000	122	99.19%	5,266,300	86.09%
850,600	1	850,600	123	100.00%	6,116,900	100.00%
	123	6,116,900				

Average Number of Customers	10
Average Consumption	49,731
Median Consumption	5,875

Supporting Schedules:

Recap Schedules:

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule H-5
Title: Bill Count

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

1-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	4	-	4	3.33%	-	0.00%
1,000	3	1,500	7	5.83%	1,500	0.03%
2,000	4	6,000	11	9.17%	7,500	0.15%
3,000		-	11	9.17%	7,500	0.15%
4,000		-	11	9.17%	7,500	0.15%
5,000		-	11	9.17%	7,500	0.15%
6,000		-	11	9.17%	7,500	0.15%
7,000		-	11	9.17%	7,500	0.15%
8,000	2	15,000	13	10.83%	22,500	0.45%
9,000	11	93,500	24	20.00%	116,000	2.34%
10,000	6	57,000	30	25.00%	173,000	3.49%
10,001 to 12,000	1	11,000	31	25.83%	184,000	3.71%
12,001 to 14,000	1	13,000	32	26.67%	197,000	3.97%
14,001 to 16,000	1	15,000	33	27.50%	212,000	4.27%
16,001 to 18,000	4	68,000	37	30.83%	280,000	5.64%
18,001 to 20,000	4	76,000	41	34.17%	356,000	7.17%
20,001 to 25,000	14	315,000	55	45.83%	671,000	13.52%
25,001 to 30,000	14	385,000	69	57.50%	1,056,000	21.28%
30,001 to 35,000	9	292,500	78	65.00%	1,348,500	27.18%
35,001 to 40,000	16	600,000	94	78.33%	1,948,500	39.27%
40,001 to 50,000	3	135,000	97	80.83%	2,083,500	41.99%
50,001 to 60,000	4	220,000	101	84.17%	2,303,500	46.42%
60,001 to 70,000	4	260,000	105	87.50%	2,563,500	51.66%
70,001 to 80,000	2	150,000	107	89.17%	2,713,500	54.69%
80,001 to 90,000	2	170,000	109	90.83%	2,883,500	58.11%
90,001 to 100,000		-	109	90.83%	2,883,500	58.11%
106,760	1	106,760	110	91.67%	2,990,260	60.26%
123,680	1	123,680	111	92.50%	3,113,940	62.76%
150,000	1	150,000	112	93.33%	3,263,940	65.78%
175,000	1	175,000	113	94.17%	3,438,940	69.31%
184,390	1	184,390	114	95.00%	3,623,330	73.02%
184,660	1	184,660	115	95.83%	3,807,990	76.74%
194,190	1	194,190	116	96.67%	4,002,180	80.66%
208,700	1	208,700	117	97.50%	4,210,880	84.86%
236,290	1	236,290	118	98.33%	4,447,170	89.63%
243,860	1	243,860	119	99.17%	4,691,030	94.54%
270,930	1	270,930	120	100.00%	4,961,960	100.00%
		-	120	100.00%	4,961,960	100.00%
	120	4,961,960				

Average Number of Customers	10
Average Consumption	41,350
Median Consumption	25,357

Supporting Schedules:

Recap Schedules:

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

1-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	16	-	16	7.24%	-	0.00%
1,000	62	31,000	78	35.29%	31,000	1.57%
2,000	32	48,000	110	49.77%	79,000	4.00%
3,000	14	35,000	124	56.11%	114,000	5.77%
4,000	11	38,500	135	61.09%	152,500	7.72%
5,000	9	40,500	144	65.16%	193,000	9.77%
6,000	5	27,500	149	67.42%	220,500	11.17%
7,000	6	39,000	155	70.14%	259,500	13.14%
8,000	5	37,500	160	72.40%	297,000	15.04%
9,000	4	34,000	164	74.21%	331,000	16.76%
10,000	1	9,500	165	74.66%	340,500	17.24%
10,001 to 12,000	6	66,000	171	77.38%	406,500	20.59%
12,001 to 14,000	2	26,000	173	78.28%	432,500	21.90%
14,001 to 16,000	3	45,000	176	79.64%	477,500	24.18%
16,001 to 18,000	3	51,000	179	81.00%	528,500	26.77%
18,001 to 20,000	4	76,000	183	82.81%	604,500	30.62%
20,001 to 25,000	13	292,500	196	88.69%	897,000	45.43%
25,001 to 30,000	4	110,000	200	90.50%	1,007,000	51.00%
30,001 to 35,000	5	162,500	205	92.76%	1,169,500	59.23%
35,001 to 40,000	2	75,000	207	93.67%	1,244,500	63.03%
40,001 to 50,000	5	225,000	212	95.93%	1,469,500	74.42%
50,001 to 60,000	8	440,000	220	99.55%	1,909,500	96.71%
60,001 to 70,000	1	65,000	221	100.00%	1,974,500	100.00%
70,001 to 80,000		-	221	100.00%	1,974,500	100.00%
80,001 to 90,000		-	221	100.00%	1,974,500	100.00%
90,001 to 100,000		-	221	100.00%	1,974,500	100.00%
	221	1,974,500				

Average Number of Customers	18
Average Consumption	8,934
Median Consumption	2,036

Supporting Schedules:

Recap Schedules:

Ray Water Company
Docket No. W-01380A-12-
Test Year Ended December 31, 2011

Schedule H-5
Title: Bill Count

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

1 1/2-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-		-	-	0.00%	-	0.00%
1,000		-	-	0.00%	-	0.00%
2,000		-	-	0.00%	-	0.00%
3,000	2	5,000	2	8.33%	5,000	0.90%
4,000	3	10,500	5	20.83%	15,500	2.80%
5,000	3	13,500	8	33.33%	29,000	5.24%
6,000	3	16,500	11	45.83%	45,500	8.22%
7,000	1	6,500	12	50.00%	52,000	9.39%
8,000		-	12	50.00%	52,000	9.39%
9,000		-	12	50.00%	52,000	9.39%
10,000		-	12	50.00%	52,000	9.39%
10,001 to 12,000		-	12	50.00%	52,000	9.39%
12,001 to 14,000		-	12	50.00%	52,000	9.39%
14,001 to 16,000		-	12	50.00%	52,000	9.39%
16,001 to 18,000		-	12	50.00%	52,000	9.39%
18,001 to 20,000	1	19,000	13	54.17%	71,000	12.83%
20,001 to 25,000	1	22,500	14	58.33%	93,500	16.89%
25,001 to 30,000	1	27,500	15	62.50%	121,000	21.86%
30,001 to 35,000	2	65,000	17	70.83%	186,000	33.60%
35,001 to 40,000	1	37,500	18	75.00%	223,500	40.38%
40,001 to 50,000	2	90,000	20	83.33%	313,500	56.64%
50,001 to 60,000	2	110,000	22	91.67%	423,500	76.51%
60,001 to 70,000	2	130,000	24	100.00%	553,500	100.00%
70,001 to 80,000		-	24	100.00%	553,500	100.00%
80,001 to 90,000		-	24	100.00%	553,500	100.00%
90,001 to 100,000		-	24	100.00%	553,500	100.00%
	24	553,500				

Average Number of Customers	2
Average Consumption	23,063
Median Consumption	16,000

Supporting Schedules:

Recap Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

1 1/2-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-		-	-	0.00%	-	0.00%
1,000	10	5,000	10	83.33%	5,000	50.00%
2,000	1	1,500	11	91.67%	6,500	65.00%
3,000		-	11	91.67%	6,500	65.00%
4,000	1	3,500	12	100.00%	10,000	100.00%
5,000		-	12	100.00%	10,000	100.00%
6,000		-	12	100.00%	10,000	100.00%
7,000		-	12	100.00%	10,000	100.00%
8,000		-	12	100.00%	10,000	100.00%
9,000		-	12	100.00%	10,000	100.00%
10,000		-	12	100.00%	10,000	100.00%
10,001 to 12,000		-	12	100.00%	10,000	100.00%
12,001 to 14,000		-	12	100.00%	10,000	100.00%
14,001 to 16,000		-	12	100.00%	10,000	100.00%
16,001 to 18,000		-	12	100.00%	10,000	100.00%
18,001 to 20,000		-	12	100.00%	10,000	100.00%
20,001 to 25,000		-	12	100.00%	10,000	100.00%
25,001 to 30,000		-	12	100.00%	10,000	100.00%
30,001 to 35,000		-	12	100.00%	10,000	100.00%
35,001 to 40,000		-	12	100.00%	10,000	100.00%
40,001 to 50,000		-	12	100.00%	10,000	100.00%
50,001 to 60,000		-	12	100.00%	10,000	100.00%
60,001 to 70,000		-	12	100.00%	10,000	100.00%
70,001 to 80,000		-	12	100.00%	10,000	100.00%
80,001 to 90,000		-	12	100.00%	10,000	100.00%
90,001 to 100,000		-	12	100.00%	10,000	100.00%
		-	12	100.00%	10,000	100.00%
	12	10,000				

Average Number of Customers	1
Average Consumption	833
Median Consumption	600

Supporting Schedules:

Recap Schedules:

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

2-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	6	-	6	9.84%	-	0.00%
1,000		-	6	9.84%	-	0.00%
2,000	1	1,500	7	11.48%	1,500	0.04%
3,000		-	7	11.48%	1,500	0.04%
4,000		-	7	11.48%	1,500	0.04%
5,000		-	7	11.48%	1,500	0.04%
6,000		-	7	11.48%	1,500	0.04%
7,000	1	6,500	8	13.11%	8,000	0.22%
8,000		-	8	13.11%	8,000	0.22%
9,000	1	8,500	9	14.75%	16,500	0.44%
10,000		-	9	14.75%	16,500	0.44%
10,001 to 12,000		-	9	14.75%	16,500	0.44%
12,001 to 14,000		-	9	14.75%	16,500	0.44%
14,001 to 16,000	3	45,000	12	19.67%	61,500	1.66%
16,001 to 18,000		-	12	19.67%	61,500	1.66%
18,001 to 20,000		-	12	19.67%	61,500	1.66%
20,001 to 25,000	6	135,000	18	29.51%	196,500	5.30%
25,001 to 30,000	2	55,000	20	32.79%	251,500	6.78%
30,001 to 35,000	2	65,000	22	36.07%	316,500	8.53%
35,001 to 40,000	2	75,000	24	39.34%	391,500	10.56%
40,001 to 50,000	4	180,000	28	45.90%	571,500	15.41%
50,001 to 60,000	6	330,000	34	55.74%	901,500	24.31%
60,001 to 70,000	6	390,000	40	65.57%	1,291,500	34.83%
70,001 to 80,000	2	150,000	42	68.85%	1,441,500	38.87%
80,001 to 90,000	5	425,000	47	77.05%	1,866,500	50.33%
90,001 to 100,000	4	380,000	51	83.61%	2,246,500	60.58%
100,300	1	100,300	52	85.25%	2,346,800	63.28%
118,900	1	118,900	53	86.89%	2,465,700	66.49%
120,900	1	120,900	54	88.52%	2,586,600	69.75%
122,100	1	122,100	55	90.16%	2,708,700	73.04%
139,500	1	139,500	56	91.80%	2,848,200	76.80%
146,800	1	146,800	57	93.44%	2,995,000	80.76%
168,700	1	168,700	58	95.08%	3,163,700	85.31%
176,100	1	176,100	59	96.72%	3,339,800	90.06%
179,100	1	179,100	60	98.36%	3,518,900	94.89%
189,600	1	189,600	61	100.00%	3,708,500	100.00%
		-	61	100.00%	3,708,500	100.00%
	61	3,708,500				

Average Number of Customers	5
Average Consumption	60,795
Median Consumption	50,417

Supporting Schedules:

Recap Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

2-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	8	-	8	13.56%	-	0.00%
1,000	10	5,000	18	30.51%	5,000	0.61%
2,000	2	3,000	20	33.90%	8,000	0.97%
3,000	1	2,500	21	35.59%	10,500	1.27%
4,000	1	3,500	22	37.29%	14,000	1.70%
5,000	3	13,500	25	42.37%	27,500	3.33%
6,000	2	11,000	27	45.76%	38,500	4.67%
7,000	1	6,500	28	47.46%	45,000	5.45%
8,000	1	7,500	29	49.15%	52,500	6.36%
9,000	1	8,500	30	50.85%	61,000	7.39%
10,000	2	19,000	32	54.24%	80,000	9.70%
10,001 to 12,000	1	11,000	33	55.93%	91,000	11.03%
12,001 to 14,000	1	13,000	34	57.63%	104,000	12.61%
14,001 to 16,000	2	30,000	36	61.02%	134,000	16.24%
16,001 to 18,000	2	34,000	38	64.41%	168,000	20.36%
18,001 to 20,000	8	152,000	46	77.97%	320,000	38.79%
20,001 to 25,000	4	90,000	50	84.75%	410,000	49.70%
25,001 to 30,000	2	55,000	52	88.14%	465,000	56.36%
30,001 to 35,000	3	97,500	55	93.22%	562,500	68.18%
35,001 to 40,000	1	37,500	56	94.92%	600,000	72.73%
40,001 to 50,000		-	56	94.92%	600,000	72.73%
50,001 to 60,000		-	56	94.92%	600,000	72.73%
60,001 to 70,000	1	65,000	57	96.61%	665,000	80.61%
70,001 to 80,000	1	75,000	58	98.31%	740,000	89.70%
80,001 to 90,000	1	85,000	59	100.00%	825,000	100.00%
90,001 to 100,000		-	59	100.00%	825,000	100.00%
	59	825,000				

Average Number of Customers	5
Average Consumption	13,983
Median Consumption	8,500

Supporting Schedules:

Recap Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

3-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-		-	-	0.00%	-	0.00%
1,000		-	-	0.00%	-	0.00%
2,000		-	-	0.00%	-	0.00%
3,000		-	-	0.00%	-	0.00%
4,000		-	-	0.00%	-	0.00%
5,000		-	-	0.00%	-	0.00%
6,000		-	-	0.00%	-	0.00%
7,000		-	-	0.00%	-	0.00%
8,000		-	-	0.00%	-	0.00%
9,000		-	-	0.00%	-	0.00%
10,000		-	-	0.00%	-	0.00%
10,001 to 12,000		-	-	0.00%	-	0.00%
12,001 to 14,000		-	-	0.00%	-	0.00%
14,001 to 16,000		-	-	0.00%	-	0.00%
16,001 to 18,000		-	-	0.00%	-	0.00%
18,001 to 20,000		-	-	0.00%	-	0.00%
20,001 to 25,000		-	-	0.00%	-	0.00%
25,001 to 30,000		-	-	0.00%	-	0.00%
30,001 to 35,000	1	32,500	1	8.33%	32,500	0.48%
35,001 to 40,000		-	1	8.33%	32,500	0.48%
40,001 to 50,000		-	1	8.33%	32,500	0.48%
50,001 to 60,000	1	55,000	2	16.67%	87,500	1.29%
60,001 to 70,000		-	2	16.67%	87,500	1.29%
70,001 to 80,000		-	2	16.67%	87,500	1.29%
80,001 to 90,000		-	2	16.67%	87,500	1.29%
90,001 to 100,000	1	95,000	3	25.00%	182,500	2.68%
130,600	1	130,600	4	33.33%	313,100	4.60%
261,000	1	261,000	5	41.67%	574,100	8.44%
500,700	1	500,700	6	50.00%	1,074,800	15.80%
627,700	1	627,700	7	58.33%	1,702,500	25.02%
903,600	1	903,600	8	66.67%	2,606,100	38.30%
909,200	1	909,200	9	75.00%	3,515,300	51.66%
995,100	1	995,100	10	83.33%	4,510,400	66.29%
1,073,500	1	1,073,500	11	91.67%	5,583,900	82.07%
1,220,200	1	1,220,200	12	100.00%	6,804,100	100.00%
	12	6,804,100				

Average Number of Customers	1
Average Consumption	567,008
Median Consumption	564,200

Supporting Schedules:

Recap Schedules:

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

4-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	10	-	10	27.78%	-	0.00%
1,000	1	500	11	30.56%	500	0.00%
2,000		-	11	30.56%	500	0.00%
3,000		-	11	30.56%	500	0.00%
4,000		-	11	30.56%	500	0.00%
5,000		-	11	30.56%	500	0.00%
6,000		-	11	30.56%	500	0.00%
7,000		-	11	30.56%	500	0.00%
8,000		-	11	30.56%	500	0.00%
9,000		-	11	30.56%	500	0.00%
10,000		-	11	30.56%	500	0.00%
10,001 to 12,000		-	11	30.56%	500	0.00%
12,001 to 14,000		-	11	30.56%	500	0.00%
14,001 to 16,000		-	11	30.56%	500	0.00%
16,001 to 18,000		-	11	30.56%	500	0.00%
18,001 to 20,000		-	11	30.56%	500	0.00%
20,001 to 25,000		-	11	30.56%	500	0.00%
25,001 to 30,000	1	27,500	12	33.33%	28,000	0.08%
30,001 to 35,000		-	12	33.33%	28,000	0.08%
35,001 to 40,000		-	12	33.33%	28,000	0.08%
40,001 to 50,000		-	12	33.33%	28,000	0.08%
50,001 to 60,000		-	12	33.33%	28,000	0.08%
60,001 to 70,000		-	12	33.33%	28,000	0.08%
70,001 to 80,000		-	12	33.33%	28,000	0.08%
80,001 to 90,000		-	12	33.33%	28,000	0.08%
90,001 to 100,000		-	12	33.33%	28,000	0.08%
350,000	1	350,000	13	36.11%	378,000	1.09%
370,000	1	370,000	14	38.89%	748,000	2.15%
433,000	1	433,000	15	41.67%	1,181,000	3.40%
487,000	1	487,000	16	44.44%	1,668,000	4.80%
778,000	1	778,000	17	47.22%	2,446,000	7.04%
820,400	1	820,400	18	50.00%	3,266,400	9.40%
886,000	1	886,000	19	52.78%	4,152,400	11.95%
935,000	1	935,000	20	55.56%	5,087,400	14.64%
940,000	1	940,000	21	58.33%	6,027,400	17.35%
967,000	1	967,000	22	61.11%	6,994,400	20.13%
1,055,000	1	1,055,000	23	63.89%	8,049,400	23.17%
1,064,000	1	1,064,000	24	66.67%	9,113,400	26.23%
1,101,000	1	1,101,000	25	69.44%	10,214,400	29.40%
1,121,000	1	1,121,000	26	72.22%	11,335,400	32.62%
1,387,000	1	1,387,000	27	75.00%	12,722,400	36.61%
1,614,000	1	1,614,000	28	77.78%	14,336,400	41.26%
1,668,000	1	1,668,000	29	80.56%	16,004,400	46.06%
1,731,000	1	1,731,000	30	83.33%	17,735,400	51.04%
2,124,000	1	2,124,000	31	86.11%	19,859,400	57.15%
2,357,000	1	2,357,000	32	88.89%	22,216,400	63.94%
2,403,000	1	2,403,000	33	91.67%	24,619,400	70.85%
2,510,000	1	2,510,000	34	94.44%	27,129,400	78.08%
2,772,000	1	2,772,000	35	97.22%	29,901,400	86.05%
4,846,000	1	4,846,000	36	100.00%	34,747,400	100.00%
	36	34,747,400				

Average Number of Customers	3
Average Consumption	965,206
Median Consumption	853,200

Supporting Schedules:

Recap Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

4-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	6	-	6	85.71%	-	0.00%
1,000		-	6	85.71%	-	0.00%
2,000		-	6	85.71%	-	0.00%
3,000		-	6	85.71%	-	0.00%
4,000		-	6	85.71%	-	0.00%
5,000		-	6	85.71%	-	0.00%
6,000		-	6	85.71%	-	0.00%
7,000		-	6	85.71%	-	0.00%
8,000		-	6	85.71%	-	0.00%
9,000		-	6	85.71%	-	0.00%
10,000		-	6	85.71%	-	0.00%
10,001 to 12,000		-	6	85.71%	-	0.00%
12,001 to 14,000		-	6	85.71%	-	0.00%
14,001 to 16,000		-	6	85.71%	-	0.00%
16,001 to 18,000		-	6	85.71%	-	0.00%
18,001 to 20,000		-	6	85.71%	-	0.00%
20,001 to 25,000		-	6	85.71%	-	0.00%
25,001 to 30,000	1	27,500	7	100.00%	27,500	100.00%
30,001 to 35,000		-	7	100.00%	27,500	100.00%
35,001 to 40,000		-	7	100.00%	27,500	100.00%
40,001 to 50,000		-	7	100.00%	27,500	100.00%
50,001 to 60,000		-	7	100.00%	27,500	100.00%
60,001 to 70,000		-	7	100.00%	27,500	100.00%
70,001 to 80,000		-	7	100.00%	27,500	100.00%
80,001 to 90,000		-	7	100.00%	27,500	100.00%
90,001 to 100,000		-	7	100.00%	27,500	100.00%
	7	27,500				

Average Number of Customers	1
Average Consumption	3,929
Median Consumption	-

Supporting Schedules:

Recap Schedules:

Note:
One of the monthly minimum amounts was $99 instead of $165, so the bill count revenue generated must be reduced by $66 to account for this partial month.

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

6-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	1	-	1	8.33%	-	0.00%
1,000		-	1	8.33%	-	0.00%
2,000		-	1	8.33%	-	0.00%
3,000		-	1	8.33%	-	0.00%
4,000		-	1	8.33%	-	0.00%
5,000		-	1	8.33%	-	0.00%
6,000		-	1	8.33%	-	0.00%
7,000		-	1	8.33%	-	0.00%
8,000		-	1	8.33%	-	0.00%
9,000		-	1	8.33%	-	0.00%
10,000		-	1	8.33%	-	0.00%
10,001 to 12,000		-	1	8.33%	-	0.00%
12,001 to 14,000		-	1	8.33%	-	0.00%
14,001 to 16,000		-	1	8.33%	-	0.00%
16,001 to 18,000		-	1	8.33%	-	0.00%
18,001 to 20,000		-	1	8.33%	-	0.00%
20,001 to 25,000		-	1	8.33%	-	0.00%
25,001 to 30,000		-	1	8.33%	-	0.00%
30,001 to 35,000		-	1	8.33%	-	0.00%
35,001 to 40,000		-	1	8.33%	-	0.00%
40,001 to 50,000		-	1	8.33%	-	0.00%
50,001 to 60,000		-	1	8.33%	-	0.00%
60,001 to 70,000		-	1	8.33%	-	0.00%
70,001 to 80,000		-	1	8.33%	-	0.00%
80,001 to 90,000		-	1	8.33%	-	0.00%
90,001 to 100,000		-	1	8.33%	-	0.00%
248,000	1	248,000	2	16.67%	248,000	2.16%
267,000	1	267,000	3	25.00%	515,000	4.49%
766,000	1	766,000	4	33.33%	1,281,000	11.16%
507,000	1	507,000	5	41.67%	1,788,000	15.58%
567,000	1	567,000	6	50.00%	2,355,000	20.52%
735,000	1	735,000	7	58.33%	3,090,000	26.92%
904,000	1	904,000	8	66.67%	3,994,000	34.80%
972,000	1	972,000	9	75.00%	4,966,000	43.27%
1,420,000	1	1,420,000	10	83.33%	6,386,000	55.64%
1,833,000	1	1,833,000	11	91.67%	8,219,000	71.61%
3,258,000	1	3,258,000	12	100.00%	11,477,000	100.00%
	12	11,477,000				

Average Number of Customers	1
Average Consumption	956,417
Median Consumption	651,000

Supporting Schedules:

Recap Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

Hydrant Sales

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-		-	-	0.00%	-	0.00%
1,000		-	-	0.00%	-	0.00%
2,000		-	-	0.00%	-	0.00%
3,000		-	-	0.00%	-	0.00%
4,000		-	-	0.00%	-	0.00%
5,000		-	-	0.00%	-	0.00%
6,000		-	-	0.00%	-	0.00%
7,000		-	-	0.00%	-	0.00%
8,000		-	-	0.00%	-	0.00%
9,000		-	-	0.00%	-	0.00%
10,000		-	-	0.00%	-	0.00%
10,001 to 12,000	1	11,000	1	16.67%	11,000	0.91%
12,001 to 14,000		-	1	16.67%	11,000	0.91%
14,001 to 16,000		-	1	16.67%	11,000	0.91%
16,001 to 18,000		-	1	16.67%	11,000	0.91%
18,001 to 20,000		-	1	16.67%	11,000	0.91%
20,001 to 25,000	1	22,500	2	33.33%	33,500	2.76%
25,001 to 30,000		-	2	33.33%	33,500	2.76%
30,001 to 35,000		-	2	33.33%	33,500	2.76%
35,001 to 40,000		-	2	33.33%	33,500	2.76%
40,001 to 50,000		-	2	33.33%	33,500	2.76%
50,001 to 60,000		-	2	33.33%	33,500	2.76%
60,001 to 70,000		-	2	33.33%	33,500	2.76%
70,001 to 80,000		-	2	33.33%	33,500	2.76%
80,001 to 90,000	1	85,000	3	50.00%	118,500	9.76%
90,001 to 100,000		-	3	50.00%	118,500	9.76%
232,852	1	232,852	4	66.67%	351,352	28.94%
319,396	1	319,396	5	83.33%	670,748	55.25%
543,230	1	543,230	6	100.00%	1,213,978	100.00%
	6	1,213,978				

Average Number of Customers	1
Average Consumption	202,330
Median Consumption	158,926

Supporting Schedules:

Recap Schedules:

EXHIBIT 3

WATER USE DATA SHEET

NAME OF COMPANY	Ray Water Company
ADEQ Public Water System Number:	10-095

MONTH/YEAR (12 Months of Test Year)	NUMBER OF CUSTOMERS	GALLONS SOLD (Thousands)	GALLONS PUMPED (Thousands)
1. January	1,519	13,404	13,940
2. February	1,522	12,819	14,455
3. March	1,526	14,067	18,774
4. April	1,528	17,402	20,770
5. May	1,523	19,770	22,814
6. June	1,523	19,810	29,346
7. July	1,534	27,303	24,079
8. August	1,524	22,235	33,363
9. September	1,518	19,288	15,311
10. October	1,517	12,437	17,769
11. November	1,516	13,404	15,906
12. December	1,519	15,067	9,124
TOTAL	N/A	207,006	* 235,651

Is the water utility located in an ADWR Active Management Area ("AMA")?

[X] YES [ ] NO

Does the Company have an ADWR gallons per capita day ("GPCD") requirement?

[X] YES [ ] NO

If Yes, please provide the GPCD amount: 121

Note: If you are filing for more than one system, please provide separate data sheets for each system. For explanation of any of the above, please contact the Engineering Supervisor at 602-542-7277.

*** Gallons pumped cannot equal or be less than the gallons sold.***

EXHIBIT 4

Company Name: Ray Water Company	Test Year Ended: 31-Dec-11

WATER COMPANY PLANT DESCRIPTION

WELLS

ADWR ID Number*	Pump Horsepower	Pump Yield (gpm)	Casing Depth (Feet)	Casing Diameter (inches)	Meter Size (inches)	Year Drilled
55-609464	40	250	458	12"	6"	1969
55-609465	15	125	425	12"	6"	1973
55-609466	15	75	331	8"	4"	1963
55-800420	60	325	612	12"	6"	1983
55-212103	75	325	600	14"	6"	2007
55-214966	75	375	615	14"	6"	2007
55-219154	75	375	660	12"	6"	2010

* Arizona Department of Water Resources Identification Number

OTHER WATER SOURCES

Name or Description	Capacity (gpm)	Gallons Purchased or Obtained (in thousands)
N/A		

BOOSTER PUMPS	
Horsepower	Quantity
25.0	1
20.0	1
15.0	2
30.0	5

FIRE HYDRANTS	
Quantity Standard	Quantity Other
70	N/A

STORAGE TANKS	
Capacity	Quantity
50,000	3
90,000	1
250,000	1
285,000	1

PRESSURE TANKS	
Capacity	Quantity
5,000	2
3,000	1

Company Name: Ray Water Company	Test Year Ended: 31-Dec-11

WATER COMPANY PLANT DESCRIPTION CONTINUED

MAINS

Size (in inches)	Material	Length (in feet)
2		
3	AC	9,730
4	AC	29,900
5		
6	AC	25,773
8	C900 & AC	960 & 4,410
10		
12	C900	240
4	PVC 900	735
6	PVC 900	17,549
8	PVC 900	20,779
6	DIP	280
12	DIP	615

CUSTOMER METERS

Size (in inches)	Quantity
5/8 x 3/4	1509
3/4	
1	30
1 1/2	3
2	12
Comp. 3	1
Turbo 3	1
Comp. 4	3
Turbo 4	1
Comp. 6	1
Turbo 6	

For the following three items, please list the utility owned assets in each category.

TREATMENT EQUIPMENT:

N/A

STRUCTURES:

Cyclone/razor wire fencing around all six well sites.

50 square foot storage building at well #4.

OTHER:

Office furniture and equipment, computers.

Miscellaneous field equipment.

EXHIBIT 5

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
GARY PIERCE, CHAIRMAN
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP
BRENDA BURNS

APPLICATION OF RAY WATER COMPANY FOR A PERMANENT INCREASE IN ITS WATER RATES	**DIRECT TESTIMONY OF MATTHEW ROWELL**

The Direct Testimony of Matthew Rowell is attached.

COST OF CAPITAL

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I. Introduction

Q. Please state your name and business address.

A. My name is Matthew Rowell. My business address is PO Box 51628, Phoenix, Arizona.

Q. By whom are you employed and what are your duties and responsibilities?

A. I am a managing member of Desert Mountain Analytical Services ("DMAS") a consulting firm specializing in utility regulatory matters. In that capacity I have provided testimony regarding various utility regulatory issues before the Arizona Corporation Commission ("Commission").

Q. Please state your background and qualifications in the field of utility regulation.

A. A statement of my qualifications is attached as Exhibit 1 to this testimony.

Q. What is the purpose of your testimony?

A. This testimony presents and explains Ray Water Company's ("Ray") position on the issues of the overall rates of return to be approved, the costs of equity and debt faced by Ray and Ray's capital structure.

Q. Please summarize your testimony.

A. This testimony demonstrates that the Ray is not currently earning the rate of return authorized in it's last general rate case and that the previously authorized rate of return is not sufficient to cover Ray's current cost of capital. The overall rate of return recommended is: 10.56%.

The recommended overall rate of return is supported by a 10.91% cost of equity and a 6.25% cost of debt.

The costs of equity are supported by an analysis of the returns on equity currently being earned by a sample of water and natural gas utilities (the comparable earnings analysis.) The comparable earnings analysis is supplemented by results derived from the Discounted Cash Flow ("DCF") and Capital Asset Pricing ("CAPM") models. The costs of debt are based on the actual interest rate for Ray's long term debt.

II. Cost of Capital Issues Facing Arizona's Water and Waste Water Utilities.

Q. Please explain the concept of "cost of capital."

A. The cost of capital is the expected return on an investment necessary to attract investors to an enterprise. The opportunity cost associated with choosing one investment over others is the

forgone expected return of the other potential investments. A utility seeking to attract investors must provide a return at least equal to the return being provided by similar (in terms of risk) other enterprises. That return necessary to attract investment is the utility's "cost of capital." A utility that earns a return on its rate base at least equal to its cost of capital (and that is efficiently managed) will be able to attract necessary capital and maintain its financial integrity.

The overall cost of capital, or weighted average cost of capital ("WACC"), is the weighted average of the cost of debt and the cost of equity. A utility's cost of debt is readily observable (it is the actual interest rate on its debt) but the cost of equity is not directly observable and must be estimated.

Q. What is the difference between a utility's cost of equity, the authorized return on equity and the realized return on equity?

A. The cost of equity is the forward looking opportunity cost of an equity investment. It is also the expected return required to attract equity capital. The authorized return on equity is the estimate of the cost of equity that the regulatory commission uses to determine the utility's revenue requirement. The realized (or actual) return on equity is a backward looking accounting measurement that shows the return on equity that was actually realized over a given year. The realized return on equity is calculated by dividing the utility's net income by its total equity balance.

Q. Please discuss the challenges facing Arizona utilities with respect to the cost of equity.

A. Water and wastewater utilities in Arizona have been challenged by both the authorized ROEs awarded by the Arizona Corporation Commission ("ACC" or "Commission") and by the level of realized ROEs they have actually been able to achieve. ACC authorized ROEs have been low relative to those authorized in other states. And equally important the policies and practices of the ACC make it very difficult for Arizona's water utilities[1] to realize the ROEs authorized by the Commission. In fact a review of realized ROEs of Class A Arizona water utilities reveals that on average they actually provide a return of only **2.91%** to their equity investors over the past 11 years.[2] Looking at just the past 5 years reveals that the same utilities provided an average return on equity of only **1.75%**.[3]

A 1.75% utility investor return on equity is absurd. A quick review of CD rates demonstrates that five-year "jumbo" CDs (requiring a deposit of at least $100,000) provide returns around 1.75%.[4] And a CD is not an investment – they are backed by the FDIC so there is no chance of losing one's money. Secondly, CDs carry no liability risks for the CD holder – no one is going to sue you claiming that your CD had an odor issue. Third, CDs will never necessitate subsequent investment by the CD holder – unlike a utility company which could have

[1] Throughout this testimony the term "water utilities" will be used to refer to both water and wastewater utilities collectively.
[2] This is a weighted average of the realized returns for each company shown in Table 3 over the 11 years (2000-2010.) The returns were weighted by the equity balances of each utility in each year.
[3] This is a weighted average of the realized returns for each company shown in Table 3 over the 5 years (2006-2010.) The returns were weighted by the equity balances of each utility in each year.
[4] www.bankrate.com.

a well or system failure at any moment necessitating another large investment. Fourth, CDs carry no regulatory costs or risks – CD holders do not have to monitor regulatory changes, policies and decisions; they do not have to meet regulatory standards and timelines, they do not face any costs of compliance. Fifth, CD holders do not have to provide any good or service to anyone at all – there are no customers to care for, no water to be tested and delivered, no community that needs support and involvement.

Providing water utility service requires a myriad of responsibilities that CD holders just don't have: infrastructure has to be maintained (wells, mains, booster stations, storage tanks, wellsites, office space, inventory storage), managing customer connect and disconnects, billing, employees to oversee, vendors to deal with and pay, taxes to calculate and pay, regulatory reports and inspections to complete and file, insurance (property, liability, health, worker's comp) to purchase and maintain, etc. These are significant responsibilities that Ray's manager-owner's have to bear and that the holder of a CD does not have to bear.

Q. How do you support your claim that authorized ROEs in Arizona are below what is typical in other states?

A. Several sources of information indicate that authorized ROEs in Arizona are below those typical in other states. Independent equity analysts have indicated that Arizona's authorized ROEs are below what is typical in other states and my own research on this point confirms this. Additionally, specific Commission decisions in previous Global, Litchfield Park and Arizona American rate cases provide anecdotal evidence of the Commission's propensity to authorize ROEs below those recommended by its Staff.

In April of 2011 Janney Montgomery Scott, a well respected investment firm with roots tracing back to 1832, introduced its Regulatory Climate Indicator (RCI) report which examined and ranked several states based on the regulatory climate for water utilities.[5] Janney collected information on 16 states where investor owned water utilities are active. Of those states Arizona was ranked dead last. While other factors (discussed below) influenced this ranking, the most important variable in Janney's rankings is the average ROE granted to water utilities by the state commission and Arizona's propensity to authorize low ROEs had a substantial impact on Janney's ranking of Arizona.

Each November Public Utilities Fortnightly publishes authorized ROEs from utility commissions across the country. Examining several years of these Public Utilities Fortnightly surveys indicates quite clearly that ROEs granted in Arizona are well below what is typical nationally – and more so when one compares those to the Commission's ROE decisions for water companies.

Three recent cases illustrate the Arizona Commission's propensity to authorize ROEs that are not only low compared to national norms but are even below those recommended by the Commission Staff. First, in Decision 70372[6] the Commission authorized an ROE of 8.8% for Arizona-American's Anthem district. This was well below the 10.3% recommended by Commission Staff. Second, in Global's last rate case the Commission authorized an ROE of

[5] Janney Water Journal - April 2011
[6] 6/13/2008.

9.0% – a full 100 basis points below Staff's recommended 10.0% return (see Decision 71878.[7]) Finally, in Litchfield Park Service Company's last rate case (Decision 72026[8]) the Commission imposed the astonishingly low ROE of 8.01% when the Staff was recommending 9.2%. These three examples are the most extreme cases but they are certainly not the only cases where authorized ROEs were below those recommended by the Staff.

Q. Besides their low levels are there other notable aspects of authorized ROEs in Arizona?

A. The Commission's propensity to adopt authorized ROEs significantly below those recommended by the ALJs, by its Staff and in some cases even by RUCO greatly increases the level of regulatory uncertainty faced by Arizona's utilities. The signal this sends to equity investors is that the ACC cares little about their ability to receive an adequate return on or of their investment. Rather, the ACC appears to view the authorized ROE as a highly malleable variable that it can set with little technical justification. This sends a chilling signal to equity investors increasing the cost of equity capital for Arizona utilities.

Anyone who reads cost of capital testimony in Arizona has to have noticed that almost every Arizona utility makes this point clearly: The Commission has, because of its decisions and actions, achieved a national reputation for being anti-investment in water. The fact that Arizona lies in the midst of the Sonoran Desert and the Rocky Mountain states – two of the most water-challenged areas in the United States – only increases investors' bafflement and fear of the Commission.

Q. Turning now to achieved ROEs, how do you support your claim that Arizona's water and wastewater utilities are not achieving their authorized ROEs?

A. I calculated the realized ROEs from 2000 to 2010 of several of the larger water utilities in the state. Not only are the realized ROEs significantly below what water utilities are earning outside of Arizona (discussed further below) but they don't come close to the authorized ROEs established by the ACC.

Table 3: Average Realized and Authorized ROEs 2007-2010[9]

Company	11 Year Average Realized ROE 2000-2010	Average Authorized ROE Effective 2000-2010
[redacted]		
Arizona American (Water and Sewer)	0.70%	9.97%
[redacted]		

[7] 9/15/2010.
[8] 12/10/2010.
[9] Source of realized ROEs: Net income and equity balances taken from ACC annual reports. Source of authorized ROEs: *ACC Decisions 61831, 67093, 68858, 69440, 70209, 70351, 70372, 71410, 72047, 64282, 66849, 68302, 71845, 68176, 71308, 65436, 72026* and 67279

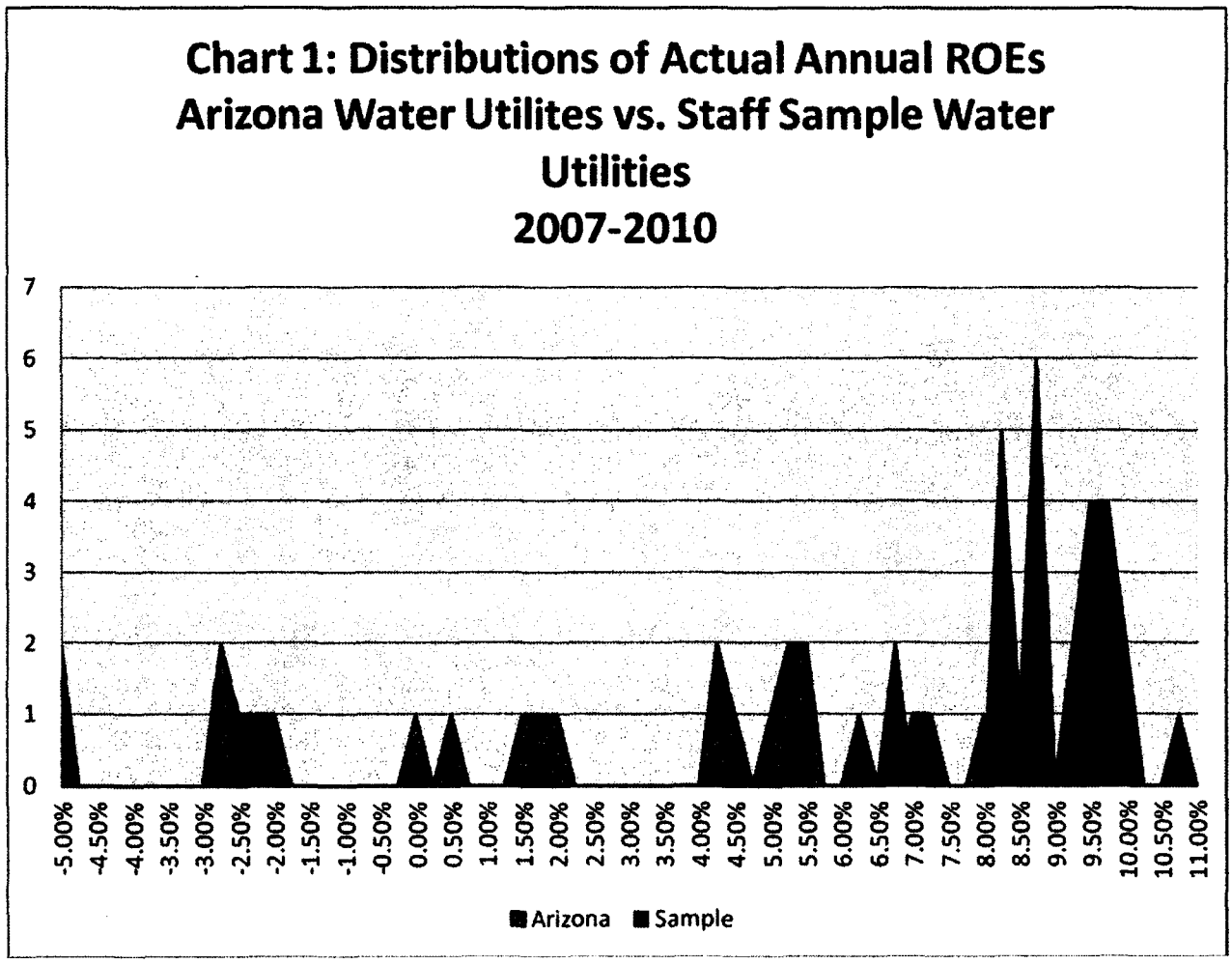
LPSCO (Water and Sewer)	5.35%	8.75%
[redacted]		

Table 3 shows clearly that Arizona's water industry is characterized primarily by under-earning. In fact over the 55 observations (5 companies over 11 years each) there were only eight instances where the authorized ROE was achieved in a given year. **Over the past 5 years the authorized ROE was not achieved by any of the utilities in any year.** This statewide history of low returns naturally causes equity investors to perceive Arizona as a high risk environment.

The evidence demonstrates that this propensity for under-earning is much more prevalent among Arizona's water utilities than it is among the utilities that are typically used by Staff and RUCO as the sample for developing recommendations regarding authorized ROEs.

Chart 1 below compares the distribution of actual ROEs of the Arizona utilities presented above compared to the distribution of actual ROEs of a sample of publicly traded water companies. This sample includes the six water utilities typically used by Staff in their cost of equity analysis as well as one other (smaller) publically traded water utility.[10]

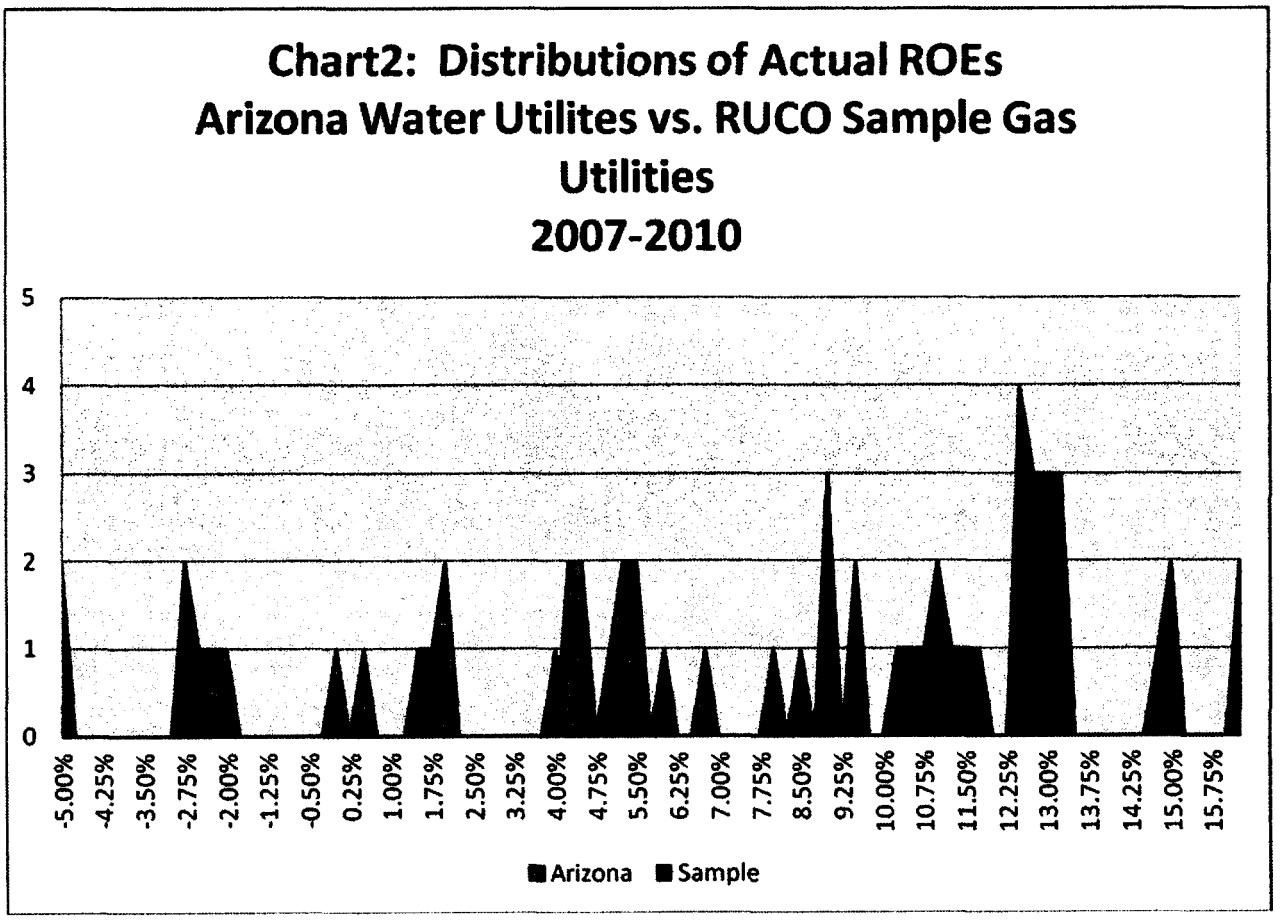
[10] The water utilities included in the sample are SJW Corp (SJW), American States Water (AWR), California Water (CWT), Aqua American (WTR), Connecticut Water (CTWS), Middlesex Water (MSEX) and York Water Co. (YORW.)



The Arizona realized ROEs have both a lower mean and a wider spread relative to the sample of utilities.

Making the same comparison but using the natural gas distribution utilities by RUCO[11] in their cost of equity analyses reveals the same conclusion.

[11] The gas utilities included in the sample are AGL Resources, Inc (AGL), Atmos Energy Corp. (ATO), Laclede Group Inc. (LG), New jersey Resources Corporation (NJR), Northwest Natural Gas Co. (NWN), Piedmont natural Gas (PNY), South Jersey Industries, Inc (SJI), Southwest Gas Corp (SWX and WGL Holdings, Inc (WGL).



The Arizona water utilities have both a lower average and wider spread than the natural gas sample.[12]

The above analyses clearly demonstrate that Arizona's Class A water utilities persistently under-earn relative to their authorized ROEs and relative to their peers in other states and industries. Additionally, the Arizona returns are not only on average lower than their out of state peers they are also more variable (i.e., they have a wider spread.) Technically, a wider spread means the distribution of Arizona returns has a higher standard deviation, i.e., higher risk. The standard deviation of the Arizona sample is 83% larger than that of the national water and gas utilities used by Staff and RUCO in their cost of equity analysis. The mean of the Arizona sample is 84% less than the national sample. Of course investors considering an equity investment in an Arizona water company take this into account. The historical record indicates that they can expect greater variability and lower average returns in the Arizona water utility industry than elsewhere.

Q. How do you explain the pervasive under-earning of Arizona's water utility industry?

[12] For Arizona utilities: the average ROE is 1.4% with a standard deviation of 0.060. For the sample of gas utilities the average ROE is 11.47% with a standard deviation of 0.027.

A. The water utility industry in Arizona faces many challenges. Some of those challenges are faced by the industry nation-wide but many result from circumstances in Arizona. Challenges that face the industry as a whole include the extremely capital intensive nature of the business coupled with the need for ongoing capital reinvestment and the enhancement of EPA regulations. In Arizona these challenges are exacerbated by development risk, the prevalence of old and dilapidated systems in some rural areas, revenue attrition due to conservation, and the regulatory environment.

Q. Can you expand on how the regulatory environment in Arizona makes it difficult for water utilities to earn their authorized ROEs?

A. Several regulatory factors serve to depress realized ROEs in Arizona: (1) the strict adherence to an historic test year coupled with rate case processing times that can take well over a year; (2) the use of rate structures explicitly designed to encourage conservation without adjustments to revenue requirements to account for conservation; (3) abnormally low authorized ROEs, as compared to other states; and (4) the relative small size of most Arizona water utilities. Note that I am not saying that a historical test year in and of itself is inherently bad, nor am I saying that conservation-based rate designs are bad. But the confluence of all these factors without some recognition in the ratemaking process results in severely depressed realized ROEs.

In common with utilities around the country many Arizona utilities (including Ray) face the need for significant re-investment in older distribution plant. Because of Arizona's strict adherence to the historical test year standard these re-investments face the same carrying cost problem as new utility investments: there is a significant lag between when the investments are made and when a return on and off the investments can begin. Some state utility commissions have addressed this problem using Distribution System Investment Charges (DSICs) that allow for returns to be earned on these re-investments without a full rate case.[13] Not only does Arizona (so far) not allow for a DSIC-like mechanism but the extremely long processing times for rate cases in Arizona further exacerbates these problems associated with the recognition of investments. This means that Arizona utilities are constantly playing catch up because when rates go into effect they represent a level of capital investment that's close to two years old.

The use of tiered rates is also contributing to the erosion of earnings among Arizona utilities. Tiered rates are specifically intended to reduce consumption, yet the Commission has not recognized that consumption may decline when it sets rates. While Ray does not currently have tiered rates it is proposing them in this case. Ray understands that tiered rates are preferred by the Staff and Commission. Additionally, Ray believes that water conservation is a laudable goal. However, the Commission should recognize that ignoring the revenue impact conservation greatly enhances the risk to utilities.

Finally, it is the case that utilities in Arizona are relatively small. Small size affects both the revenues and costs of utilities. Small utilities' revenues are far more susceptible to shocks resulting from customer conservation (or customer loss) than larger utilities. Consider the example of a large industrial user of water that decides to conserve and use less water. A large

[13] DSICs go by different names in different states and each state has implemented them slightly differently. According to the National Association of Water Companies California, Connecticut, Delaware, Illinois, Indiana, Missouri, New Hampshire, New Jersey, New York, Ohio and Pennsylvania each allow for DSIC like mechanisms, see: http://www.nawc.org/state-utility-regulation/regulatory-practices/distribution-system-investment-charge.aspx.

utility with a diverse customer base will be able to absorb that loss much more easily than a smaller utility that is far more dependent on each of its large users for revenue. On the cost side smaller utilities are much more susceptible to earnings erosion due to equipment failure than are larger utilities. Consider a pump failure for example. To a large utility operating multiple systems in multiple states a single pump failure is really a drop in the bucket and will have little impact on earnings. For a smaller utility, the same pump failure can have a much greater impact on earnings.

The Janney report discussed above cites some of these same issues as reasons why Arizona scored so low in Janney's utility rankings. The adherence to an historical test year, long rate case processing times, and the lack of a DSIC-like mechanism all contribute to a lower ranking under the methodology used in that report.

Q. What other sources can you point to to support your contention that the environment in Arizona is inherently unfavorable to the water utility industry?

A. Statements made in American States Water Company's 2010 annual report to its shareholders are telling:

> "Also unacceptable were the low historical returns on our investment in Chaparral City Water Company (CCWC), our Arizona subsidiary. In light of those returns, we did not have an interest in growing CCWC. We further concluded that given CCWC's small size, it made business sense to consider a sale. During the first six months of 2010, we implemented a sale process that resulted in our signing an agreement to sell CCWC to EPCOR Water (USA) Inc. for $35 million, including $29 million in cash and $6 million in assumed debt. ... We plan to use the cash from the sale to fund capital expenditures at GSWC, allowing us to defer one of our periodic AWR equity issuances."[14]

This quote demonstrates the effect of the ACC's decisions: private capital is fleeing the Arizona water utility industry. Rather than continuing to invest in Arizona, rational investors are seeking to shed their Arizona water utility investments. Similarly, American Water some time ago stopped supplying its Arizona subsidiary with equity capital[15] and has now sold that subsidiary.

Q. Please explain how the above factors are relevant to the issue of setting a forward looking cost of equity.

A. The above discussion clearly demonstrates that Arizona water utilities face a higher than typical level of risk. Specifically, the facts clearly show that Arizona water utilities are at great risk of not achieving their authorized ROE (since no Class A water utility in the state has managed to achieve its authorized ROE in the past five years.) This means that ROEs based on samples of non-Arizona utilities will understate the necessary ROE for an Arizona water utility. Thus ROE estimates that are developed through the use of a sample of non-Arizona utilities

[14] American States Water Company, 2010 Annual Report to Shareholders page 13. GSWC is Golden State Water Company, American States' California subsidiary.
[15] See Arizona American's most recent rate case application at pages 4-5 Docket No. W-01303A-10-0448.

(whether they are based on a comparative earnings analysis, a DCF analysis, a CAPM analysis or some other method) will need to be augmented upwards to reflect the circumstances in Arizona.

Q. Why does the state-wide history of low returns imply that Arizona water utilities face a higher cost of capital than is typical?

A. The expected return required to attract capital to an investment depends on that investment's perceived risk. The higher the risk the higher will be the expected return to attract sufficient capital.[16] A history of low and highly variable returns indicates that Arizona is a high risk environment for water utility equity investors. Equity investors will require relatively higher expected returns to invest in Arizona's industry which raises the cost of capital for Arizona's water utilities.

Q. Aren't water utilities typically considered to be low risk? How can a monopoly service provider be thought of as a high risk investment?

A. That is a legitimate and logical question. The wide-spread perception that water utilities are a low risk investment is based primarily on utility bonds which are typically highly rated. Utilities may present low risk to bond investors but that does not mean that equity investors face the same risk. Utility bond ratings are generally high because it is widely accepted that regulators will not allow a large utility to default on the obligations of its bonds. However, experience shows that no such protection is afforded equity holders. The above analysis demonstrates that this is especially true in Arizona. Equity investors face the real probability of earning a below normal return which inevitably leads to share price depreciation and a loss of capital (or to put it in terms of debt, a loss of principal.)

While water utilities are monopolies, the highly capital intensive nature of the water industry and the regulatory environment ensure that their monopoly status does not shield their equity investors from risk.

III. Ray's Current Financial Situation

Q. Turning now to Ray, what rate of return on equity did Ray achieved during the test year?

A. Ray's realized ROE in the test year (2011) was: -8.55%.

Q. In addition to the test year return on equity, can you provide additional details on Ray's financial situations?

A. Ray's last rate case was in 1999 (Decision No. 61610.) Since then Ray has only achieved the ROE authorized in that decision in one year (2000.) On average Ray's actual ROE since the last rate case was only 4.49%. The following table shows Ray's ROE for each year since its last rate case:

[16] This basic relationship between risk and return is fundamental to finance theory and practice. Markowitz, Harry M. "Portfolio Selection," The Journal of Finance, Vol. VII, March 1952, 77-91 provides an early exploration of the implications of the risk-return relationship.

Authorized ROE		11.00%
Year	**Actual ROE**	**Difference from Authorized ROE**
1999	8.75%	-2.25%
2000	14.05%	3.05%
2001	6.42%	-4.58%
2002	9.82%	-1.18%
2003	5.95%	-5.05%
2004	5.92%	-5.08%
2005	4.24%	-6.76%
2006	9.18%	-1.82%
2007	4.09%	-6.91%
2008	1.97%	-9.03%
2009	-1.21%	-12.21%
2010	-2.35%	-13.35%
2011	-8.55%	-19.55%

Ray's failure to achieve its authorized ROE in all but one of the last 13 years is telling. It indicates that Ray faces the same problems and issues that the Class A utilities I discussed above face. In fact, given Ray's relatively small size the issues and risks it faces are even more considerable than those faced by the larger utilities.

It is also noteworthy that Ray is not a spendthrift utility. In fact, it is especially cost effective. Ray's operating cost per customer compares very favorably with the Class A water utilities in Arizona I have evaluated on that basis. In spite of this high level of efficiency, Ray is still unable to achieve its authorized ROE.

IV. The Current Economic Situation's Impact on Required ROEs.

Q. There have been significant economic disruptions over the past several years. Please explain how the current economic situation impacts required returns on equity for Arizona water utilities.

A. In recent years we have experienced a historic deflation in real estate values, the most severe recession in generations, a government bailout of the financial industry, and a remarkable increase in the Federal Government's debt. The post-recession environment has been characterized by anemic economic growth, persistent high unemployment, a historic down-grading of US government debt and wild swings in equity prices. The Federal Reserve's policy known as quantitative easing was intended to increase economic growth by increasing the money supply, however the results have not been impressive as economic growth has been slow and the Fed's policy has stoked fears (if not the actuality) of excessive inflation. Additionally, a significant number of Americans still owe more on their home's mortgage than the home is

worth which creates both downward pressure on and uncertainty about the real estate market. More recently it has become apparent that certain European governments have accumulated an unsustainable debt load. A default by these governments could be disruptive to the global financial system and while European leaders have given assurances that a default will not happen they have been slow in developing a plan of action to comprehensively deal with the problem.

These factors have led to a remarkable level of risk and uncertainty for equity investors of all kinds. The real fear of capital losses has led investors to seek out low risk investments (such as US Government debt) which has driven their interest rates to historic lows, while at the same time driving the total returns on US Government debt to historic highs.

Because of their monopoly status, water utilities *could* be thought of as an island of safety in a sea of risk but this is certainly not the case in Arizona. As discussed in detail above, equity investors face substantial risks and uncertainty in the Arizona water utility industry.

In addition to the water utility specific issues already discussed, it is also the case that Arizona was (and is) in many ways at the epicenter of the real estate implosion. Arizona's economy has always been highly dependent on real estate development and that industry's collapse has hit Arizona (and its water utilities) hard. Additionally, in national rankings of foreclosed homes, underwater mortgages and vacant residences Arizona still persistently ranks high.[17] So the risk of further deterioration in Arizona's real estate market still haunts the state.

Given the twin threats of regulatory uncertainty and real estate uncertainty it is doubtful that equity investors would perceive Arizona's water utility industry to be a safe haven from risk.

Q. How has the macroeconomic situation affected cost of equity estimation more generally?

A. The excessive risk of recent years has sparked a "flight to safety" by investors. Seeking to avoid risk, investors have been buying US Government debt securities. The Federal Reserve also acquired large quantities of US Government debt as part of its Quantitative Easing policy. This increased demand for US Government bonds has driven the price of those bonds up which drives the yield (and interest rate) of the bonds down. In spite of the lower interest rates and yields the total return accruing to US Government bond holders has increased dramatically due to price appreciation.

This is an issue for cost of equity estimation because the return on US Government bonds is commonly used as the proxy for the risk-free rate of return component of the CAPM. It is questionable whether the depressed yields and inflated total returns associated with the flight to

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[17] RealtyTrac, Q1 2012 Foreclosure Activity Lowest Since Q4 2007, April 5, 2012 (http://www.realtytrac.com/content/foreclosure-market-report/foreclosure-trends--q1-2012-and-march-2012-foreclosure-report-----realtytrac-7111) Quote: "Arizona's foreclosure rate was the nation's highest state foreclosure rate in March.";
NuWire Investor, Underwater Mortgages Belie housing Recovery, March 6, 2012 (http://www.nuwireinvestor.com/articles/underwater-mortgages-belie-housing-recovery-58847.aspx) Quote: "Statewise, Nevada had the highest negative equity rate, with 61% of homeowners underwater on their mortgages. Arizona, at 48%, and Florida, at 44%, ranked second and third in the CoreLogic ranking.";
US Census data available at http://www.census.gov/hhes/www/housing/hvs/rates/index.html show Arizona is ranked 4th nationally for vacant homes.

safety and Federal Reserve intervention are consistent with the theoretical framework of the CAPM. This issue will be discussed in greater detail below under the section on CAPM analysis.

V. ROE Estimation Based on the Comparable Earnings Approach

Q. Please describe the Comparable Earnings approach to estimating ROEs.

A. The Comparable Earnings approach is simple relative to other commonly used ROE estimation techniques. The Comparable Earnings approach involves selecting a sample of companies and calculating their actual or expected returns on equity. The sample returns on equity are averaged and used as a proxy for the required return on equity of the utility in question. In the interest of minimizing the amount of subjective inputs, the Comparable Earnings analysis presented here is based on the actual returns on equity achieved by the sample's utilities, not on earnings projections.

A. Comparable Earnings vs. DCF and CAPM

Q. How does the Comparable Earnings approach compare to more abstract methods such as the DCF model and CAPM?

A. A Comparable Earnings analysis based on actual returns requires no subjective judgments regarding financial algorithms, models or figures. The only subjective decision the analyst must make is the selection of the companies to include in the sample. In contrast, in order to apply the DCF or CAPM models several subjective determinations regarding financial variables must be made. With the DCF model the analyst must select the appropriate expected growth rate (or rates) of dividends. The analyst must pick a proxy for the expected growth rate because the expected dividend growth rate only really exists in the minds of investors, making its actual value unknowable. Similarly, with the CAPM the analysts must pick appropriate stand-ins for wholly theoretical variables. Appropriate proxies for the "risk free" rate of return, the market risk premium and the expected correlation between a given securities return and the market return must be selected by the analyst.

Q. What are the other merits of the Comparable Earnings approach?

A. Use of a Comparable Earnings analysis is consistent both with the legal and economic underpinnings of rate of return regulation. From an economic perspective the cost of capital is an opportunity cost, the foregone opportunities associated with making a particular investment. A Comparable Earnings approach produces the most straightforward calculation of the real opportunity cost faced by a potential utility investor. From a legal perspective the Comparable Earnings approach fits the concept of "corresponding risk" espoused by the seminal *Hope* and *Bluefield* US Supreme Court cases. The *Hope* and *Bluefield* cases are widely regarded as foundational to modern rate base rate of return regulation. The cases' assessment of cost of capital issues is best summarized in the following quote from *Hope*:

"From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard *the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks*. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital."[18]

The three cost of capital standards established by *Hope* and *Bluefield* are commensurate (i.e., comparable) earnings, financial integrity and capital attraction. A Comparable Earnings analysis of the cost of equity corresponds directly and literally with the commensurate earnings standard. The Comparable Earnings approach also satisfies the financial integrity standard since only companies characterized by a high degree of financial integrity should be included in the sample used to develop the cost of equity estimate. Because of the enhanced risk associated with operating a utility in Arizona (discussed above) a Comparable Earnings analysis (or any other type of analysis) based on a sample of companies with more normal risk profiles will have to be augmented upwards in order to satisfy the capital attraction standard.

Q. Do the DCF and CAPM models also conform to the standards laid out in Hope and Bluefield?

A. While the DCF and CAPM may not directly contradict the *Hope* and *Bluefield* standards they do not conform to the standards as directly as the Comparable Earnings approach does. Also, the amount of subjective determinations that must be made when formulating the DCF and CAPM models will always raise questions about the extent to which their results conform with the *Hope* and *Bluefield* standards.

Q. Is the Comparable Earnings method widely used?

A. I have not conducted a comprehensive review of the cost of equity methodologies used by the various state commissions. The most recent available review indicates that 21 state commissions and federal regulatory agencies favor the Comparable Earnings method and that 27 use a combination of different methods (which may or may not include the Comparable Earnings method.)[19]

However, there is considerable resistance to the Comparable Earnings approach. I believe this resistance is the result of Comparable Earnings' simplicity. Complex economic and financial models present an air of superiority and mystery. The practitioner who uses these models is privy to special truths that the layman is closed off from. Furthermore, regulators, companies and analysts like believing that their decisions are based on a Nobel Prize-winning

[18] Federal Power Commission et. al. v. Hope Natural Gas Company (320 U.S. 591), Emphasis added.
[19] NARUC Compilation of Utility Regulatory Policy 1994-1995, cited in The Cost of Capital, A Practitioners Guide David C. Parcell 2010 edition at 88.

model.[20] In contrast, the comparable earnings approach is not complex and does not require knowledge of esoteric financial theory.

I assume that for the average person and the average investor, as they read through cost of capital testimony they will recognize that they understand Comparable Earnings and are baffled by DCFs and CAPM. Being simple and reflective of reality, and understandable are all reasons for reliance on Comparable Earnings – but are also reasons why many experts spurn it.

B. Selection of Sample Utilities

Q. Please discuss how you selected the sample utilities to use in the Comparable Earnings analysis.

A. To select a sample I started with the samples recently used by ACC Staff's and RUCO's cost of capital analysts[21].

RUCO		STAFF	
American States	AWR	American States	AWR
California Water	CWT	California Water	CWT
Aqua American	WTR	Aqua American	WTR
Middlesex Water	MSEX	Middlesex Water	MSEX
SJW Corp	SJW	SJW Corp	SJW
AGL Resources, Inc.	GAS	Connecticut Water	CTWS
Atmos Energy Corp	ATO		
Laclede Group, inc.	LG		
New jersey Resources Corporation	NJR		
Northwest Natural Gas Co.	NWN		
Piedmont Natural Gas Company	PNY		
South Jersey Industries, Inc	SJI		
Southwest Gas Corporation	SWX		
WGL Holdings, Inc	WGL		

I then calculated the realized return on equity in 2011 for each of these companies. I removed the companies with both the highest and the lowest ROEs (SWX 4.51% and SJI 14.31%.) Removing the high and low observations from a sample prevents undue influence of extreme circumstances. I also excluded AGL Resources because of significant one-time expenses associated with its recent merger with Nicor. I have replaced AGL Resources with UGI Corporation, another natural gas utility. This provides the following sample of utilities:

American States	AWR
Aqua American	WTR

[20] Note that the developers of the CAPM did receive a Nobel Prize for their work but they developed the CAPM as a tool to develop optimal portfolio selection techniques, not as a tool for estimating the cost of equity. So the Nobel Prize really isn't an endorsement of the CAPM as it is used in utility ratemaking.

[21] See testimony of Staff and RUCO in Docket W-01445A-11-0310.

California Water	CWT
Connecticut Water	CTWS
Middlesex Water	MSEX
SJW Corp	SJW
York Water Co.	YORW
Atmos Energy Corp	ATO
Laclede Group, inc.	LG
New Jersey Resources Corporation	NJR
Northwest Natural Gas Co.	NWN
Piedmont Natural Gas Company	PNY
UGI CORP	UGI
WGL Holdings, inc	WGL

Q. Why is it appropriate to include natural gas distribution companies in the sample?

A. The natural gas distribution industry has many similarities to the water industry. Natural gas utilities are known to suffer from revenue attrition due to energy efficiency programs in much the same way that Arizona water utilities suffer from attrition resulting from conservation orientated rate designs. Also, the number of water utilities for which detailed financial information is available is limited, so inclusion of the natural gas utilities allows for a large sample which limits the impact that any one company's unusual circumstances can have.

Use of natural gas utilities as a stand in for water utilities is not unique to this testimony. As stated above RUCO commonly includes natural gas utilities in its sample. Also, the Florida Public Service Commission uses a sample of natural gas utilities in its annual generic ROE estimation for water utilities.[22]

C. Comparable Earnings Results

Q. What is the realized ROE for this sample?

A. Taking a weighted (by equity) average of the realized ROEs of each of the utilities in the sample produces an ROE of 10.47%. See Schedule MJR 1.

Q. Why is it appropriate to use a weighted average of the sample ROEs to produce the estimate of the cost of equity?

A. The utilities in the sample vary greatly in size. The smallest, York Water Co., has an equity balance of $95 million. The largest, Atmos Energy, has an equity balance of $2,255 million. Taking a simple average of returns produces a number that overstates the influence of the smaller utilities in the sample. Weighting the sample ROEs by the equity balance of each company produces the average return accruing to *each dollar* of equity in the sample.

[22] See Florida PSC Order No. PSC-11-0287-PAA-WS, Docket No. 110006-WS

VI. DCF estimation

Q. Please describe the DCF model.

A. The DCF or Discounted Cash Flow model is based on the idea that the present value of an asset that pays off in the future is the discounted expected value of the future pay off. This means that the price of a stock is:

$$P = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3} + \frac{D_4}{(1+r)^4} + \cdots$$

Where P is the stock price, D_1 is the dividend paid in future year one, D_2 is the dividend paid in future year two, D_3 is the dividend paid in future year three etc., (1 + r) is the discount rate and r is the rate of return.

Assuming that dividends grow at a constant rate of g and that the future stream of dividends is infinite allows the above equation to be rewritten as:

$$P = \frac{D_0}{(r-g)}$$

Where D_0 is the current dividend being paid.

Solving this equation for r gives the standard formulation of the DCF model:

$$r = \frac{D_0}{P} + g$$

The required rate of return equals the current dividend yield plus the expected growth rate.

While the mathematics that connect the above steps may not be intuitively obvious, this basic relationship between stock price, dividend yield and the growth rate is regarded as a truism of finance.

The dividend yield of a stock is readily attainable from a variety of sources. However, the expected growth rate is not known with certainty and a proxy for it must be selected.

Q. Please describe your specific formulation of the DCF model.

A. Using the DCF model I calculated the required ROEs of each of the utilities in the sample (this is the same sample of companies presented in the Comparable Earnings analysis above.) These ROEs were than averaged to come up with a DCF ROE estimate.

The simple DCF formula discussed in the previous question is known as the Continuous DCF model because its formulation requires the implicit assumption that dividends are paid in a continuous stream throughout the year. To account for the real world complication that dividends are paid out at discrete intervals I use the Annual Compounding DCF model:

$$r = \frac{D_0(1+g)}{P} + g$$

Q. How did you calculate the dividend yield for the companies in the sample?

A. For each of the sample companies I used the dividend per share for 2012 from Value Line's April 20, 2012 Summary and Index for D_0. And I used the closing price of the sample

companies' stock from May 30, 2012 (obtained from Google Finance) for the current price. The calculation of the dividend yield is shown on Schedule MJR 2. This is the same method of calculating the dividend yield used by the ACC Staff in recent water utility cases.[23]

Q. How did you calculate the expected dividend growth rate?

A. I obtained analysts' projections of the sample companies' Earnings Per Share ("EPS") growth rates. I then averaged these projections together to get a proxy for the expected growth rate in dividends. The sources I used to obtain analysts forecasts are: Yahoo Finance, Reuters, Zacks, CNN Money and Value Line. Averaging the forecasts from five different sources prevents any one anomalous forecast from having substantial influence on the result. Schedule MJR 3 shows the calculation of the expected dividend growth rate.

Q. Why do you believe it is appropriate to use forecasts of EPS as a proxy for expected dividend growth?

A. The value g in the DCF model is defined as the *expected future* growth rate. It is not the current or historical growth rate, but the growth rate investors expect to experience in the future. Analysts' forecasts are the best proxy we have for the expected future growth rate of a given company. Historical growth rates do provide relevant information and analysts do include historical growth rates in their assessment of future growth rates. So relying on forecasted growth rates does not mean that historical growth rates are ignored.

Since forecasts of dividend growth are not widely available, forecasts of earnings per share growth rates are often used in the DCF model.[24] The DCF model relies on the implicit assumption that earnings and dividends grow at the same rate[25] so when using the DCF model EPS growth rates are an appropriate proxy for dividend growth rates.

Q. Please discuss the multi-stage DCF model.

A. In addition to the annual compounding and DCF model discussed above I also developed a cost of equity estimate using the multi-stage DCF model. The multi-stage DCF model allows for non-constant growth rates in dividends. I have used the same formulation of the multi-stage DCF that Staff has used in recent cases.[26]

The idea behind the multi-stage DCF is that the assumption in the standard DCF that dividends grow at a constant rate forever is thought to be unrealistic. The multi-stage DCF requires the assumption that dividends are expected to grow at one rate over the near term and at a different long run sustainable rate over the long term. The multi-stage DCF equation is:

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

Where: $P_0 = current\ stock\ price$

[23] See W-01303A-10-0448, Arizona American rate case, Direct Testimony of Juan Manrique.
[24] Morin, Roger A, New Regulatory Finance, Public Utility Reports, inc 2006, at page 302
[25] Ibid, at page 258.
[26] See W-01303A-10-0448, Arizona American rate case, Direct Testimony of Juan Manrique.

D_t = *dividends expected durring the initial near term period*

r = *cost of equity*

n = *number of years in the initial near term period*

D_n = *dividends expected in year n*

g_n = *constant rate of growth expected after year n*

Solving the multi-stage DCF equation for r cannot be done algebraically; rather values for r must be plugged in iteratively until the value that solves the equation is reached. Schedule MJR 4 shows the derivation of the multistage DCF results.

Following Staff I use a near term period of five years and I use the long run average of U.S. GDP growth of 6.6% as the long term growth rate, g_n.[27] For the short term growth rate I use the same growth rate discussed above under the annual and semi-annual compounding DCF models.

The multi-stage DCF model is used extensively by financial analysts and institutional investors.[28] Because of this widespread acceptance of the multi-stage DCF model and because it has been employed by the Staff it seemed appropriate to include it in the DCF analysis of utility costs of equity.

Q. Both ACC Staff and RUCO use the Sustainable Growth method to develop a growth rate for their DCF models. Why are you not proposing to use the Sustainable Growth method?

A. The Sustainable Growth (or Retention Ratio) method formulates the expected dividend growth rate as:

$$g = b * r + s * v$$

Where: b = the expected fraction of earnings to be retained by the company

r = the expected return on equity

s = the expected growth in the company's outstanding shares

v = the expected fraction of sales of new stock that accrues to current share holders.

So use of the Sustainable Growth method requires the analyst to develop proxies for four different expectational variables. Determining what proxies are appropriate for investors' expectations of b, r, s and v is inherently more problematic than determining a proxy for the single variable g.

The variable r, the expected return on equity, raises additional issues. Investors' expectations about the future actual ROE will depend on their expectations regarding the outcome of regulatory proceedings that set the authorized ROE. So the idea that r, the expected return on equity, can be used as an input to determine the authorized ROE is inherently circular. Historical actual ROEs have been used as a proxy for expected ROEs but if we believe that historical actual ROEs are an appropriate proxy for expected ROEs we can just use the historical

[27] Ibid.

[28] Morin, New Regulatory Finance at 266.

actual ROEs to compute the authorized ROE directly without the use of the DCF or any other model (which is what I did in the Comparable Earnings analysis above.)

Q. Please discuss the assumptions that the DCF model relies on.

A. Like all models the DCF is a simplification of reality. In order to make financial models practical for actual use simplifying assumptions must be made about the behavior and beliefs of investors and company management. The following are assumptions that the DCF relies on. The first four assumptions are necessary for any DCF model while the last four are necessary only for constant growth DCF models.[29]

Assumption 1: Investors value stocks in the classical economic framework, i.e., they make investment decisions in a rational fashion based on their perception of value.

Assumption 2: Investors discount future dividends at the same rate (1 + the cost of equity) in each future period. This implies that investors assume that the yield curve is flat (i.e., that interest rates on short term, intermediate term and long term debt are the same.) While this assumption is unrealistic its practical implications are limited.

Assumption 3: The cost of equity derived from the DCF model corresponds to the specific stream of future cash flows included in the model. In other words, it is dependent on the specific circumstances of the company whose data is being used in the model. If investors expected the same cash flows but with a higher level of risk the resulting cost of equity would not be the same. This is because the stock price will decline if perceived risk increases (even if expected cash flows don't change.) In the context of the DCF model a lower stock price results in a higher cost of equity. This supports the notion that the DCF cost of equity results should be adjusted upwards to account for the specific risks faced by Ray (and other Arizona water utilities.)

Assumption 4: The source of value to investors is dividends.

Assumption 5: The cost of equity must be greater than the expected growth rate of dividends. This means that the DCF model cannot be used for growth stocks but it is not an issue for most utilities.

Assumption 6: The expected dividend growth rate is constant for every future year to infinity. This does not mean that dividends must actually grow at the same rate every year. Rather, investors are assumed to expect the growth rate to be constant. If the actual growth rate varies randomly around an average expected rate this assumption is not violated.

Assumption 7: Investors require the same return on equity in each future year. This implies that the risks faced by the firm are assumed to be constant.

Assumption 8: There is no external financing. Dividend growth comes solely from the retention of earnings.

Q. What are the results of your DCF analysis?

A. The results of the DCF analysis presented here are:

[29] This discussion of DCF assumptions follows Morin, 2006, 251-258.

DCF Method	ROE
DCF Annual Compounding	9.16%
Multistage DCF	9.81%

VI. CAPM estimation

Q. Please discuss the CAPM or Capital Asset Pricing Model.

A. The CAPM is quite different from the DCF model. The DCF model is a multi-period model that explicitly recognizes that investment returns are paid out over time. In stark contrast, the CAPM is a single period model; it is essentially an instantaneous snapshot of a moment in time and thus it eschews the concept of the time value of money and of discount rates. Further, while the DCF model explicitly recognizes that the cost of equity depends upon firm specific factors such as a firm's dividend yield and expected dividend growth rate, the CAPM assumes that investors ignore all such firm specific factors. Unlike the DCF model which is grounded by the "old school" financial concept that the value of an asset is the discounted sum of future cash flows,[30] the CAPM is based on the more recent theory of Efficient Markets and Modern Portfolio Theory.[31]

Q. What is the basic formulation of the CAPM?

A. The CAPM specifies the relationship between the cost of equity, the "risk free" rate of return, beta and the market risk premium. This relationship is expressed as:

$$r = RF + \beta * (RM - RF)$$

Where: r = the cost of equity

RF = The "risk free" rate of return

β = Beta, the expected correlation between a given securities return and the market rate of return.

RM = the market rate of return

RM – RF = the market risk premium.

The risk free rate of return, RF, is the hypothetical return on the hypothetical risk free asset. In reality, no asset is risk free so an appropriate proxy for the risk free rate must be selected by the analyst.

Beta measures a given asset's propensity to move with the "market." A Beta of 1 indicates that the asset tends to move in perfect correlation with the market. A Beta of 0.5 indicates the asset tends to move half as much as the market.[32]

[30] First advanced by Fisher (1907) and expanded on by Williams (1938.)

[31] Markowitz (1952), Sharpe (1963) and Lintner (1965)

[32] I say "tends to" because Betas are determined statistically through a regression model. The statistical model used to estimate Beta is:

Historical betas are determined by the use of a statistical model known as regression analysis that determines the correlation between a given assets' return and the market return. Historical betas are often used as a proxy for expected betas when formulating the CAPM.

The market rate of return, RM, is supposed to represent the return on a hypothetical portfolio consisting of **all assets.** In theory this portfolio would consist of all conceivable asset classes: stocks, bonds, agricultural commodities, gold and other metals, art, collectables, etc. However, in practice the market portfolio is usually represented by a broad portfolio of stocks. This difference between the theoretical CAPM and how it is used in practice has been cited as one of the CAPM's fundamental drawbacks.[33]

The market risk premium, RM – RF, is the difference between the market return and the risk free rate of return. It represents the additional return required to compensate investors for the risk associated with holding the market portfolio rather than the risk free asset. This factor explains why investors choose the risk inherent in the market rather than risk free investments: they expect to earn more money.

Q. How have current events made use of the CAPM problematic?

A. In 2011 both long term and intermediate term US government bonds outperformed stocks in terms of return.

2011 Returns to Various Asset Classes[34]

	Capital Appreciation	Income Return	Reinvestment Return	Total Return
Large Company Stocks	0%	2.13%	-0.01%	2.11%
Long-Term US Gov. Bonds	23.74%	3.81%	0.68%	28.23%
Intermediate Term US Gov. Bonds	7.79%	1.58%	0.09%	9.46%

<u>So the premium of large company stocks as compared to long and medium term government bonds was actually *negative* in 2011.</u>

The premium of large company stock returns over short-term US government debt (treasuries) is currently at historic lows and has been highly variable over the past several years. Since 2006 this "equity risk premium" has been as high as 26.34% and as low as -37.99%.

Year	Large Company Stock Premium to Treasuries (Equity Risk Premium)[35]

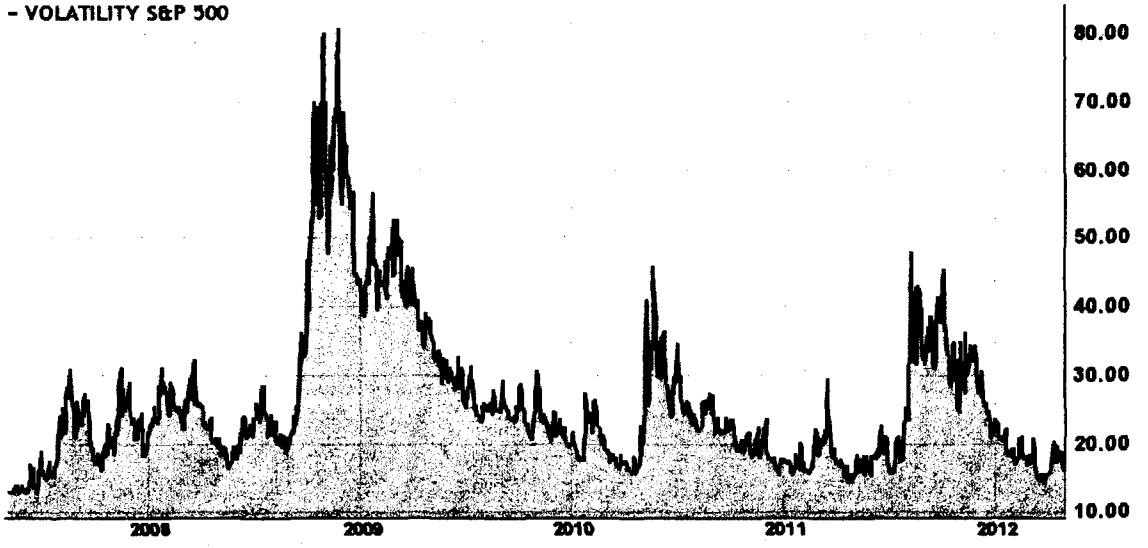
$r = RF + \beta * (RM - RF) + \varepsilon$ where ε is a random error term. I.e., the CAPM does not explain all of the variability in r.

[33] Morin, New Regulatory Finance at 176.

[34] Source: Morningstar 2012 Classic Yearbook Table 2-2.

2006	10.49
2007	0.79
2008	-37.99
2009	26.34
2010	14.92
2011	2.07

This extreme volatility was mirrored in the Chicago Board of Exchange (CBOE) Volatility Index (VIX):



This obvious high variability in the markets and in risk premiums reflects the dramatic swings in the stock market over the past few years. In 2008 when the market crashed the risk "premium" was highly negative. As often happens after a crash the market recovered over the next few years and so did the premium. In 2011 the stock market leveled off and the bond market did remarkably well.

The premium of large company stock returns over the various types of US government debt is used as a proxy for the market risk premium when using the CAPM. Given that these premiums are anomalously low and subject to high degrees of variation due to the unsettled nature of current economic conditions, their use in the CAPM is problematic. A CAPM model based on the 2010 equity risk premium (14.92%) will result in a drastically different ROE than one based on 2011's risk premium (2.07%.) But does anyone really believe that the cost of equity faced by utilities in Arizona shifted that drastically from 2010 to 2011?

Additionally, the recent variability in the stock market has caused a "flight to safety" which, along with actions by the Federal Reserve, reduces interest rates but at the same time increase total returns to bond holders. This tends to artificially depress results of the CAPM since many analysts use the *interest rate* on government bonds as the proxy for the risk free rate

[35] Source: Morningstar 2012 Classic Yearbook Table 4-1.

but use a market risk premium based on the difference between *total returns* of stocks and bonds. This mismatch has resulted in remarkably low CAPM ROE estimates in resent Staff and RUCO testimony.[36]

Q. Do you see any other issues with the CAPM?

A. The assets used as inputs into the CAPM, stocks and government bonds, are highly liquid. They can be easily bought and sold on short notice and offer the chance at a capital gain. However, the asset class we are interested in, water utility plant, is not at all liquid and has almost no chance of providing a capital gain. This significant difference in the assets used as inputs into the model and actual utility assets calls into question its applicability for the estimation of utility ROE.

Q. How do you recommend that these problems with the CAPM be addressed?

A. My primary recommendation is that the CAPM be abandoned entirely by the ACC, at least under the current, unusual economic situation. Relying primarily on the comparable earnings approach and using the DCF as a check would be superior to the current practice of using the CAPM. Notably, the ACC only began routinely using the CAPM in the last ten years. However, if I were to not put forth a CAPM model in this testimony I may be subject to unwarranted criticism. So, in order to alleviate the problem associated with current anomalous market conditions, I have developed CAPM models based on long term averages.

A. Choice of Risk Free Rate, Market Risk Premium and Betas

Q. How has the choice of the risk free rate of return, market risk premium and Beta been handled in recent testimony presented before the ACC?

A. I have examined testimony filed by Staff, RUCO and company witnesses in the most recent Arizona Water and Arizona American rate cases.[37] For the risk free rate of return these witnesses proposed 8 different estimates ranging from 0.83% to 5.17%. For the market risk premium there were 9 different estimates ranging from 4.5% to 11.9%. For Beta there were 6 different estimates ranging from 0.67 to 0.76.

Between the December 5, 2011 filing in the Arizona American case and the March 13, 2012 filing in the Arizona Water case Staff's estimate of the "historical" risk free rate of return declined by 50% with no change in the market risk premium. RUCO's estimate of the risk free rate of return declined by 56% over the same three-month period.

This high degree of variability calls into question the validity and practical applicability of the CAPM method. It also leads to the unanswerable question: How can an asset whose return can decline over 50% over three months be considered to be "risk free"?

Q. Please discuss your general approach to the CAPM?

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[36] See W-01445A-10-0517.

[37] W-01445A-11-0310 and W-01303A-10-0448.

A. I have developed separate CAPM estimates based on the annual returns and market risk premium to long term, medium term and short term government bonds. Morningstar publishes returns accruing to these assets over various time periods. To match the typical life of utility assets I use returns accruing over the past 30 years.

Q. What proxy did you use for the risk free rate of return?

A. I used the average return on long term, medium term and short term US government bonds over the period January 1, 1980 to December 31, 2011 reported by Morningstar in their 2012 SBBI Classic Yearbook[38] as the proxy for the risk free rate of return.

Q. Why do you believe long term returns are the appropriate proxy for the risk free rate?

A. Since the CAPM is a single period model there is no theoretically "right" answer to questions dealing with the choice of long term vs. short term proxies. Instead the choice must depend on real world considerations. Since an investment in utility plant is a long term investment, the corresponding risk free asset must also be of a long term duration. The return on an asset held for a short duration is not directly comparable to a return on an asset that must be held for 30 years. An equity investment in utility plant (i.e., ratebase) generally takes 30 years to be returned to the investor through depreciation (assuming that cash flow is high enough to make approved depreciation rates meaningful.) In order for the proxy risk free rate to appropriately correspond to the holding period of utility assets it must have a similar holding period.

Q. Have other practitioners used long term returns as a proxy for the risk free rate?

A. Yes. In recent cases both Staff and RUCO use long term total returns on government debt as a proxy for the risk free rate in their calculation of the market risk premium.[39]

Q. How did you pick the betas used in your CAPM analysis?

A. I used the same sample of utilities discussed in the Comparable Earnings and DCF analyses above. For each of these companies I obtained Value Line's estimated beta. The beta used in my CAPM analysis is the average of this sample of betas: 0.69. See Schedule MJR 6.

Q. Generally speaking why is it appropriate to use the average of a sample of beta estimates instead of a single beta estimate?

A. The statistical estimates of beta are just that: estimates. Like all statistical estimates they are prone to estimation errors. The CAPM was developed in the context of Portfolio Theory, a

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[38] Tables C-4, C-5 an C-6

39 See dockets W-01303A-10-0448 and W-01445A-11-0310

branch of finance concerned with optimal portfolio allocations. The statistical errors of individual beta estimates of securities in a portfolio should cancel each other out such that the overall portfolio beta estimate is consistent and reliable. The developers of the CAPM were able to ignore the statistical error of individual beta estimates because their focus was the overall beta of the portfolio, not the individual betas. Now that we are using the CAPM to estimate the cost of equity for utilities (a use the CAPM was not intended for when it was developed) we must be aware of the statistical error problem and should use a sample of beta estimates from different firms in order to alleviate it.

Q. How did you develop the market risk premium (RM – RF) used in your CAPM analysis?

A. I calculated the premium of both large and small stocks over long term US Government bonds over the 1980 – 2011 period. The average return on large and small stocks over the 1980 to 2011 period was taken from Morningstar's 2012 SBBI Classic Yearbook[40]

Q. Why do you believe it is appropriate to include returns on small stocks in your calculation of the market risk premium?

A. The market return in the CAPM is the return on a hypothetical portfolio containing **all** asset classes. Thus, in order to be consistent with the theoretical underpinnings of the CAPM a broad array of asset classes should be represented in the market risk premium. Further, Ray is a small company itself and thus to be consistent with the comparable earnings standard established by *Hope* and *Bluefield* small companies should also be considered in determining the market risk premium.

B. CAPM Results

Q. Please discuss the results of your CAPM analysis.

A. The above describe method yields an ROE of 10.51%. Schedule MJR 5 shows the details of this calculation.

VII. Comparing Ray to the Sample Utilities

Q. How does Ray compare to the sample of utilities used in the above analyses?

A. Ray is considerably smaller than the utilities in the sample and faces considerably greater risk as a result of the economic, environmental, and regulatory environment in Arizona. I provide further information later in this section regarding why it is essential to consider firm-specific risks in determining the cost of equity.

A. Ray is significantly smaller than the sample utilities

Q. How much smaller is Ray compared to the sample utilities?

[40] Tables C-1, C-2 and C-3.

A. I compared the 2010 annual revenue and total assets of Ray to those of the sample utilities. The average of the sample utilities' 2010 revenues was: $1.6 Billion. The average of the sample utilities' 2010 total asset base was: $3.6 Billion. Ray is not even close in size to the sample average. Ray's revenues and assets are both well less than 0.5% of those of the sample.

Q. What are the implications of Ray's small size relative to the sample of utilities used to determine the cost of equity?

A. Ray's small size relative to the sample utilities calls into question whether the use of such a sample conforms to the "corresponding risk" standard derived from the *Hope* and *Bluefield* cases. The risk profile of small firms is fundamentally different from that of large firms. Small firms are widely regarded as riskier than large firms. Therefore, reliance on a sample of large firms can dramatically understate the risk (and the necessary cost of equity) for smaller utilities. In order to conform to *Hope* and *Bluefield's* "corresponding risk" standard an upward adjustment to the cost of equity derived from the sample utilities is necessary.

Q. Why is it that small utilities are characterized by higher risk than large utilities?

A. Lack of diversification is the primary reason why small utilities carry more risk than the utilities included in the sample. The utilities in the sample (for the most part) do business in multiple states and service territories. The effects of a disruption in any one service territory such as the loss of a large customer, the need for emergency repairs or an unfavorable regulatory decision are muted at the corporate level because they are spread out across the entire operation. This is not true of Ray, its relatively small size and lack of geographic scope precludes risk mitigation through diversification of their operations.

B. Ray faces substantially more risk than the sample utilities

Q. How do you support the contention that Ray faces substantially more risk than the sample utilities?

A. Section II, above, demonstrates that the actual return on equity experienced by utilities in Arizona is significantly below that and more variable than those in the sample. This makes it indisputable that Arizona based water utilities exhibit a higher risk profile than the utilities used in the sample. For technical reasons use of a sample of utilities is necessary in order to implement the traditional cost of equity estimation techniques, but this does not mean that problems associated with the sample should be ignored. In order to establish an authorized return on equity that appropriately addresses the difference in risk between Ray and the sample utilities a premium must be applied.

Q. How do you respond to Staff's contention that premiums associated with firm-specific risk are inappropriate because such risk can be diversified away[41]?

[41] See Docket W-01445A-11-0310.

A. The idea that firm-specific risk factors can be ignored is a result of the CAPM not a general principle of finance.

The CAPM's assumption that investors ignore firm-specific information such as dividends is, of course, absurd. A veritable cornucopia of firm-specific data is available to, and utilized by, today's investors. A whole industry is now supported by investors' demand for firm-specific data. Firms such as Value Line, Reuters, Dow Jones and others make their livings by providing firm-specific information to investors. It absolutely defies common sense that investors would pay for this firm-specific data if they did not intend to use it.

The absurdity of the CAPM's assumptions does not mean it is not useful. The CAPM provides a simple and widely accepted method for estimating the cost of equity. While unrealistic assumptions may be appropriate for a mathematical financial model, they are not appropriate for decision making in the real world. CAPM results can be used as an input when determining the authorized return on equity, using the CAPM's absurdly unrealistic assumptions to argue that firm-specific risk factors must be ignored entirely when determining the authorized return on equity for a specific firm is totally inappropriate. In other words, use of the CAPM does not preclude adjustments to the estimated cost of equity based on real world firm-specific risk factors.

In fact, adherence to the notion that firm-specific risk factors should be ignored when estimating the cost of equity seems to be a clear violation of the principles laid out in the *Hope* and *Bluefield* Supreme Court cases. As discussed above, the three cost of capital standards established by *Hope* and *Bluefield* are: 1) commensurate earnings; 2) financial integrity; and 3) capital attraction.

Ignoring firm specific risk factors violates all three of these standards.

1) The commensurate earnings standard requires that the cost of equity commensurate with that of other companies *with similar risk.* This is impossible if the risk characteristics of the utility in questions are ignored.
2) The financial integrity standard requires that the cost of equity be sufficient to maintain the financial integrity of the utility (the actual utility, not a generic utility). Again, this is impossible to assess if firm-specific factors are ignored.
3) Similarly, it is impossible to determine whether a given return on equity for a specific firm is sufficient to attract capital without also considering that firm's specific factors.

Q. What premium do you propose because of the risk factors that affect Arizona utilities?

A. Unfortunately, there is no accepted method for determining an appropriate rate of return premium to apply in instances such as this. However, a look at long term stock returns offers some guidance. Morningstar calculates and reports returns over various time periods for several different asset classes. Comparing returns on small stocks to those on large stocks over the period from 1926 through 2010 reveals that small stocks on average have returns 480 basis points higher than large stocks.[42] Given this large return premium that accrues to small companies in general, it is not unreasonable to suggest a similar premium to account for the extreme difference in size between Ray and the sample utilities as well as the difference in risk

[42] Morningstar June 2011 SBBI Market Report, Table 5.

characteristics of Arizona utilities compared to the sample utilities (discussed above.) However, in the interest of keeping the rate increase requested in this case moderate Ray is requesting a premium of only 65 basis points to account for these risk factors.

VIII. Authorized ROE

Q. What authorized ROE are you recommending for Ray?

A. To develop the recommended ROE I have used the weighted average of two different DCF models, 3 different CAPM models. and a comparable earnings analysis and developed justification for a 65 basis point premium. I believe the comparable earnings approach has more value than either the DCF or CAPM and thus I weight it more heavily in the recommendation. The comparable earnings result is weighted 2/3rds and the DCF and CAPM results are given a weight of 1/3. I then apply a 65 basis point premium as discussed above. This produces a recommended ROE of 10.91%. This process is summarized in the following table:

DCF Annual Compounding	9.16%
Multistage DCF	9.81%
CAPM	10.51%
Average of Models	9.83%
Comp Earnings	10.47%
Weighted Average (1/3 models, 2/3 Comp Earnings)	10.26%
Risk Premium	0.65%
Total	10.91%

VIII. WACC

Q. What is the weighted average cost of capital ("WACC"?)

A. The WACC is a cost of capital for the whole firm that is derived by weighting the cost of capital associated with each source of capital (debt and equity) by its share in the firm's overall capital structure.

Q. Please describe Ray's capital structure.

A. Ray currently has long term debt obligations of $100,000 and an equity balance of $1,058,077. The interest rate on Ray's current debt is 6.25%. In the first year that new rates will be in effect, Ray's debt balance is expected to fall to $84,653.

Q. What WACC are you recommending for Ray?

A. Weighting the recommending cost of equity and actual cost of debt by their proportions in Ray's capital structure yields a weighted average cost of capital of 10.56%.

Schedules:

Schedule MJR 1: Calculation of Comparable Earnings ROE

Company		Net Income (millions)	Equity (millions)	ROE	Equity Weight	Weighted ROE
American States	AWR	45.86	408.67	11.22%	0.03619	0.00406
Aqua American	WTR	143.07	1251.31	11.43%	0.11080	0.01267
California Water	CWT	37.71	449.83	8.38%	0.03983	0.00334
Connecticut Water	CTWS	11.3	118.96	9.50%	0.01053	0.00100
Middlesex Water	MSEX	13.45	180.33	7.46%	0.01597	0.00119
SJW Corp	SJW	20.88	264	7.91%	0.02338	0.00185
York Water Co.	YORW	9.08	95.27	9.53%	0.00844	0.00080
Atmos Energy Corp	ATO	207.6	2255.42	9.20%	0.19971	0.01838
Laclede Group, inc.	LG	63.83	573.33	11.13%	0.05077	0.00565
New jersey Resources Corporation	NJR	101.3	776.26	13.05%	0.06874	0.00897
Northwest Natural Gas Co.	NWN	63.9	714.49	8.94%	0.06327	0.00566
Piedmont Natural Gas Company	PNY	113.57	996.92	11.39%	0.08827	0.01006
UGI CORP	UGI	232.9	1977.7	11.78%	0.17512	0.02062
WGL Holdings, inc	WGL	118.37	1230.89	9.62%	0.10899	0.01048
						10.47%

Schedule MJR 2: Dividend Yield Calculation

			5/30/12	Dividend
		Do current*	Spot Price	Yield
American States	AWR	1.16	36.53	3.18%
Aqua American	WTR	0.67	23	2.91%
California Water	CWT	0.64	17.31	3.70%
Connecticut Water	CTWS	0.94	27.23	3.45%
Middlesex Water	MSEX	0.74	18.13	4.08%
SJW Corp	SJW	0.74	23.02	3.21%
York Water Co.	YORW	0.53	17.05	3.11%
Artesian Res. Corp.	ARTNA	0.76	18.75	4.05%
Atmos Energy Corp	ATO	1.38	32.52	4.24%
Laclede Group, inc.	LG	1.65	37.73	4.37%
New Jersey Resources Corporation	NJR	1.52	41.8	3.64%
Northwest Natural Gas Co.	NWN	1.78	45.93	3.88%
Piedmont Natural Gas Company	PNY	1.19	29.67	4.01%
UGI CORP	UGI	1.06	28.34	3.74%
WGL Holdings, inc	WGL	1.59	38.43	4.14%
*Value line Estimated Div next 12 months published 4/20/2012				

Schedule MJR 3: Calculation of Expected Dividend Growth Rate

		5/30/2012	5/30/2012	5/30/2012	5/30/2012		
		Yahoo Finance*,	Reuters*,	Zacks*,	CNN Money	Value Line*,‡	Average
American States	AWR	5.70%	7.57%	12.00%	4.00%	6.50%	6.59%
Aqua American	WTR	6.73%	7.48%	8.30%	7.00%	8.50%	7.85%
California Water	CWT	7.40%	7.40%	0.00%	8.05%	6.00%	11.16%
Connecticut Water	CTWS	6.10%	7.05%	0.00%	3.00%	0.00%	4.93%
Middlesex Water	MSEX	2.70%	-1.15%	No data	0.60%	5.50%	5.86%
SJW Corp	SJW	14.00%	14.00%	No data	12.60%	7.00%	6.91%
York Water Co.	YORW	4.90%	5.63%	No data	6.00%	0.00%	6.21%
Artesian Res. Corp.	ARTNA	4.40%	4.93%	No data	5.10%	-17.00%	9.21%
Atmos Energy Corp	ATO	4.37%	5.37%	4.80%	5.45%	4.00%	4.06%
Laclede Group, inc.	LG	5.30%	5.15%	3.50%	3.50%	2.00%	3.86%
New jersey Resources Corporation	NJR	2.47%	3.10%	3.80%	1.65%	5.50%	4.14%
Northwest Natural Gas Co.	NWN	3.25%	4.17%	4.30%	3.75%	4.00%	3.93%
Piedmont Natural Gas Company	PNY	4.55%	4.55%	4.70%	5.10%	2.50%	3.62%
UGI CORP	UGI	0.20%	0.20%	No data	0.20%	4.50%	1.63%
WGL Holdings, inc	WGL	4.60%	4.60%	4.90%	2.10%	3.00%	3.55%
		5.11%	**5.34%**	**4.63%**	**4.54%**	**2.80%**	**5.57%**

* Projected annual growth over next five years.

† Collected 4/16/2012.

‡ April 30 2012 Value Line for water and March 9, 2012 for Gas utilities.

Schedule MJR 4: Multistage DCF P0 = sum Dt/(1+K)t + Dn(1 + gn)/(K - gn) * [1/(1 + K)]n

	Do	Spot Price	K	Near Term Growth Rate	D1/(1+K)	D2/(1+K)2	D3/(1+K)3	D4/(1+K)4	D5/(1+K)5	sum Dt/(1+K)t	gn	Dn	Dn(1 + gn)/(K - gn) * [1/(1 + K)]n	Multistage DCF
		[redacted]												36.53
WR	1.16		9.63%	0.07	0.03	0.03	0.03	0.03	0.03	14.8%	0.07	1.64	36.38	
														23.00
ITR	0.67		9.47%	0.08	0.03	0.03	0.03	0.03	0.03	13.8%	0.07	0.97	22.86	
														17.31
WT	0.64		10.09%	0.07	0.04	0.04	0.03	0.03	0.03	17.1%	0.07	0.91	17.14	
														27.23
TWS	0.94		9.64%	0.05	0.03	0.03	0.03	0.03	0.03	15.4%	0.07	1.22	27.08	
														18.13
ISEX	0.74		9.78%	0.03	0.04	0.04	0.03	0.03	0.03	16.9%	0.07	0.86	17.96	
														23.02
W	0.74		10.31%	0.12	0.03	0.03	0.03	0.03	0.03	16.8%	0.07	1.30	22.85	
														17.05
ORW	0.53		9.39%	0.06	0.03	0.03	0.03	0.03	0.03	14.0%	0.07	0.69	16.91	
														18.75
RTNA	0.76		10.02%	0.05	0.04	0.04	0.04	0.03	0.03	17.6%	0.07	0.96	18.57	
														32.52
TO	1.38		10.15%	0.05	0.04	0.04	0.04	0.03	0.03	18.3%	0.07	1.74	32.34	
														37.73
;	1.65		10.10%	0.04	0.04	0.04	0.04	0.03	0.03	18.4%	0.07	2.00	37.55	
														41.80
IR	1.52		9.51%	0.03	0.03	0.03	0.03	0.03	0.03	15.3%	0.07	1.79	41.65	
														45.93
WN	1.78		9.88%	0.05	0.04	0.04	0.03	0.03	0.03	16.9%	0.07	2.26	45.76	
														29.67
NY	1.19		9.91%	0.04	0.04	0.04	0.03	0.03	0.03	17.2%	0.07	1.47	29.50	
														28.34
GI	1.06		9.33%	0.01	0.03	0.03	0.03	0.03	0.03	15.0%	0.07	1.13	28.19	
														38.43
'GL	1.59		9.93%	0.04	0.04	0.04	0.03	0.03	0.03	17.5%	0.07	1.92	38.26	

Solved with Microsoft Excel's "Goal Seek" function.

Schedule MJR 5: CAPM

Morningstar Reported Returns*		Premium Over Gov bonds		
1/1/80 to 12/30/11		Long Term	Medium Term	Short Term
Large Co Stocks	11.10%	0.90%	2.7%	6%
Small Co Stocks	12.30%	2.10%	3.9%	7.2%
Long Term Gov Bonds	10.20%			
Medium Term Gov Bonds	8.40%			
US Treasury Bills	5.10%			

*2012 Classic Yearbook Table C-1 - C-6

CAPM Long Term Gov Bonds

RF	Beta	MRP	ROE	
10.20% +	0.688 *	1.50% =	11.23%	MRP = average of .9 and 2.1

CAPM Medium Term Gov Bonds

RF	Beta	MRP	ROE	
8.40% +	0.688 *	3.30% =	10.67%	MRP = average of 2.7 and 3.9

CAPM Long Term Gov Bonds

RF	Beta	MRP	ROE	
10.20% +	0.688 *	1.50% =	11.23%	MRP = average of 6 and 7.2

Average ROE = 10.51%

Schedule MJR 6: Beta

		Beta*
American States	AWR	0.7
Aqua American	WTR	0.65
California Water	CWT	0.65
Connecticut Water	CTWS	0.8
Middlesex Water	MSEX	0.7
SJW Corp	SJW	0.85
York Water Co.	YORW	0.7
Artesian Res. Corp.	ARTNA	0.6
AGL Resources, inc.	AGL	0.75
Atmos Energy Corp	ATO	0.7
Laclede Group, inc.	LG	0.6
New jersey Resources Corporation	NJR	0.65
Northwest Natural Gas Co.	NWN	0.6
Piedmont Natural Gas Company	PNY	0.7
UGI CORP	UGI	0.7
WGL Holdings, inc	WGL	0.65
AVERAGE		**0.688**

*Value Line.

Matthew Rowell

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Professional History

- **Desert Mountain Analytical Services, PLLC (DMAS)** 2007 – Present
  Managing Member

  DMAS is a small consulting firm specializing in utility finance, ratemaking and other regulatory issues. DMAS' clients range in size from large multinational corporations to small rural utilities.

- **Arizona Corporation Commission** 1996 to 2007

  Chief Economist (July 2001 to February 2007)
  Analyzed and produced testimony or staff reports on a wide variety of utility issues. Supervised a staff of nine professionals with similar responsibilities.

  Economist (October 1996 to July 2001)
  Analyzed and produced testimony or staff reports on a wide variety of utility issues.

- **Arizona State University**, Tempe, AZ 1992-1996.
  Lecturer-economics 1994-1996
  Responsible for teaching economics classes requiring the creation of lectures and tests and assigning grades.
  Teaching assistant 1992-1994
  Responsible for assisting professors in administering tests, grading, and teaching.

Education

- **Master of Science and ABD** Economics, 1995, Arizona State University.
  Successfully completed all course work and exams necessary for a Ph.D. Course work included an emphasis in industrial organization and extensive experience with statistical analysis, public sector economics, and financial economics.
- **Bachelor of Science** Economics, 1992, Florida State University.
  Minors: Philosophy, Statistics.

Certifications

Certified Rate of Return Analyst designation awarded by the Society of Utility and Regulatory Financial Analysts based on experience and successful completion of a written examination.

List of Specific Projects

Global Water

Provided expert testimony regarding Global's financial viability and regulatory status before an arbitration panel. American Arbitration Association Case Nos. 76 198 Y 0104 11JMLE and 76 198 Y 0105 11 JMLE.

Provided strategic advice and analysis to Global re the ACC's ongoing water workshops.

Rate case testimony: Cost of Capital, Rate Consolidation, treatment of Infrastructure Coordination and Finance Agreements, Docket No. W-20446A-09-0080.

Prepared and sponsored testimony on Global's Notice of Intent to Restructure, Docket No. W-20446A-08-0247.

Provided strategic guidance regarding the Arizona Water complaint against Global, Docket No. W-01445A-06-0200.

EPCOR Utilities, Inc.

Provided strategic advice on the Arizona regulatory environment as it relates to EPCOR's purchase of Arizona utilities.

Rio Rico Properties

Testimony in the Rio Rico Utilities rate case, Docket No. WS-02676A-09-0257.

Residential Utility Consumer Office

Testimony re affiliate relations in the Litchfield Park Service Company Rate Case, Docket No. SW-01428A-09-0103.

Other

Assisted with financial analysis, rate design and other rate case testimony and schedules for East Slope, Antelope Run, Indiada, Southland, Valle Verde and other small water companies.

ACC Staff

APS Rate Case E-01345A-05-0816: Provided testimony on staff's position on APS' proposed Environmental Improvement Charge. Also acted as the overall case manager and was responsible for coordinating all of staff's testimony.

APS Application to acquire a power plant in the Yuma area E-01345A-06-0464: Provided testimony detailing Staff's position on the application.

Southern California Edison's application to build a high voltage power line linking Arizona to Southern California L-00000A-06-0295-00130: Provided testimony detailing the potential economic effects of SCE's proposed power line.

Accipiter's complaint against Cox Communications regarding the Vistancia development T-03471A-05-0064: Provided testimony regarding Accipiter's allegations concerning Cox's dealings with the developers of Vistancia.

Managed Staff's case (including negotiating a settlement agreement) in APS' 2003 rate case.

Negotiated (along with other Staff members) the settlement between staff and Qwest regarding three enforcement dockets.

Supervised the "independent monitor" of APS' and Tucson Electric Power's wholesale power procurement.

Provided testimony on Qwest's noncompliance with the Commission's wholesale rate order.

Managed Staff's case regarding Qwest's alleged noncompliance with the Federal Telecommunications Act.

Staff's lead witness in the Commission's reevaluation of the electric competition rules which resulted in the suspension of APS' and TEP's obligation to divest their generation assets.

Supervised the testing of Qwest's operational support systems (OSS) and the development of Qwest's Performance Assurance Plan as part of Qwest's compliance with Section 271 of the Federal Telecommunications Act.

Provided testimony on the geographic de-averaging of Qwest's Unbundled Network Element prices.

Acted as Chairman of the Commission's Water Task Force.

ORIGINAL

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EXHIBIT
A-2
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
GARY PIERCE, CHAIRMAN
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP
BRENDA BURNS

Arizona Corporation Commission
DOCKETED
DEC 21 2012
DOCKETED BY TM

APPLICATION OF RAY WATER COMPANY FOR A PERMANENT INCREASE IN ITS RATES	Docket No. W-01380A-12-0254 **FILING OF REBUTTAL TESTIMONY**

Ray Water Company, ("Company"), hereby files rebuttal testimony of the following witnesses:

- Rhonda Rosenbaum (Attachment 1)
- Sonn Rowell (Attachment 2)
- Kara Festa (Attachment 3); and
- Marvin Glotfelty (Attachment 4).

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2012 DEC 21 P 2: 49
AZ CORP COMMISSION
DOCKET CONTROL

Dated this 21st day of December, 2012.

MOYES SELLERS & HENDRICKS LTD.

Steve Wene

Original and 13 copies of the foregoing
filed this 21st day of December, 2012, with:

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

Donnelly Herbert

ATTACHMENT 1

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
GARY PIERCE, CHAIRMAN
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP
BRENDA BURNS

APPLICATION OF RAY WATER COMPANY FOR A PERMANENT INCREASE IN ITS RATES	Docket No. W-01380A-12-0254 **REBUTTAL TESTIMONY OF RHONDA ROSENBAUM**

Q. Please state your name and current employment position:

A. My name is Rhonda Rosenbaum. I am the Vice President of the Ray Water Company ("Company" or "Ray"). I am also the Company's certified operator. My husband Joe Rosenbaum and I manage the Company.

Q. Describe your educational and professional background:

A. I have a B.A. in English Literature from Claremont McKenna College and a J.D. from the University of Arizona College of Law. I was admitted to the State Bar of

Arizona in 1987. I am a Grade 2 Water Distribution System Operator. I have managed the Company, which my grandparents founded, for 25 years.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to Commission Staff's testimony relating to the Company's management, operations, reliability of the Company well supplies, and other relevant factors in support of the rate application.

Q. Please summarize your conclusions regarding the matters addressed in your testimony.

A. The Ray Water Company has had a total of eight well sites in operation at various times during the twenty five years I have worked with the water company. Several wells are approximately 30 to 40 years old and have reached the end of their useful operating lives. The Company has slowly taken wells out of service and discontinued their use as the casings have aged and damage has indicated that it was no longer feasible to rely on those wells.

Q. Do you agree with Staff's Adjustment No. 1?

A. No. The Company uses Well No. 8 routinely. Both Kara Festa and Marvin Glotfelty have explained that Well No. 8 is needed to reliably meet the Company's water demand. Well No. 8 is not excess capacity; it is a necessary supply well.

Q. Do you agree with Staff's Adjustment No. 2?

A. No. The wells, land, and pumping equipment are used and useful. Within an Active Management Area, there are strict rules governing where wells can be located. The well sites are extremely valuable because they allow the Company to drill replacement wells in that location. If these well sites were not available, then the Company would have a very difficult time drilling wells when needed in the future.

Q. Do you agree with Staff's recommendation that the Company should be required to comply with five BMP tariffs?

A. No. The Arizona Department of Water Resources has BMP rules that govern water providers. The Commission does not need to duplicate the regulatory burden.

Q. Do you agree with Staff's recommendation that the Company should conduct a study to demonstrate that adding multiple variable frequency drive motors is cost effective?

A. No. The Company system has more than sufficient storage and booster pump capacity to meet instantaneous demands, and pump cycling is reasonable and has not caused undue wear or stress on the pumps and motors over Ray Water Company's many years of operation. As explained by Kara Festa, the hydropneumatic tanks are adequately sized for the satisfactory operation of this water system, and the Company does not have pressure or water delivery issues associated with inadequate hydropneumatic tank capacity. My understanding is that the study could cost approximately $20,000. So if the Company is required to perform this study, then this cost should be included in rates.

Q. Do you agree with Staff rate base Adjustment 4 removing75% of the cost ($30,083) of the SUV driven by Mrs. Rosenbaum?

A. No. Staff applied the 75% allowance amount to $40,110, which represents total additions to account 341 during 2008, including the 2004 Ford truck used by Mr. Rader. Further, I believe an allowance of 50% is more reasonable.

Q. Does the Company agree with the Tariff proposed as Exhibit A on Page 36 of the Direct Testimony of Crystal S. Brown?

A. No. The Company believes this is unnecessary. Ray provides water demand information to the County so the County can provide better service and rates to its customers. There is no reason for the Commission to regulate this matter.

Q. Does this conclude your testimony?

A. Yes, it does.

ATTACHMENT 2

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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
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BRENDA BURNS

APPLICATION OF RAY WATER COMPANY FOR A PERMANENT INCREASE IN ITS RATES	Docket No. W-01380A-12-0254 **REBUTTAL TESTIMONY OF SONN ROWELL**

Q. Please state your name and current employment position:

A. My name is Sonn S. Rowell, and I am a Certified Public Accountant and Regulatory Consultant. I am also a managing member of Desert Mountain Analytical Services, PLLC ("DMAS").

Q. Describe your educational and professional background:

A. I hold a Bachelor of Science Degree in Accounting from Arizona State University, as well as my CPA certification from the Arizona State Board of Accountancy. I have worked for many years in the practice of small business public accounting and regulatory

consulting, and have held part-time accountancy teaching positions at Mesa Community College. After employment with the Accounting and Rates Section of the Utilities Division at the Arizona Corporation Commission ("Commission") for four years, I formed DMAS and now specialize primarily in regulatory accounting and consulting.

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

A. I have been retained by the management and ownership of Ray Water Company, ("Company" or "Ray") to help prepare and defend a rate application submittal to the Commission and prepared the rebuttal schedules enclosed herein, which I adopt as part of my testimony.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to Commission Staff's testimony relating to the development of the Company's gross revenue requirement, taking into account rate base, adjusted operating income, working capital requirements, current rate of return, required operating income, required rate of return for the historic twelve month period, and other relevant factors in support of the rate application.

Q. Has Ray made changes in its rebuttal testimony from that of the original application?

A. Yes it has. In the initial application, Ray was proposing an increase in the gross revenue requirement of $373,970, or a 64.90% increase. Rebuttal Schedule A-1 reflects the increase amount has been reduced to $300,058, or an overall increase of 51.66%.

Q. Does the Company agree with Staff Rate Base Adjustment 1 regarding excess capacity plant costs in the amount of $459,450 as reflected on Schedule CSB-5?

A. No. Ray did not adopt this adjustment, and the supporting testimony is provided by Kara Festa.

Q. Does the Company agree with Staff Rate Base Adjustment 2 regarding plant not used and useful in the amount of $33,853 as reflected on Schedule CSB-6?

A. No. Ray did not adopt this adjustment, and the supporting testimony is provided by Rhonda and/or Kara Festa.

Q. Did Ray adopt Staff rate base Adjustment 3 as reflected on Schedule CSB-7?

A. Yes. $1,032 was reclassified from account 307 to account 330.2 in 2011.

Q. Does the Company agree with Staff rate base Adjustment 4 as reflected on Schedule CSB-8 that purportedly removes 75% of the cost ($30,083) of the SUV driven by Mrs. Rosenbaum?

A. No. Staff applied the 75% allowance amount to $40,110, which represents total additions to account 341 during 2008, including the 2004 Ford truck used by Mr. Rader. On page 10, line 6 of direct testimony, when asked if Staff had concerns about the 2004 Ford truck, Staff stated "No". The cost of the 2004 Ford truck was $13,110, and the Lexus SUV was $27,000, which represents the total additions to account 241 in 2008 of $40,110.

Q. Is the Company advocating including the total amount for the SUV of $27,000 in plant, or does it agree with Staff's 25% allowance?

A. Ray believes a more appropriate allowance percentage is 50% and has made an adjustment reflecting a reduction to account 341 for $13,500 ($27,000 x 50%), and is reflected on Rebuttal Schedule B-2. This is an increase of $16,583 from Staff's rate base adjustment on Schedule CSB-8, including $13,110 for the cost of the 2004 Ford Truck and adjustments for the SUV allowance.

Q. Does the Company agree with Staff rate base Adjustment 5 regarding accumulated depreciation in the amount of $42,314 as reflected on Schedule CSB-9?

A. No. But since Ray does not agree with Staff's positions regarding excess capacity and not used and useful plant, accumulated depreciation will not match. In addition, it is unclear to the Company why Staff used a depreciation rate of 20% for the transportation equipment portion of the adjustment when Ray's depreciation rate has been 5% for all assets classes since the last rate case. Also, the amounts reflected for accumulated depreciation on Schedule CSB-9 do not correlate to the amount reflected on Schedule CSB-3. Rebuttal Schedule B-2 shows how accumulated depreciation was adjusted from the original application by the SUV value reduction and correction of excess depreciation in the Meters account.

Q. Does Ray agree with Staff rate base Adjustment 6 for AIAC as reflected on Schedule CSB-10?

A. No. Staff made certain assumptions about the AIAC on the Company's books that were incorrect. Certain line extension agreements provide for a 15 or 20 year repayment period, thus arbitrarily transferring amounts to CIAC after 10 years may not always be correct. In the case of Ray, Company personnel and the CPA that compiles the annual reports and income taxes has kept very detailed records of Advances and the associated repayments. As a result, the Company believes the balance of $1,633,387 in the AIAC account at the end of 2011 is correct and does not require adjustment.

Q. Does the Company agree with Staff's rate base Adjustments 7 and 8 for CIAC and CIAC amortization as reflected on Schedules CSB-11 and CSB-12?

A. No. As there does not need to be any transfers from AIAC, there does not need to be any adjustments to what was originally filed by the Company.

Q. Has Ray adopted Staff rate base Adjustment 9 related to customer security deposits as detailed on Schedule CSB-13?

A. Yes. This change is reflected on Rebuttal Schedule B-2.

Q. Does the Company agree with Staff's rate base Adjustment 10 regarding the prepayment portion of working capital?

A. No, however due to the immaterial nature of the adjustment, Ray will not dispute it.

Income Statement

Q. It appears as though there are several areas where the Company agrees with adjustments made by Staff to the income statement. Is that correct?

A. Yes. Ray agrees with the following Staff adjustments summarized on Schedule CSB-15.

Adjustment 1 – increase to other operating revenue for $4,548 (Ray Adjustment A2).

Adjustment 2 – decrease to salaries and wages of $30,259 (Ray Adjustment S).

Adjustment 3 – decrease to employee pensions and benefits for $4,520 (Ray Adjustment B).

Adjustment 5 – increase to water testing expense in the amount of $965 (Ray Adjustment E).

Adjustment 9 – decrease to taxes other than income for $1,533 (Ray Adjustment K).

Q. Please explain the areas of disagreement with Staff, beginning with Adjustment 4.

A. Adjustment 4 removes the Company's proforma adjustment for purchased power related to well #8. Since Ray does not believe this well is excess capacity, this Staff adjustment has not been adopted.

Q. What issue does Ray have with Staff operating income Adjustment 6 for $2,200?

A. Staff's assumptions are just flat out incorrect, not to mention invasive. Ray was asked for information in data requests about other entities with common ownership. The Company disclosed there were other entities that used that location as a mailing address, but had very little, if any, business activity at the Court Avenue location. In addition, neither Ray nor any of its owners or employees has any ownership or other interest in Cycling Developers. As a result, the Company has not adopted this adjustment.

Q. Let's move on to Staff operating Adjustment 7 which decreases transportation expenses by $4,110. What issue does Ray have with this adjustment?

A. Staff's adjustment is comprised of two parts. The first part relates to gasoline purchases for the vehicles where 75% of the amount allocated to the SUV ($1,772) was disallowed, or $1,329. The Company proposes allowing 50% of the cost of the SUV to be recovered in rates, or a decrease to the amount on the original application of $886 (Adjustment R on Rebuttal Schedule C-1) instead of Staff's $1,329.

Regarding the second part of the adjustment, which further decreases this line item by $2,781, the Company feels this violates the historical test year by amortizing these costs. Although it is true that items of this nature may not occur on an annual basis, most of the time these costs are replaced by others that also do not occur on an annual basis. Regardless of how efficient and cost effectively this Company is run, it is unreasonable to think any company with three vehicles (2.5) would only incur $1,215 in repairs and maintenance each year.

Q. Did you adopt Staff operating income Adjustment 8 regarding depreciation expense?

A. No, as we do not agree on the final plant balance. The Company did adjust depreciation expense to account for the removal of half the cost of the SUV and excess depreciation inadvertently calculated in the Meters category. The revised depreciation expense amount of $170,375 is detailed on Rebuttal Schedule C-2j.

Q. What about Staff operating income Adjustments 10 and 11 related to property and income taxes?

A. Both of these expense items increase and/or decrease with the change in the revenue requirement so here the Company as Staff amounts do not coincide. The Company proposed amounts for property taxes are calculated on Rebuttal Schedule C-2l, and income taxes at proposed rates are calculated on Rebuttal Schedule C-2m.

Q. Do you take issue with how Staff is calculating either of these amounts?

A. We have adopted some of Staff's methodology regarding separating the Federal income tax expense out by income brackets, resulting in a more accurate tax projection. However, on Schedule CSB-2 Staff uses synchronized interest of $3,055 to calculate income taxes. The interest expense below the line is related to the loan for the new well #8, (approved by Decision No. 71691 dated May 3, 2010) which Staff has recommended be disallowed as it is excess capacity. If that is the case, this interest should not be included in any of the calculations or analysis for this rate case.

Regarding Staff's property tax expense calculations reflected on Schedule CSB-26, Staff uses a Composite Property Tax Rate of 9.8053%, which is substantially lower than the 13.2606% calculated by the Company. Staff does not provide any support for how its percentage was derived, and Ray believes this is incorrect as a composite rate

cannot be lower than the tax rates used on the individual parcels, which are all north of 13%.

Revenue Requirement and Rate Design

Q. What revenue requirement has the Company proposed?

A. Ray proposes a total revenue requirement of $880,872, and metered water revenue of $858,381, based upon changes to plant, rate base, and the income statement.

Q. Clearly Staff and the Company do not agree on the revenue requirement. Do you have any comment on Staff's rate design?

A. Yes. Staff made very few changes to the monthly minimum charges for Ray, with the exception of the three smallest meter sizes, which were increased. To offset that monthly minimum increase, commodity rates at the very low end were reduced.

Q. What does Ray feel the problem is with the rate design proposed by Staff?

A. Monthly minimum charges for the most part do not change materially for each customer under Staff's proposal, and they do not follow the meter multiplier formula that is often used by Staff. This means the bulk of the increase is forced upon the commodity charges, which are subject to change by the customers at any given time. This substantially increases the risk that the Company will not meet its revenue requirement approved by the Commission as customers increasingly conserve. This scenario has played out among many water companies recently: revenue requirements set by Staff are not being attained due to conservation.

Q. Does the Company have a proposed remedy to alleviate the strain these assumptions place upon water companies?

A. Yes. The Company's rate design should be adopted. Further, if after 2 complete calendar years of new rates Ray is not attaining its approved revenue requirement, then a mechanism that will provide a surcharge to recover the difference between actual revenue and the revenue requirement from the last rate case in order to make the utility whole be allowed.

Q. Does the Company have a revised proposed rate schedule?

A. Yes. The Company has revised its proposed tariff to attempt to divide the revenue requirement as equally as possible between the monthly minimum charge and the commodity charges, while maintaining a reasonable increase amongst classes and meter sizes. The rates proposed by Ray will result in about 42% of the metered water revenue requirement coming from the monthly minimum charges, and about 58% from the commodity charges. This allocation of revenue is similar to that resulting from Staff's proposed rates, but with a much lower metered water revenue requirement. See Rebuttal Schedule H-3.

Q. Please explain the impact of the Company's revised proposed rates on the average 5/8 x 3/4-inch residential customer using 7,832 gallons per month.

A. Under the rates proposed on Rebuttal Schedule H-3, the average customer would see an increase of $3.55 from $23.29 to $26.84 per month, or 15.24%

Q. If the overall increase to revenue proposed by Ray is 51.66% and the average 5/8-inch residential customer's increase is 15.24%, doesn't that mean someone else is getting a larger increase?

A. Yes. As depicted on Rebuttal Schedule H-1, the three largest meter sizes all have increases near 150% or more, while the 5/8-inch commercial customers will experience almost a 121% increase.

Q. Can you explain this?

A. Larger meter sizes and/or commercial customers that use more water are subjected to the highest tier rate in the tariff. As a result, these customers bear the bulk of the increase in rates, but also have the ability to conserve and jeopardize the ability of Ray to earn its necessary revenue requirement.

Q. Do Ray and Staff agree on the Company proposed service charges?

A. Staff has accepted Ray's proposed amounts for Establishment, Reconnection (Delinquent), and NSF Charges, as well as implementation of a $25 After Hours Charge. Staff does not agree with the Company proposed amounts for Meter Test and Meter Re-Read (If Correct), however, Ray will adopt the Staff recommended amounts.

Q. What about Staff's rejection of the 2% Late Payment Fee (Per Month)?

A. The Company wanted to increase this fee to be more than the deferred payment percentage of 1.5 percent. A late payment fee of 1.5 percent of the amount late results in a very small fee amount that does not deter late payments by customers. As a result of discussing an issue like this for another water company with representatives from Consumer Services, Ray proposes this amount be a flat $5.00.

Q. Did Staff increase Other Revenues for the increase in services charges proposed?

A. Yes, and the Company does not agree. There is no guarantee that Ray will maintain the test year level of other service charge revenues, and increasing those amounts serves only to further reduce the amount to be recovered in water rates. The Company has not adopted this Staff adjustment of $3,750 as reflected on Schedule CSB-15.

<u>Other</u>

Q. Does the Company agree with the Tariff proposed as Exhibit A on Page 36 of the Direct Testimony of Crystal S. Brown?

A. No. The Company does not understand why this is necessary as it is not a true "tariff" as it does not deal with a fee. It is in the best interest of the customers that this information be provided to the County by Ray so it is better able to set rates to properly fund its wastewater system.

Q. Do you agree with the Staff Engineer's recommendation to approve and have filed as a compliance item in this Docket, five BMP Tariffs?

A. No. As with the other proposed tariff above, BMPs are not a rate or a fee, and therefore have no business as a tariff.

Q. Does that conclude your testimony?

A. Yes.

*

INDEX OF FINANCIAL SCHEDULES FOR RAY WATER COMPANY

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Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule A-1
Title: Computation of Increase in Gross Revenue Requirements

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Special Reqmt [ ]

Explanation:
Schedule showing computation of increase in gross revenue requirements and spread of revenue increase by customer classification.

Line		Original Cost		RCND	
1	Adjusted Rate Base	$ 964,192	(a)		(a)
2	Adjusted Operating Income	$ (97,917)	(b)		(b)
3	Current Rate of Return	-10.16%			
4	Required Operating Income	$ 101,869			
5	Required Rate of Return	10.57%			
6	Operating Income Deficiency (4 - 2)	$ 199,786			
7	Gross Revenue Conversion Factor	1.502	(c)		(c)
8	Increase in Gross Revenue Requirements (6 x 7)	**$ 300,058**			

	Customer Classification	Adjusted Revenue at Present Rates	Revenue at Proposed Rates	Projected Revenue Increase Due to Rates	% Dollar Increase	
9	Residential	$ 491,575	$ 718,359	$ 226,784	46.13%	(d)
10	Commercial	64,867	135,146	70,279	108.34%	
11	Hydrant	1,881	4,876	2,995	159.22%	
12	Other	22,491	22,491	-	0.00%	
13	**Total**	**$ 580,814**	**$ 880,872**	**$ 300,058**	**51.66%**	

Note: For combination utilities, the above information should be presented in total and by department.

Supporting Schedules:
(a) B-1 (c) C-3
(b) C-1 (d) H-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule A-2
Title: Summary Results of Operations

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing comparative operating results for the test year and the 2 fiscal years ended prior to the end of the test year, compared with the projected year.

		Prior Years		Test Year		Projected Year	
		Year End 31-Dec-09	Year End 31-Dec-10	Actual Rates	Adjusted Rates	Present Rates	Proposed Rates
Line	Description	(a)	(a)	(a)	(b)	(c)	(c)
1	Gross Revenues	$ 635,172	$ 599,142	$ 586,108	$ 580,814	$ 580,814	$ 880,872
2	Revenue Deductions & Operating Expenses	(648,127)	(626,850)	(676,610)	(678,731)	(678,731)	(779,003)
3	Operating Income	$ (12,955)	$ (27,708)	$ (90,502)	$ (97,917)	$ (97,917)	$ 101,869
4	Other Income and Deductions	(1,250)	1,155	8	492	492	492
5	Interest Expense	-	-	-	(5,020)	(5,020)	(5,020)
6	**Net Income**	**$ (14,205)**	**$ (26,553)**	**$ (90,494)**	**$ (102,445)**	**$ (102,445)**	**$ 97,341**
7	Earned Per Average Common Share*	$ (88.78)	$ (165.96)	$ (565.59)	$ (640.28)		
8	Dividends Per Common Share*	-	-	-	-		
9	Payout Ratio*	0.00%	0.00%	0.00%	0.00%		
10	Return on Average Invested Capital	-1.21%	-2.31%	-7.94%	-8.99%	-8.99%	8.54%
11	Return on Year End Capital	-1.21%	-2.36%	-7.85%	-8.89%	-8.89%	8.45%
12	Return on Average Common Equity	-1.21%	-2.31%	-8.28%	-9.37%	-9.37%	8.90%
13	Return on Year End Common Equity	-1.21%	-2.36%	-8.54%	-9.67%	-9.67%	9.19%
14	Times Bond Interest Earned - Before Inc Tax	N/A	N/A	N/A	-1836.90%	-1836.90%	2143.25%
15	Times Total Interest and Preferred Dividends						
16	Earned - After Income Taxes	N/A	N/A	N/A	-1950.71%	-1950.71%	2029.44%

Supporting Schedules:
(a) E-2
(b) C-1
(c) F-1

*Optional for projected year

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule A-4
Title: Construction Expenditures and Gross Utility Plant in Service

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing construction expenditures, plant placed in service and gross utility plant in service for the test year and the 2 fiscal years ended prior to the end of the test year, compared with the projected year.

Line	Year	Construction Expenditures (a)	Net Plant Placed In Service (b)	Gross Utility Plant In Service
1	Prior Year 1 - 2009	$ 1,351,039	$ 1,289,348	$ 4,707,189
2	Prior Year 2 - 2010	210,314	76,238	4,783,427
3	Test Year - 2011	327,500	464,138	5,247,565
4	Projected Year 1	42,760	42,760	5,290,325
5	Projected *			
6	Projected *			

* Required only for Class A and B Utilities

NOTE: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) F-3
(b) E-5

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule B-1
Title: Summary of Original Cost and RCND

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing elements of adjusted original cost and RCND rate bases.

Line	Description	Original Cost Rate Base*		RCND Rate Base*	
1	Gross Utility Plant in Service	$ 5,247,565			
2	Less: Accumulated Depreciation	(1,822,662)			
3	Net Utility Plant in Service	$ 3,424,903	(a)		(b)
4	**Less:**				
5	Advances in Aid of Construction	$ (1,633,387)	(c)		(c)
6	Contributions in Aid of Construction	(982,352)	(c)		(c)
7	Customer Security Deposits	(105,405)			
8	**Add:**				
9	Amortization of Contributions	$ 260,433			
10	Allowance for Working Capital	-	(d)		(d)
11	**Total Rate Base**	**$ 964,192**	(e)		(e)

* Including pro forma adjustments

NOTE: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) B-2 (d) B-5
(b) N/A
(c) E-1

Recap Schedules:
(e) A-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule B-2
Title: Original Cost Rate Base
Proforma Adjustments

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule showing pro forma adjustments to gross plant in service and accumulated depreciation for the original cost rate base.

Line	Description	Actual at End Of Test Year (a)	Pro forma Adjustment		Adjusted at End Of Test Year (b)
1	Gross Utility Plant in Service	$ 5,261,065	$ (13,500)	1	$ 5,247,565
2	Less: Accumulated Depreciation	(1,835,897)	13,235	2	(1,822,662)
3	Net Utility Plant in Service	$ 3,425,168	$ (265)		$ 3,424,903
4	Less:				
5	Advances in Aid of Construction	$ (1,633,387)			$ (1,633,387)
6	Contributions in Aid of Construction	(982,352)			(982,352)
7	Customer Security Deposits	(86,080)	(19,325)	3	(105,405)
8	Plus:				
9	Amortization of Contributions	$ 260,433			$ 260,433
10	Allowance for Working Capital	-			-
11	**Total Rate Base**	**$ 983,782**	**$ (19,590)**		**$ 964,192**

12 ***All pro forma adjustments should be adequately explained on this schedule or on attachments hereto.***

13 Adjustment 1 - reflects the reduction to Transportation Equipment for half the value of the SUV ($27,000 x 50%).

14 Adjustment 2 - increases accumulated depreciation for the SUV value reduction, and corrects excess depreciation in Meters (account 334), a portion of which became fully depreciated in 2009.

15	Remove prior depreciation related to SUV value reduction ($13,500 x 5% x 3.5 years)		$ 2,362
16	2009 excess accumulated depreciation related to Meters	$ 1,827	
17	2010 excess accumulated depreciation related to Meters	4,530	
18	2011 excess accumulated depreciation related to Meters	4,516	
19	Total excess accumulated depreciation related to Meters in Original Application		10,873
20	Total decrease to Accumulated Depreciation - Adjustment 2		$ 13,235
21	Adjustment 3 - Adopt Staff Adjustment No. 9 on Schedule CSB-13		$ (19,235)

NOTE: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) E-1

Recap Schedules:
(b) B-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule B-5
Title: Computation of Working Capital

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing computation of working capital allowance.

Line	Description	Amount	
1	Cash working capital	$ -	
2	Materials and Supplies Inventories	-	(a)
3	Prepayments	-	(a)
4	**Total Working Capital Allowance**	**$ -**	(b)

NOTES:
1. Adequate detail should be provided to determine the bases for the above computations.
2. Adjusted test year operating expenses should be used in computing cash working capital requirements.
3. Combination utilities should compute working capital allowances for each department.

Supporting Schedules:
(a) E-1

Recap Schedules:
(b) B-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-1
Title: Adjusted Test Year Income Statement

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing statement of income for the test year, including pro forma adjustments.

Line	Acct	Description	Actual for Test Year Ended (a) 31-Dec-11	Ref	Proforma Adjustments (b)	Test Year Results After Pro Forma Adjustments	Ref	Proposed Rate Increase	Adjusted Test Year With Rate Increase
		Operating Revenues:							
1	461	Metered Water Revenue	$ 559,457	A1	$ (1,134)	$ 558,323	P	$ 300,058	$ 858,381
2	460	Unmetered Water Revenue	-			-			-
3	474	Other Water Revenue	26,651	A2	(4,160)	22,491			22,491
4		**Total Operating Revenue**	$ 586,108		$ (5,294)	$ 580,814		$ 300,058	$ 880,872
5		**Operating Expenses:**							
6	601	Salaries and Wages	$ 226,744	S	$ (30,259)	$ 196,485			$ 196,485
7	604	Employee Pensions and Benefits	-	B	4,550	4,550			4,550
8	610	Purchased Water	-			-			-
9	615	Purchased Power	82,011	C	24,863	106,874			106,874
10	618	Chemicals	-			-			-
11	620	Materials & Supplies	2,347			2,347			2,347
12	621	Office Supplies and Expense	11,481	D	10,709	22,190			22,190
13	630	Contractual Services - Billing	69,767			69,767			69,767
14	631	Contractual Services - Professional	17,001			17,001			17,001
15	635	Contractual Services - Testing	1,375	E	5,240	6,615			6,615
16	636	Contractual Services - Other	11,459	F	(546)	10,913			10,913
17	640	Rents	22,000			22,000			22,000
18	650	Transportation Expenses	13,316	R	(886)	12,430			12,430
19	655	Insurance	10,590			10,590			10,590
20	665	Rate Case Expense	3,000	G	7,000	10,000			10,000
21	670	Bad Debt Expense	-	H	295	295			295
22	675	Miscellaneous Expenses	23,473	I	(13,811)	9,662			9,662
23	403	Depreciation Expenses	169,486	J	889	170,375			170,375
24	408	Taxes Other Than Income	18,527	K	(1,414)	17,113			17,113
25	408.11	Property Taxes	32,260	L1	111	32,371	L2	5,571	37,942
26	409	Income Taxes	(43,940)	M	(4,620)	(48,560)	Q	94,702	46,141
27	427.4	Interest Expense - Customer Deposits	5,713			5,713			5,713
28		**Total Operating Expenses**	$ 676,610		$ 2,121	$ 678,731		$ 100,272	$ 779,003
28		**OPERATING INCOME/(LOSS)**	$ (90,502)		$ (7,415)	$ (97,917)	(c)	$ 199,786	$ 101,869
29		**Other Income/(Expense):**							
30	419	Interest Income	$ 492			$ 492			$ 492
31	421	Non-Utility Income	4,548	A2	(4,548)	-			-
32	426	Miscellaneous Non-Utility Expenses	(5,032)	N	5,032	-			-
33	427	Interest Expense		O	(5,020)	(5,020)			(5,020)
34		**Total Other Income/(Expense)**	$ 8		$ (4,536)	$ (4,528)		$ -	$ (4,528)
35		**NET INCOME/(LOSS)**	$ (90,494)		$ (11,951)	$ (102,445)		$ 199,786	$ 97,341

Note: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) E-2
(b) C-2a to C-2r

Recap Schedules:
(c) A-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2a
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENTS A1 AND A2 TO TEST YEAR REVENUE

Line	Description		Amount
1	Remove revenue related to 4-inch customer no longer on the water system.	$	(1,134)
2	**Total Adjustment A1 to Metered Water Revenue**	**$**	**(1,134)**
3	Annual ACC assessment	$	(1,440)
4	Annual RUCO assessment		(176)
5	Accounts Receivable adjustment		(7,092)
6	Reclassification from Non-Utility Income		4,548
7	**Total Adjustment A2 to Other Water Revenue**	**$**	**(4,160)**
8	Test Year Establishment/Reconnect Fees	$	12,323
9	Pima County	$	4,548
10	Test Year Late Fees		3,287
11	Test Year Web Fees		2,010
12	Test Year Other Charges		323
13	Adjusted Test Year Other Water Revenue	$	22,491

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2b
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT B TO EMPLOYEE PENSIONS AND BENEFITS

Line	Description		Amount
1	Test Year Salaries and Wages	$	226,744
2	Pension contribution rate		4.00%
3	Amount Proposed per Company Original Application	$	9,070
4	Staff Adjustment No. 3 per Schedule CSB-19		(4,520)
5	**Total Adjustment B**	**$**	**4,550**

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2c
Title: Income Statement Proforma Adjustments

DETAIL OF PURCHASED POWER EXPENSES ADJUSTMENT C

Line	Description		Amount
1	4310 East Rex Street well test year purchased power expense	$	31,834
2	4410 East Rex Street well test year purchased power expense		22,485
3	5710 South Rex Street well test year purchased power expense		20,270
4	Three well total test year purchased power expense	$	74,589
5	Average		3
6	Three well average test year purchased power expense	$	24,863
7	Test Year Purchased Power expense	$	82,011
8	Proposed Purchased Power expense including average amount for three wells as estimated expense for new well #8 (6 + 7)		106,874
9	**Total Adjustment C**	**$**	**24,863**

Ray Water Company
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Rebuttal Schedule C-2d
Title: Income Statement Proforma Adjustments

DETAIL OF OFFICE SUPPLIES AND EXPENSES ADJUSTMENT D

Line	Description		Amount
1	Reclassify internet payment credits from Miscellaneous Expenses	$	(1,958)
2	Reclassify telephone expenses from Miscellaneous Expenses		5,104
3	Reclassify bank fees and other office related costs from Miscellaneous Expenses		7,308
4	Office alarm service not included in test year		255
5	**Total Adjustment D**	**$**	**10,709**

Ray Water Company
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Test Year Ended December 31, 2011

Rebuttal Schedule C-2e
Title: Income Statement Proforma Adjustments

DETAIL OF CONTRACTUAL SERVICES-TESTING EXPENSES ADJUSTMENT E

Description		Amount
Reclassify ADEQ MAP invoice from Miscellaneous Expenses	$	4,275
Staff Adjustment No. 5 per Schedule CSB-21		965
Total Adjustment E	**$**	**5,240**

Ray Water Company
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Test Year Ended December 31, 2011

Rebuttal Schedule C-2f
Title: Income Statement Proforma Adjustments

DETAIL OF CONTRACTUAL SERVICES-OTHER EXPENSES ADJUSTMENT F

Description		Amount
Reclassify Blue Stake invoice to Miscellaneous Expenses	$	(546)
Total Adjustment F	**$**	**(546)**

Ray Water Company
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Test Year Ended December 31, 2011

Rebuttal Schedule C-2g
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT G TO RATE CASE EXPENSES

Line	Description		Amount
1	Estimated Rate Case Expenses	$	50,000
2	Amortization Period in years		5
3	Annual expense recovery	$	10,000
4	Subtract Actual Test Year Rate Case Expenses		3,000
5	**Total Adjustment G**	**$**	**7,000**

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2h
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT H TO BAD DEBT EXPENSES

Description		Amount
Reclassify bad debts expenses from Miscellaneous Expenses	$	295
Total Adjustment H	**$**	**295**

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2i
Title: Income Statement Proforma Adjustments

DETAIL OF MISCELLANEOUS EXPENSES ADJUSTMENT I

Line	Description	Amount	Account Total	Related Adj #
1	Reclassify internet payment credits to Office Supplies and Expenses	$ 1,958		
2	Reclassify telephone expenses to Office Supplies and Expenses	(5,104)		
3	Reclassify bank fees and other office related costs to Office Supplies and Expenses	(7,308)	$ (10,454)	Adj D
4	Reclassify ADEQ MAP invoice to Contractual Services - Testing	(4,275)	(4,275)	Adj E
5	Reclassify Blue Stake invoice from Contractual Services - Other	546	546	Adj F
6	Reclassify to Bad Debts Expenses	(295)	(295)	Adj H
7	Reclassify accrued payroll taxes to Taxes Other Than Income	(119)	(119)	Adj K
8	Remove ACC 2011 assessment amount paid from expense	(1,135)		N/A
9	Remove RUCO 2011 assessment amount paid from expense	(205)		N/A
10	Include amount incurred for preparation of 2011 Annual Winter Consumption Report for Pima County Wastewater Management	2,126		
11	**Total Adjustment I**	**$ (13,811)**		

Ray Water Company
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Test Year Ended December 31, 2011

Rebuttal Schedule C-2j
Title: Income Statement Proforma Adjustments

DETAIL OF PROPOSED DEPRECIATION EXPENSE CALCULATION - ADJUSTMENT J

Line	Account Number	Description	Plant @ End of Test Year 31-Dec-11	Proposed Depreciation Rate	Ref	Proposed Depreciation Expense
1	301	Intangibles	$ 700	0.00%		$ -
2	303	Land & Land Rights	62,540	0.00%		-
3	304	Structures & Improvements	22,078	3.33%	1	276
4	307	Wells & Springs	1,673,803	3.33%	2	49,702
5	311	Pumping Equipment	873,230	12.50%		109,154
6	320	Water Treatment Equipment	-	20.00%		-
7	320.1	Water Treatment Plants	-	3.33%		-
8	320.2	Solution Chemical Feeders	-	20.00%		-
9	330	Distribution Reservoirs & Standpipes	106,345	2.22%	3	-
10	330.1	Storage Tanks	516,989	2.22%		11,477
11	330.2	Pressure Tanks.	1,032	5.00%		52
12	331	Transmission & Distribution Mains	1,160,777	2.00%	4	11,622
13	333	Services	526,754	3.33%		17,541
14	334	Meters & Meter Installations	113,643	8.33%	5	1,966
15	335	Hydrants	105,490	2.00%		2,110
16	339	Other Plant and Misc Equipment	2,902	6.67%		194
17	340	Office Furniture & Equipment	8,901	6.67%		594
18	340.1	Computers and Software	8,967	20.00%		1,793
19	341	Transportation Equipment	58,735	20.00%		11,747
20	343	Tools, Shop, and Garage Equipment	1,932	5.00%		97
21	346	Communication Equipment	1,494	5.00%		75
22	348	Other Tangible Plant	1,253	5.00%	6	-
23		**Totals**	**$ 5,247,565**			**$ 218,398**
24				Test Year Amortization of CIAC		(48,023)
25				Adjusted Depreciation Expense		$ 170,375
26				Test Year Depreciation Expense		169,486
27	Ref			**Total Adjustment J**		**$ 889**

28	1	$13,781 of the total is fully depreciated.
29	2	$181,238 of the total is fully depreciated.
30	3	The full $106,345 in this category is fully depreciated.
31	4	$579,693 of the total is fully depreciated.
32	5	$90,046 of the total is fully depreciated.
33	6	The total $1,253 is fully depreciated.

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule C-2k
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT K TO TAXES OTHER THAN INCOME

Description		Amount
Reclassify accrued payroll taxes from Miscellaneous Expenses	$	119
Staff Adjustment No. 9 per Schedule CSB-25		(1,533)
Total Adjustment K	**$**	**(1,414)**

Ray Water Company
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Test Year Ended December 31, 2011

Rebuttal Schedule C-2l
Title: Income Statement Proforma Adjustments

DETAIL OF PROPERTY TAX EXPENSE ADJUSTMENTS L1 AND L2

Line			Test Year as Adjusted		Company at Proposed Rates
1	Adjusted 2011 Test Year Revenue	$	580,814	$	580,814
2	Weight Factor		2		2
3	Subtotal	$	1,161,628	$	1,161,628
4	Company Recommended Revenue		580,814		880,872
5	Subtotal	$	1,742,442	$	2,042,500
6	Number of Years		3		3
7	Three Year Revenue Average	$	580,814	$	680,833
8	AZ Department of Revenue Multiplier		2		2
9	Revenue Base Value	$	1,161,628	$	1,361,667
10	Plus 10% of CWIP		830		830
11	Less: Net Book Value of Licensed Vehicles		-		-
12	**Full Cash Value**	**$**	**1,162,458**	**$**	**1,362,497**
13	Assessment Ratio		21.00%		21.00%
14	**Assessment Value**	**$**	**244,116**	**$**	**286,124**
15	**Composite Property Tax Rate ***		13.2606%		13.2606%
16	Adjusted Test Year Property Tax Expense	$	32,371		
17	Actual Test Year Property Tax Expense		32,260		
18	**Total Adjustment L1**	**$**	**111**		
19	Projected Property Tax Expense			$	37,942
20	Adjusted Test Year Property Tax Expense				32,371
21	**Total Adjustment L2**			**$**	**5,571**
22	** Property tax composite rate calculation:*				
23	Assessed Value per 2011 Property Tax Notices	$	242,022		
24	Property Tax due per 2011 Notices		32,094		
25	Composite Property Tax Rate		13.2606%		
26	*For Gross Revenue Conversion Factor:*				
27	Change in Property Tax Expense	$	5,571		
28	Change in Revenue Requirement		300,058		
29	Change in Property Tax per Dollar Increase in Revenue		1.8565%		

Ray Water Company
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Rebuttal Schedule C-2m
Title: Income Statement Proforma Adjustments

CALCULATION OF ADJUSTMENT M TO TEST YEAR INCOME TAX EXPENSES

Line	Description				
1	Operating Income/(Loss) Before Taxes	$ (146,477)			
2	Add Interest Income	492			
3	Less Estimated Interest Expense	(5,020)			
4	Arizona Taxable Income		$ (151,005)		
5	Arizona Income Tax Rate		6.9680%		
6	Arizona Income Tax Expense			$	(10,522)
7	Federal Taxable Income		$ (140,483)		
8	Federal Tax on $1 to $50,000 Income Bracket	15.00%	(7,500)		
9	Federal Tax on $50,001 to $75,000 Income Bracket	25.00%	(6,250)		
10	Federal Tax on $75,001 to $100,000 Income Bracket	34.00%	(8,500)		
11	Federal Tax on $100,001 to $335,000 Income Bracket	39.00%	(15,788)		
12	Federal Income Tax Expense				(38,038)
13	Adjusted Test Year Income Tax Expense			$	(48,560)
14	Test Year Income Tax Expense				(43,940)
15	**Total Adjustment M to Income Taxes**			**$**	**(4,620)**

Ray Water Company
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Rebuttal Schedule C-2n
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT N TO NON-UTILITY EXPENSES

Description		Amount
Remove non-recurring expense	$	5,032
Total Adjustment N	**$**	**5,032**

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Rebuttal Schedule C-2o
Title: Income Statement Proforma Adjustments

DETAIL OF INTEREST EXPENSES ADJUSTMENT O

Line	Description		Amount
1	Year 1 loan interest expense	$	6,039
2	Year 2 loan interest expense		5,561
3	Year 3 loan interest expense		5,052
4	Year 4 loan interest expense		4,511
5	Year 5 loan interest expense		3,934
6	Total interest on loan during 5 year period	$	25,098
7	Averaging period in years		5
8	**Total Adjustment O**	**$**	**5,020**

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Rebuttal Schedule C-2p
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT P TO PROPOSED METERED WATER REVENUE

Line	Description		Amount
1	Proposed Metered Water Revenue per Schedule A	$	858,381
2	Adjusted Test Year Metered Water Revenue		558,323
3	**Total Adjustment P to Metered Water Revenue**	**$**	**300,058**

Ray Water Company
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Rebuttal Schedule C-2q
Title: Income Statement Proforma Adjustments

CALCULATION OF ADJUSTMENT Q FOR PROPOSED INCOME TAX EXPENSES

Line				
1	Revenue	$ 880,872		
2	Operating Expenses Excluding Income Tax	(732,862)		
3	Interest Income	492		
4	Estimated Interest Expense	(5,020)		
5	Arizona Taxable Income		$ 143,483	
6	Arizona Income Tax Rate		6.9680%	
7	Arizona Income Tax Expense			$ 9,998
8	Federal Taxable Income		$ 133,485	
9	Federal Tax Rate (from C-2m, line 18)		27.08%	
10	Total Federal Income Tax Expense			$ 36,144
11	Combined Federal and State Income Tax Expense			$ 46,141
12	Adjusted Test Year Income Tax Expense			(48,560)
13	**Adjustment Q to Proposed Income Tax Expense**			**$ 94,702**
14	Revenue Check:			
15	Required Operating Income	$ 101,869		
16	Adjusted Test Year Operating Income/(Loss)	(97,917)		
17	Proposed Increase In Operating Income		$ 199,786	
18	Income Taxes On Proposed Revenue	$ 46,141		
19	Income Taxes On Test Year Revenue	(48,560)		
20	Proposed Revenue Increase For Income Taxes		$ 94,702	
21	Property Taxes On Proposed Revenue	$ 37,942		
22	Property Taxes On Test Year Revenue	32,371		
23	Proposed Revenue Increase For Property Taxes		$ 5,571	
24	**Total Proposed Increase In Revenue**			**$ 300,058**

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Rebuttal Schedule C-2r
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT R TO TRANSPORTATION EXPENSES

Description		Amount
Total Shell Gas purchases per Staff	$	3,543
Number of Vehicles		2
Portion allocated to Lexus	$	1,772
Amount disallowed by Staff (75%)		(1,329)
Company proposed addition (25%)		443
Total Adjustment R	**$**	**(886)**

Ray Water Company
Docket No. W-01380A-12-0254
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Rebuttal Schedule C-3
Title: Computation of Gross Revenue Conversion Factor

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing incremental taxes on gross revenues and the development of a gross revenue conversion factor.

Line	Description	Rate	Calculation
1	Revenues		1.0000
2	Property Taxes	1.856%	(0.0186)
3	Arizona Taxable Income		0.9814
4	Arizona Income Tax	6.968%	(0.0684)
5	Federal Taxable Income		0.9130
6	Federal Income Tax	27.08%	(0.2472)
7	Operating Income		0.6658
8	**Gross Revenue Conversion Factor (Line 1 / Line 7)**		**1.5019**

Ray Water Company
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Rebuttal Schedule D-1
Title: Summary Cost of Capital

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule showing elements of capital structure and the related cost.

		End of Test Year				End of Projected Year			
Line	Invested Capital	Amount	%	Cost Rate (e)	Composite Cost %	Amount	%	Cost Rate (e)	Composite Cost %
1	Long-Term Debt (a)	$ 100,000	8.62%	6.25%	0.54%	$ 84,653	7.40%	6.25%	0.46%
2	Preferred Stock (b)	-				-			
3	Common Equity (c)	1,059,483	91.38%	10.91%	9.97%	1,059,483	92.60%	10.91%	10.10%
4	Deferrals (d)	-				-			
5	Totals	$ 1,159,483	100.00%		10.51%	$ 1,144,136	100.00%		10.57%

Note: Due to the timing of the filing of Staff's Direct Cost of Capital Testimony, the Company has not had the opportunity to review Staff's supportive filing and have the ability, if necessary, to change it's proposed Rate of Return percentage from the original application. As a result, the 10.57% amount is subject to change.

Supporting Schedules:
(a) N/A
(b) N/A
(c) N/A
(d) E-1

Recap Schedules:
(e) N/A

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule E-1
Title: Comparative Balance Sheet

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing comparative balance sheets at the end of the test year and the 2 fiscal years ended prior to the test year.

Line	Acct #		Test Year At 31-Dec-11	Prior Year 31-Dec-10	Prior Year 31-Dec-09
		ASSETS			
1		Property, Plant & Equipment: (a)			
2	101	Utility Plant In Service	$ 5,247,565	$ 4,783,427	$ 4,720,689
3	103	Property Held for Future Use			
4	105	Construction Work in Process	8,298	160,604	26,528
5	108	Accumulated Depreciation	(1,822,662)	(1,639,135)	(1,430,896)
6		Total Property Plant & Equipment	$ 3,433,201	$ 3,304,896	$ 3,316,321
7		Current Assts:			
8	131	Cash	$ 10,497	$ 131,380	$ 82,903
9	135	Temporary Cash Investments	66,109	141,617	286,388
10	141	Customer Accounts Receivable	33,285	39,590	24,336
11	146	Notes/Receivables from Associated Companies			
12	151	Plant Material and Supplies			
13	162	Prepayments	3,404	6,455	10,817
14	174	Miscellaneous Current and Accrued Assets	100,789	58,528	28,373
15		Total Current Assets	$ 214,084	$ 377,570	$ 432,817
16		**TOTAL ASSETS**	**$ 3,647,285**	**$ 3,682,466**	**$ 3,749,138**
17		**LIABILITIES and CAPITAL**			
18		Capitalization: (b)			
19	201	Common Stock Issued	$ 16,000	$ 16,000	$ 16,000
20	211	Paid in Capital in Excess of Par Value	41,333	41,333	41,333
21	215	Retained Earnings	1,002,150	1,069,822	1,113,682
22	218	Proprietary Capital	-	-	-
23		Total Capital	$ 1,059,483	$ 1,127,155	$ 1,171,015
24		Current Liabilities:			
25	231	Accounts Payable	$ 17,880	$ -	$ -
26	232	Notes Payable (Current Portion)	7,224	-	-
27	234	Notes/Accounts Payable to Associated Companies		-	-
28	235	Customer Deposits	86,080	100,516	94,600
29	236	Accrued Taxes	24,109	23,608	25,565
30	237	Accrued Interest	4,167	-	-
31	241	Miscellaneous Current and Accrued Liabilities	-	9,064	4,585
32		Total Current Liabilities	$ 139,460	$ 133,188	$ 124,750
33	224	Long-Term Debt (Over 12 Months)	$ 92,776	$ -	$ -
34		Deferred Credits:			
35	252	Advances In Aid Of Construction	$ 1,633,387	$ 1,651,628	$ 1,659,466
36	255	Accumulated Deferred Investment Tax Credits	260	553	959
37	271	Contributions In Aid Of Construction	982,352	982,352	957,335
38	272	Less: Amortization of Contributions	(260,433)	(212,410)	(164,387)
39	281	Accumulated Deferred Income Tax	-	-	
40		Total Deferred Credits	$ 2,355,566	$ 2,422,123	$ 2,453,373
41		Total Liabilities	$ 2,587,802	$ 2,555,311	$ 2,578,123
42		**TOTAL LIABILITIES and CAPITAL**	**$ 3,647,285**	**$ 3,682,466**	**$ 3,749,138**

Supporting Schedules:
(a) E-5

Recap Schedules:
(b) N/A

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule E-2
Title: Comparative Income Statements

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing comparative income statements for the test year and the 2 fiscal years ended prior to the test year.

Line	Acct #		Test Year Ended 31-Dec-11	Prior Year Ended 31-Dec-10	Prior Year Ended 31-Dec-09
		Revenues: (a)			
1	461	Metered Water Revenue	$ 559,457	$ 579,956	$ 592,308
2	460	Unmetered Water Revenue	-		
3	474	Other Water Revenue	26,651	19,186	42,864
4		Total Revenues	$ 586,108	$ 599,142	$ 635,172
5		Operating Expenses (a)			
6	601	Salaries and Wages	$ 226,744	$ 226,621	$ 229,174
7	604	Employee Pensions and Benefits	-	9,064	4,585
8	610	Purchased Water	-	-	-
9	615	Purchased Power	82,011	88,843	89,421
10	618	Chemicals	-		
11	620	Materials & Supplies	2,347	3,522	1,869
12	621	Office Supplies and Expense	11,481	15,126	17,318
13	630	Contractual Services - Billing	69,767		
14	631	Contractual Services - Professional	17,001	38,055	39,407
15	635	Contractual Services - Testing	1,375		
16	636	Contractual Services - Other	11,459		
17	640	Rents	22,000	22,000	22,000
18	650	Transportation Expenses	13,316	9,120	9,465
19	655	Insurance	10,590	17,448	18,982
20	665	Rate Case Expense	3,000	-	
21	670	Bad Debt Expense	-	-	-
22	675	Miscellaneous Expenses	23,473	20,987	24,879
23	403	Depreciation Expenses	169,486	156,411	135,116
24	408	Taxes Other Than Income	18,527	17,991	18,281
25	408.11	Property Taxes	32,260	33,202	35,705
26	409	Income Taxes	(43,940)	(31,936)	1,556
27	427.4	Interest Expense - Customer Deposits	5,713	396	369
28		Total Operating Expenses	$ 676,610	$ 626,850	$ 648,127
28		**OPERATING INCOME/(LOSS)**	**$ (90,502)**	**$ (27,708)**	**$ (12,955)**
29		Other Income/(Expense)			
30	419	Interest and Dividend Income	$ 492	$ 2,252	$ 2,200
31	421	Non-Utility Income	4,548	-	(3,200)
32	426	Miscellaneous Non-Utility Expense	(5,032)	(1,097)	(250)
33	427	Interest Expense	-	-	-
34		Total Other Income/(Expense)	$ 8	$ 1,155	$ (1,250)
35		**NET INCOME/(LOSS)**	**$ (90,494)**	**$ (26,553)**	**$ (14,205)**

Supporting Schedules:
(a) N/A

Recap Schedules:
A-2

Ray Water Company
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Test Year Ended December 31, 2011

Rebuttal Schedule E-5
Title: Detail of Utility Plant

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing utility plant balance, by detailed account number, at the end of the test year and the end of the prior fiscal year.

Line	Account Number	Description	End of Prior Year at 31-Dec-10	Net Additions	End of Test Year at 31-Dec-11
1	302	Franchises	$ 700		$ 700
2	303	Land & Land Rights	62,540		62,540
3	304	Structures & Improvements	15,868	6,210	22,078
4	307	Wells & Springs	1,401,600	272,203	1,673,803
5	311	Pumping Equipment	712,466	160,764	873,230
6	320	Water Treatment Equipment	-		-
7	320.1	Water Treatment Plants	-		-
8	320.2	Solution Chemical Feeders	-		-
9	330	Distribution Reservoirs & Standpipes	106,345		106,345
10	330.1	Storage Tanks	516,989		516,989
11	330.2	Pressure Tanks.	-	1,032	1,032
12	331	Transmission &Distribution Mains	1,139,554	21,223	1,160,777
13	333	Services	526,281	473	526,754
14	334	Meters & Meter Installations	112,671	972	113,643
15	335	Hydrants	105,490		105,490
16	339	Other Plant and Misc Equipment	2,902		2,902
17	340	Office Furniture & Equipment	8,901		8,901
18	340.1	Computers and Software	8,967		8,967
19	341	Transportation Equipment	58,735		58,735
20	343	Tools, Shop, and Garage Equipment	671	1,261	1,932
21	346	Communications Equipment	1,494		1,494
22	348	Other Tangible Plant	1,253		1,253
23		**Total Plant In Service**	**$ 4,783,427**	**$ 464,138**	**$ 5,247,565**
24	108	Accumulated Depreciation	(1,639,135)	(183,527)	(1,822,662)
25		Net Plant In Service	$ 3,144,292	$ 280,611	$ 3,424,903
26	103	Property Held for Future Use	-	-	-
27	105	Construction Work in Process	160,604	(152,306)	8,298
28		**Total Net Plant**	**$ 3,304,896**	**$ 128,305**	**$ 3,433,201**

Supporting Schedules:

Recap Schedules:
E-1 A-4

Ray Water Company
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Rebuttal Schedule E-7
Title: Operating Statistics

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing key operating statistics in comparative format, for the test year and the 2 fiscal years ended prior to the test year.

Line	Water Statistics:	Test Year Ended 31-Dec-11	Prior Year Ended 31-Dec-10	Prior Year Ended 31-Dec-09
1	Gallons Sold - By Class of Service:			
2	Residential	180,262,689	201,277,469	205,138,238
3	Commercial	28,391,223	31,709,531	32,317,762
4	Average Number of Customers - By Class of Service:			
5	Residential	1,473	1,473	1,485
6	Commercial	38	38	38
7	Average Annual Gallons Per Residential Customer	122,357	136,621	138,161
8	Average Annual Revenue Per Residential Customer	$ 323.45	$ 345.56	$ 347.95
9	Pumping Cost Per 1,000 Gallons	$ 0.3930	$ 0.3813	$ 0.3766

Ray Water Company
Docket No. W-01380A-12-0254
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Rebuttal Schedule E-8
Title: Taxes Charged to Operations

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule showing all significant taxes charged to operations for the test year and the 2 fiscal years ended prior to the test year.

Line	Description	Test Year Ended 31-Dec-11	Prior Year Ended 31-Dec-10	Prior Year Ended 31-Dec-09
1	Federal Taxes:			
2	Income	$ (30,083)	$ (21,934)	$ (526)
3	Payroll	17,820	17,929	18,124
4	Total Federal Taxes	$ (12,263)	$ (4,005)	$ 17,598
5	State Taxes:			
6	Income	$ (13,857)	$ (10,002)	$ 2,082
7	Payroll	157	62	157
8	Total State Taxes	$ (13,700)	$ (9,940)	$ 2,239
9	Local Taxes:			
10	Property	$ 32,260	$ 33,202	$ 35,705
11	Rental Tax	550	-	-
12	Total Local Taxes	32,810	33,202	35,705
13	**Total Taxes**	**$ 6,847**	**$ 19,257**	**$ 55,542**

NOTE: For combination utilities, the above should be presented in total and by department.

Supporting Schedules:

Recap Schedules:

Ray Water Company
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Rebuttal Schedule E-9
Title: Notes to Financial Statements

Required for:		
	All Utilities	X
	Class A	
	Class B	
	Class C	
	Class D	
	Specl Reqmt	

Explanation:
Disclosure of important facts pertaining to the understanding of the financial statements.

Disclosures should include, but not be limited to the following:

1 Accounting Method.
Accrual basis using the NARUC USoA.

2 Depreciation lives and methods employed by major classification of utility property.
For years up to and including the test year 2011, the depreciation rate was 5% for all plant asset categories. Proposed depreciation rates are depicted on Schedule C-2j, and were taken from ACC Engineering Staff Memo regarding their recommended rates for depreciation.

3 Income tax treatment - normalization or flow through.
Normalization.

4 Interest rate used to charge interest during construction, if applicable.
Not Applicable.

Supporting Schedules: Recap Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule F-1
Title: Projected Income Statements - Present and Proposed Rates

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing an income statement for the projected year, compared with actual test year results, at present and proposed rates.

Line			Actual Test Year Ended (a) 31-Dec-11	Projected Year At Present Rates Year Ended (b) 31-Dec-12	Projected Year At Proposed Rates Year Ended (b) 31-Dec-12
		Operating Revenues:			
1	461	Metered Water Revenue	$ 559,457	$ 558,323	$ 858,381
2	460	Unmetered Water Revenue	-	-	-
3	474	Other Water Revenue	26,651	22,491	22,491
4		**Total Operating Revenue**	$ 586,108	$ 580,814	$ 880,872
5		**Operating Expenses:**			
6	601	Salaries and Wages	$ 226,744	$ 196,485	$ 196,485
7	604	Employee Pensions and Benefits	-	4,550	4,550
8	610	Purchased Water	-	-	-
9	615	Purchased Power	82,011	106,874	106,874
10	618	Chemicals	-	-	-
11	620	Materials & Supplies	2,347	2,347	2,347
12	621	Office Supplies and Expense	11,481	22,190	22,190
13	630	Contractual Services - Billing	69,767	69,767	69,767
14	631	Contractual Services - Professional	17,001	17,001	17,001
15	635	Contractual Services - Testing	1,375	6,615	6,615
16	636	Contractual Services - Other	11,459	10,913	10,913
17	640	Rents	22,000	22,000	22,000
18	650	Transportation Expenses	13,316	12,430	12,430
19	655	Insurance	10,590	10,590	10,590
20	665	Rate Case Expense	3,000	10,000	10,000
21	670	Bad Debt Expense	-	295	295
22	675	Miscellaneous Expenses	23,473	9,662	9,662
23	403	Depreciation Expenses	169,486	170,375	170,375
24	408	Taxes Other Than Income	18,527	17,113	17,113
25	408.1	Property Taxes	32,260	32,371	37,942
26	409	Income Taxes	(43,940)	(48,560)	46,141
27	427.4	Interest Expense - Customer Deposits	5,713	5,713	5,713
28		**Total Operating Expenses**	$ 676,610	$ 678,731	$ 779,003
28		**OPERATING INCOME/(LOSS)**	$ (90,502)	$ (97,917)	$ 101,869
29		**Other Income/(Expense):**			
30	419	Interest Income	$ 492	$ 492	$ 492
31	421	Non-Utility Income	4,548	-	-
32	426	Miscellaneous Non-Utility Expenses	(5,032)	-	-
33	427	Interest Expense	-	(5,020)	(5,020)
34		**Total Other Income/(Expense)**	$ 8	$ (4,528)	$ (4,528)
35		**NET INCOME/(LOSS)**	$ (90,494)	$ (102,445)	$ 97,341
36		Earnings per share of average Common Stock Outstanding	$ (566)	$ (640)	$ 608
37		% Return on Common Equity	-0.053%	-0.060%	0.057%

Supporting Schedules:
(a) E-2

Recap Schedules:
(b) A-2

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule F-3
Title: Projected Construction Requirements

Explanation:
Schedule showing projected annual construction requirements, by property classification, for 1 to 3 years subsequent to the test year compared with the test year.

Required for:		
All Utilities		
Class A	X	3 yrs projected
Class B	X	
Class C	X	1 yrs projected
Class D	X	
Specl Reqmt		

Line	Property Classification	Actual Test Year Ended 12/31/2011	End of Projected Year 1
1	Production Plant	$ 432,967	$ 17,360
2	Transmission Plant	22,728	23,000
3	Other Plant	8,443	2,400
4	**Total Plant**	**$ 464,138**	**$ 42,760**

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule F-4
Title: Assumptions Used in Developing Projection

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Documentation of important assumptions used in preparing forecasts and projections

Important assumptions used in preparing projections should be explained.

Areas covered should include:

1 Customer growth
As the system is nearly built out, no significant growth is expected in the service area in the future.

2 Growth in consumption and customer demand

Consumer demand has declined each year for the past three years, and the Company anticipates further decreases in customer consumption and demand as a result of the proposed tiered rate structure.

3 Changes in expenses

The Company believes the 2011 Test Year, with the proforma adjustments included in this application, accurately depict expense levels for the utility going forward.

4 Construction requirements including production reserves and changes in plant capacity
None projected.

5 Capital structure changes
None projected.

6 Financing costs, interest rates
The Company has one loan that was approved by the Commission at an interest rate of 6.25%

Supporting Schedules:

Recap Schedules:

INDEX OF BILL COUNT SCHEDULES FOR RAY WATER COMPANY

H-1	Summary of Revenues by Customer Class - Present and Proposed Rates
H-3	Changes In Representative Rate Schedules - (2 pages)
H-4 P1	Typical Bill Analysis - 5/8 x 3/4-inch Meter
H-4 P2	Typical Bill Analysis - 1-inch Meter
H-4 P3	Typical Bill Analysis - 1 1/2-inch Meter
H-4 P4	Typical Bill Analysis - 2-inch Meter
H-4 P5	Typical Bill Analysis - 3-inch Meter
H-4 P6	Typical Bill Analysis - 4-inch Meter
H-4 P7	Typical Bill Analysis - 6-inch Meter
H-4 P8	Typical Bill Analysis - Hydrant Sales
H-5 P1	Bill Count - 5/8 x 3/4-inch Residential
H-5 P2	Bill Count - 5/8 x 3/4-inch Commercial
H-5 P3	Bill Count - 1-inch Residential
H-5 P4	Bill Count - 1-inch Commercial
H-5 P5	Bill Count - 1 1/2-inch Residential
H-5 P6	Bill Count - 1 1/2-inch Commercial
H-5 P7	Bill Count - 2-inch Residential
H-5 P8	Bill Count - 2-inch Commercial
H-5 P9	Bill Count - 3-inch Commercial
H-5 P10	Bill Count - 4-inch Residential
H-5 P11	Bill Count - 4-inch Commercial
H-5 P12	Bill Count - 6-inch Commercial
H-5 P13	Bill Count - Hydrant Sales

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-1
Title: Summary of Revenues by Customer Classification - Present and Proposed Rates

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule comparing revenues by customer classification for the Test Year, at present and proposed rates.

		Revenues in the Test Year (a)			Proposed Increase (b)		
Line	Customer Classification	Present Rates	Adjustments	Adjusted Present Rates	Proposed Rates	Amount	%
	Residential						
1	5/8 by 3/4-inch	$ 404,695		$ 404,695	$ 519,193	$ 114,498	28.29%
2	1-inch	12,343		12,343	20,833	8,490	68.78%
3	1 1/2-inch	2,332		2,332	3,596	1,264	54.20%
4	2-inch	12,402		12,402	20,948	8,546	68.91%
5	4-inch	59,803		59,803	153,789	93,986	157.16%
6	*Total Residential*	$ 491,575	$ -	$ 491,575	$ 718,359	$ 226,784	46.13%
	Commercial						
7	5/8 by 3/4-inch	$ 10,853		$ 10,853	$ 23,976	$ 13,123	120.92%
8	1-inch	11,691		11,691	14,151	2,460	21.04%
9	1 1/2-inch	760		760	1,029	269	35.39%
10	2-inch	7,736		7,736	10,091	2,355	30.44%
11	3-inch	12,051		12,051	30,075	18,024	149.56%
12	4-inch	1,134	(1,134)	-	-	-	0.00%
13	6-inch	21,776		21,776	55,824	34,048	156.36%
14	*Total Commercial*	$ 66,001	$ (1,134)	$ 64,867	$ 135,146	$ 70,279	108.34%
15	Hydrant Sales	1,881		1,881	$ 4,876	2,995	159.22%
16	Total Metered Water Revenue	$ 559,457	$ (1,134)	$ 558,323	$ 858,381	300,058	53.74%
17	Other Revenue	26,651	(4,160)	22,491	22,491	-	0.00%
18	***Total Revenue***	**$ 586,108**	**$ (5,294)**	**$ 580,814**	**$ 880,872**	**$ 300,058**	51.66%

Note: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) N/A

Recap Schedules:
(b) A-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-3
Title: Changes in Representative Rate Schedules - Page 1 of 2

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule comparing present rate schedules with proposed rate schedule.

(Rates apply to both residential and commercial usage)

Description	Present Rate	Proposed Rate	% change
MONTHLY USAGE CHARGE:			
5/8" x 3/4" Meter	$ 11.15	$ 17.00	52.47%
3/4" Meter	25.00	25.50	2.00%
1" Meter	39.00	42.50	8.97%
1-1/2" Meter	62.00	85.00	37.10%
2" Meter	110.00	136.00	23.64%
3" Meter	125.00	272.00	117.60%
4" Meter	165.00	425.00	157.58%
6" Meter	330.00	850.00	157.58%

Description	Present Rate	Proposed Rate	
COMMODITY CHARGES - Per 1,000 Gallons			
All Meter Sizes			
1 - 3,000 Gallons	$ 1.55	$ 0.85	-45.16%
3,001 to 7,000 Gallons	1.55	1.25	-19.35%
7,001 to 25,000 Gallons	1.55	2.75	77.42%
Over 25,000 Gallons	1.55	4.02	159.35%
Standpipe sales			
Per 1,000 gallons	$ 1.55	$ 4.02	159.35%

Description	Present Rate	Proposed Rate	% change
SERVICE CHARGES			
Establishment	$ 25.00	$ 30.00	20.00%
Establishment (After Hours)	37.50	N/A	
Reconnection (Delinquent)	25.00	35.00	40.00%
Meter Test (If Correct)	30.00	30.00	0.00%
Deposit	*	*	0.00%
Deposit Interest	*	*	0.00%
Reestablishment (Within 12 Months)	**	**	0.00%
NSF Check	$ 15.00	$ 25.00	66.67%
Deferred Payment	***	***	0.00%
Meter Re-read (If Correct)	$ 15.00	$ 20.00	33.33%
Late Payment Fee	***	$ 5.00	
After Hours Charge	N/A	$ 25.00	

* Per A.A.C. R14-2-403(B)
** Months off system times the minimum (R14-2-403.D)
*** 1.50 percent per month of unpaid balance

SERVICE LINE AND METER INSTALLATION CHARGES:

Refundable Pursuant to A.A.C. R14-2-405		Proposed Rates			
Description	**Present Rate**	**Service Line**	**Meter Charge**	**Total Charge**	**% change**
5/8" x 3/4" Meter	$ 410.00	$ 445.00	$ 155.00	$ 600.00	46.34%
3/4" Meter	455.00	445.00	255.00	700.00	53.85%
1" Meter	520.00	495.00	315.00	810.00	55.77%
1-1/2" Meter	740.00	550.00	525.00	1,075.00	45.27%
2" Meter - Turbine	1,235.00	830.00	1,045.00	1,875.00	51.82%
2" Meter - Compound	1,800.00	830.00	1,890.00	2,720.00	51.11%
3" Meter - Turbine	1,705.00	1,045.00	1,670.00	2,715.00	59.24%
3" Meter - Compound	2,340.00	1,165.00	2,545.00	3,710.00	58.55%
4" Meter - Turbine	2,700.00	1,490.00	2,670.00	4,160.00	54.07%
4" Meter - Compound	3,405.00	1,670.00	3,645.00	5,315.00	56.09%
6" Meter - Turbine	5,035.00	2,210.00	5,025.00	7,235.00	43.69%
6" Meter - Compound	6,510.00	2,330.00	6,920.00	9,250.00	42.09%
8" Meter	Cost			Cost	0.00%

NOTES:

A - Additional costs associated with service line installations in major traffic thoroughfares, such as but not limited to, underground borings, cutting and repaving, and traffic control, may be added to the above tariff at actual cost.

B - Major thoroughfares are as follows: Alvernon Way, Drexal Road, Benson Highway, Irvington Road, Palo Verde, Valencia, Country Club, Columbus, East Side of Belvedere, Felix, Nebraska between Palo Verde and Madison, Northeast side of Concord Strav.

C - Charges for meters and service lines larger than 6 inches shall be at actual cost.

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

5/8 x 3/4-inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 11.15	$ 17.00	52.47%
1,000	12.70	17.85	40.55%
2,000	14.25	18.70	31.23%
3,000	15.80	19.55	23.73%
4,000	17.35	20.80	19.88%
5,000	18.90	22.05	16.67%
6,000	20.45	23.30	13.94%
7,000	22.00	24.55	11.59%
8,000	23.55	27.30	15.92%
9,000	25.10	30.05	19.72%
10,000	26.65	32.80	23.08%
15,000	34.40	46.55	35.32%
20,000	42.15	60.30	43.06%
25,000	49.90	74.05	48.40%
50,000	88.65	174.55	96.90%
75,000	127.40	275.05	115.89%
100,000	166.15	375.55	126.03%
125,000	204.90	476.05	132.33%
150,000	243.65	576.55	136.63%
175,000	282.40	677.05	139.75%
200,000	321.15	777.55	142.11%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

1-inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 39.00	$ 42.50	8.97%
1,000	40.55	43.35	6.91%
2,000	42.10	44.20	4.99%
3,000	43.65	45.05	3.21%
4,000	45.20	46.30	2.43%
5,000	46.75	47.55	1.71%
6,000	48.30	48.80	1.04%
7,000	49.85	50.05	0.40%
8,000	51.40	52.80	2.72%
9,000	52.95	55.55	4.91%
10,000	54.50	58.30	6.97%
15,000	62.25	72.05	15.74%
20,000	70.00	85.80	22.57%
25,000	77.75	99.55	28.04%
50,000	116.50	200.05	71.72%
75,000	155.25	300.55	93.59%
100,000	194.00	401.05	106.73%
125,000	232.75	501.55	115.49%
150,000	271.50	602.05	121.75%
175,000	310.25	702.55	126.45%
200,000	349.00	803.05	130.10%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

1 1/2-inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 62.00	$ 85.00	37.10%
1,000	63.55	85.85	35.09%
2,000	65.10	86.70	33.18%
3,000	66.65	87.55	31.36%
4,000	68.20	88.80	30.21%
5,000	69.75	90.05	29.10%
6,000	71.30	91.30	28.05%
7,000	72.85	92.55	27.04%
8,000	74.40	95.30	28.09%
9,000	75.95	98.05	29.10%
10,000	77.50	100.80	30.06%
15,000	85.25	114.55	34.37%
20,000	93.00	128.30	37.96%
25,000	100.75	142.05	40.99%
50,000	139.50	242.55	73.87%
75,000	178.25	343.05	92.45%
100,000	217.00	443.55	104.40%
125,000	255.75	544.05	112.73%
150,000	294.50	644.55	118.86%
175,000	333.25	745.05	123.57%
200,000	372.00	845.55	127.30%

Supporting Schedules:

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

2-Inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 110.00	$ 136.00	23.64%
1,000	111.55	136.85	22.68%
2,000	113.10	137.70	21.75%
3,000	114.65	138.55	20.85%
4,000	116.20	139.80	20.31%
5,000	117.75	141.05	19.79%
6,000	119.30	142.30	19.28%
7,000	120.85	143.55	18.78%
8,000	122.40	146.30	19.53%
9,000	123.95	149.05	20.25%
10,000	125.50	151.80	20.96%
15,000	133.25	165.55	24.24%
20,000	141.00	179.30	27.16%
25,000	148.75	193.05	29.78%
50,000	187.50	293.55	56.56%
75,000	226.25	394.05	74.17%
100,000	265.00	494.55	86.62%
125,000	303.75	595.05	95.90%
150,000	342.50	695.55	103.08%
175,000	381.25	796.05	108.80%
200,000	420.00	896.55	113.46%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

3-inch Meter (Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 125.00	$ 272.00	117.60%
1,000	126.55	272.85	115.61%
2,000	128.10	273.70	113.66%
3,000	129.65	274.55	111.76%
4,000	131.20	275.80	110.21%
5,000	132.75	277.05	108.70%
6,000	134.30	278.30	107.22%
7,000	135.85	279.55	105.78%
8,000	137.40	282.30	105.46%
9,000	138.95	285.05	105.15%
10,000	140.50	287.80	104.84%
15,000	148.25	301.55	103.41%
20,000	156.00	315.30	102.12%
25,000	163.75	329.05	100.95%
50,000	202.50	429.55	112.12%
75,000	241.25	530.05	119.71%
100,000	280.00	630.55	125.20%
125,000	318.75	731.05	129.35%
150,000	357.50	831.55	132.60%
175,000	396.25	932.05	135.22%
200,000	435.00	1,032.55	137.37%

Supporting Schedules:

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

4-inch Meter (Residential and Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 165.00	$ 425.00	157.58%
1,000	166.55	425.85	155.69%
2,000	168.10	426.70	153.84%
3,000	169.65	427.55	152.02%
4,000	171.20	428.80	150.47%
5,000	172.75	430.05	148.94%
6,000	174.30	431.30	147.45%
7,000	175.85	432.55	145.98%
8,000	177.40	435.30	145.38%
9,000	178.95	438.05	144.79%
10,000	180.50	440.80	144.21%
15,000	188.25	454.55	141.46%
20,000	196.00	468.30	138.93%
25,000	203.75	482.05	136.59%
50,000	242.50	582.55	140.23%
75,000	281.25	683.05	142.86%
100,000	320.00	783.55	144.86%
125,000	358.75	884.05	146.43%
150,000	397.50	984.55	147.69%
175,000	436.25	1,085.05	148.72%
200,000	475.00	1,185.55	149.59%

Supporting Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

6-inch Meter (Commercial)

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ 330.00	$ 850.00	157.58%
1,000	331.55	850.85	156.63%
2,000	333.10	851.70	155.69%
3,000	334.65	852.55	154.76%
4,000	336.20	853.80	153.96%
5,000	337.75	855.05	153.16%
6,000	339.30	856.30	152.37%
7,000	340.85	857.55	151.59%
8,000	342.40	860.30	151.26%
9,000	343.95	863.05	150.92%
10,000	345.50	865.80	150.59%
15,000	353.25	879.55	148.99%
20,000	361.00	893.30	147.45%
25,000	368.75	907.05	145.98%
50,000	407.50	1,007.55	147.25%
75,000	446.25	1,108.05	148.30%
100,000	485.00	1,208.55	149.19%
125,000	523.75	1,309.05	149.94%
150,000	562.50	1,409.55	150.59%
175,000	601.25	1,510.05	151.15%
200,000	640.00	1,610.55	151.65%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-4
Title: Typical Bill Analysis

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) comparing typical customer bills at varying consumption levels at present and proposed rates.

Hydrant Sales

Monthly Consumption	Present Bill	Proposed Bill	Percent Increase
-	$ -	$ -	0.00%
1,000	1.55	4.02	159.35%
2,000	3.10	8.04	159.35%
3,000	4.65	12.06	159.35%
4,000	6.20	16.08	159.35%
5,000	7.75	20.10	159.35%
6,000	9.30	24.12	159.35%
7,000	10.85	28.14	159.35%
8,000	12.40	32.16	159.35%
9,000	13.95	36.18	159.35%
10,000	15.50	40.20	159.35%
15,000	23.25	60.30	159.35%
20,000	31.00	80.40	159.35%
25,000	38.75	100.50	159.35%
50,000	77.50	201.00	159.35%
75,000	116.25	301.50	159.35%
100,000	155.00	402.00	159.35%
125,000	193.75	502.50	159.35%
150,000	232.50	603.00	159.35%
175,000	271.25	703.50	159.35%
200,000	310.00	804.00	159.35%

Supporting Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-5
Title: Bill Count

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

5/8 x 3/4-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	405	-	405	2.32%	-	0.00%
1,000	616	308,000	1,021	5.86%	308,000	0.23%
2,000	928	1,392,000	1,949	11.18%	1,700,000	1.24%
3,000	1,219	3,047,500	3,168	18.17%	4,747,500	3.48%
4,000	1,465	5,127,500	4,633	26.57%	9,875,000	7.23%
5,000	1,706	7,677,000	6,339	36.35%	17,552,000	12.85%
6,000	1,683	9,256,500	8,022	46.00%	26,808,500	19.63%
7,000	1,491	9,691,500	9,513	54.55%	36,500,000	26.73%
8,000	1,387	10,402,500	10,900	62.51%	46,902,500	34.34%
9,000	1,124	9,554,000	12,024	68.95%	56,456,500	41.34%
10,000	1,162	11,039,000	13,186	75.62%	67,495,500	49.42%
10,001 to 12,000	1,230	13,530,000	14,416	82.67%	81,025,500	59.33%
12,001 to 14,000	887	11,531,000	15,303	87.76%	92,556,500	67.77%
14,001 to 16,000	624	9,360,000	15,927	91.34%	101,916,500	74.63%
16,001 to 18,000	422	7,174,000	16,349	93.76%	109,090,500	79.88%
18,001 to 20,000	325	6,175,000	16,674	95.62%	115,265,500	84.40%
20,001 to 25,000	435	9,787,500	17,109	98.11%	125,053,000	91.57%
25,001 to 30,000	162	4,455,000	17,271	99.04%	129,508,000	94.83%
30,001 to 35,000	77	2,502,500	17,348	99.48%	132,010,500	96.66%
35,001 to 40,000	34	1,275,000	17,382	99.68%	133,285,500	97.60%
40,001 to 50,000	29	1,305,000	17,411	99.85%	134,590,500	98.55%
50,001 to 60,000	13	715,000	17,424	99.92%	135,305,500	99.08%
60,001 to 70,000	6	390,000	17,430	99.95%	135,695,500	99.36%
70,001 to 80,000	1	75,000	17,431	99.96%	135,770,500	99.42%
80,001 to 90,000	-	-	17,431	99.96%	135,770,500	99.42%
90,001 to 100,000	2	190,000	17,433	99.97%	135,960,500	99.55%
107,860	1	107,860	17,434	99.98%	136,068,360	99.63%
110,830	1	110,830	17,435	99.98%	136,179,190	99.71%
115,170	1	115,170	17,436	99.99%	136,294,360	99.80%
118,270	1	118,270	17,437	99.99%	136,412,630	99.89%
156,030	1	156,030	17,438	100.00%	136,568,660	100.00%
	17,438	136,568,660				

Average Number of Customers	1,453
Average Consumption	7,832
Median Consumption	6,467

Supporting Schedules:

Recap Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

5/8 x 3/4-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	11	-	11	8.94%	-	0.00%
1,000	17	8,500	28	22.76%	8,500	0.14%
2,000	6	9,000	34	27.64%	17,500	0.29%
3,000	12	30,000	46	37.40%	47,500	0.78%
4,000	7	24,500	53	43.09%	72,000	1.18%
5,000	5	22,500	58	47.15%	94,500	1.54%
6,000	4	22,000	62	50.41%	116,500	1.90%
7,000	2	13,000	64	52.03%	129,500	2.12%
8,000	1	7,500	65	52.85%	137,000	2.24%
9,000		-	65	52.85%	137,000	2.24%
10,000		-	65	52.85%	137,000	2.24%
10,001 to 12,000	4	44,000	69	56.10%	181,000	2.96%
12,001 to 14,000	6	78,000	75	60.98%	259,000	4.23%
14,001 to 16,000	2	30,000	77	62.60%	289,000	4.72%
16,001 to 18,000	4	68,000	81	65.85%	357,000	5.84%
18,001 to 20,000		-	81	65.85%	357,000	5.84%
20,001 to 25,000	7	157,500	88	71.54%	514,500	8.41%
25,001 to 30,000	8	220,000	96	78.05%	734,500	12.01%
30,001 to 35,000	2	65,000	98	79.67%	799,500	13.07%
35,001 to 40,000	1	37,500	99	80.49%	837,000	13.68%
40,001 to 50,000	2	90,000	101	82.11%	927,000	15.15%
50,001 to 60,000	1	55,000	102	82.93%	982,000	16.05%
60,001 to 70,000	1	65,000	103	83.74%	1,047,000	17.12%
70,001 to 80,000		-	103	83.74%	1,047,000	17.12%
80,001 to 90,000		-	103	83.74%	1,047,000	17.12%
90,001 to 100,000		-	103	83.74%	1,047,000	17.12%
100,800	1	100,800	104	84.55%	1,147,800	18.76%
105,900	1	105,900	105	85.37%	1,253,700	20.50%
110,600	1	110,600	106	86.18%	1,364,300	22.30%
112,200	1	112,200	107	86.99%	1,476,500	24.14%
138,000	1	138,000	108	87.80%	1,614,500	26.39%
143,000	1	143,000	109	88.62%	1,757,500	28.73%
143,400	1	143,400	110	89.43%	1,900,900	31.08%
157,300	1	157,300	111	90.24%	2,058,200	33.65%
159,800	1	159,800	112	91.06%	2,218,000	36.26%
160,200	1	160,200	113	91.87%	2,378,200	38.88%
164,700	1	164,700	114	92.68%	2,542,900	41.57%
170,000	1	170,000	115	93.50%	2,712,900	44.35%
225,100	1	225,100	116	94.31%	2,938,000	48.03%
229,800	1	229,800	117	95.12%	3,167,800	51.79%
267,400	1	267,400	118	95.93%	3,435,200	56.16%
268,700	1	268,700	119	96.75%	3,703,900	60.55%
375,700	1	375,700	120	97.56%	4,079,600	66.69%
381,700	1	381,700	121	98.37%	4,461,300	72.93%
805,000	1	805,000	122	99.19%	5,266,300	86.09%
850,600	1	850,600	123	100.00%	6,116,900	100.00%
	123	6,116,900				

Average Number of Customers	10
Average Consumption	49,731
Median Consumption	5,875

Supporting Schedules:

Recap Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-5
Title: Bill Count
Page 3 of 13

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

1-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	4	-	4	3.33%	-	0.00%
1,000	3	1,500	7	5.83%	1,500	0.03%
2,000	4	6,000	11	9.17%	7,500	0.15%
3,000		-	11	9.17%	7,500	0.15%
4,000		-	11	9.17%	7,500	0.15%
5,000		-	11	9.17%	7,500	0.15%
6,000		-	11	9.17%	7,500	0.15%
7,000		-	11	9.17%	7,500	0.15%
8,000	2	15,000	13	10.83%	22,500	0.45%
9,000	11	93,500	24	20.00%	116,000	2.34%
10,000	6	57,000	30	25.00%	173,000	3.49%
10,001 to 12,000	1	11,000	31	25.83%	184,000	3.71%
12,001 to 14,000	1	13,000	32	26.67%	197,000	3.97%
14,001 to 16,000	1	15,000	33	27.50%	212,000	4.27%
16,001 to 18,000	4	68,000	37	30.83%	280,000	5.64%
18,001 to 20,000	4	76,000	41	34.17%	356,000	7.17%
20,001 to 25,000	14	315,000	55	45.83%	671,000	13.52%
25,001 to 30,000	14	385,000	69	57.50%	1,056,000	21.28%
30,001 to 35,000	9	292,500	78	65.00%	1,348,500	27.18%
35,001 to 40,000	16	600,000	94	78.33%	1,948,500	39.27%
40,001 to 50,000	3	135,000	97	80.83%	2,083,500	41.99%
50,001 to 60,000	4	220,000	101	84.17%	2,303,500	46.42%
60,001 to 70,000	4	260,000	105	87.50%	2,563,500	51.66%
70,001 to 80,000	2	150,000	107	89.17%	2,713,500	54.69%
80,001 to 90,000	2	170,000	109	90.83%	2,883,500	58.11%
90,001 to 100,000		-	109	90.83%	2,883,500	58.11%
106,760	1	106,760	110	91.67%	2,990,260	60.26%
123,680	1	123,680	111	92.50%	3,113,940	62.76%
150,000	1	150,000	112	93.33%	3,263,940	65.78%
175,000	1	175,000	113	94.17%	3,438,940	69.31%
184,390	1	184,390	114	95.00%	3,623,330	73.02%
184,660	1	184,660	115	95.83%	3,807,990	76.74%
194,190	1	194,190	116	96.67%	4,002,180	80.66%
208,700	1	208,700	117	97.50%	4,210,880	84.86%
236,290	1	236,290	118	98.33%	4,447,170	89.63%
243,860	1	243,860	119	99.17%	4,691,030	94.54%
270,930	1	270,930	120	100.00%	4,961,960	100.00%
		-	120	100.00%	4,961,960	100.00%
	120	4,961,960				

Average Number of Customers	10
Average Consumption	41,350
Median Consumption	25,357

Supporting Schedules:

Recap Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

1-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	16	-	16	7.24%	-	0.00%
1,000	62	31,000	78	35.29%	31,000	1.57%
2,000	32	48,000	110	49.77%	79,000	4.00%
3,000	14	35,000	124	56.11%	114,000	5.77%
4,000	11	38,500	135	61.09%	152,500	7.72%
5,000	9	40,500	144	65.16%	193,000	9.77%
6,000	5	27,500	149	67.42%	220,500	11.17%
7,000	6	39,000	155	70.14%	259,500	13.14%
8,000	5	37,500	160	72.40%	297,000	15.04%
9,000	4	34,000	164	74.21%	331,000	16.76%
10,000	1	9,500	165	74.66%	340,500	17.24%
10,001 to 12,000	6	66,000	171	77.38%	406,500	20.59%
12,001 to 14,000	2	26,000	173	78.28%	432,500	21.90%
14,001 to 16,000	3	45,000	176	79.64%	477,500	24.18%
16,001 to 18,000	3	51,000	179	81.00%	528,500	26.77%
18,001 to 20,000	4	76,000	183	82.81%	604,500	30.62%
20,001 to 25,000	13	292,500	196	88.69%	897,000	45.43%
25,001 to 30,000	4	110,000	200	90.50%	1,007,000	51.00%
30,001 to 35,000	5	162,500	205	92.76%	1,169,500	59.23%
35,001 to 40,000	2	75,000	207	93.67%	1,244,500	63.03%
40,001 to 50,000	5	225,000	212	95.93%	1,469,500	74.42%
50,001 to 60,000	8	440,000	220	99.55%	1,909,500	96.71%
60,001 to 70,000	1	65,000	221	100.00%	1,974,500	100.00%
70,001 to 80,000		-	221	100.00%	1,974,500	100.00%
80,001 to 90,000		-	221	100.00%	1,974,500	100.00%
90,001 to 100,000		-	221	100.00%	1,974,500	100.00%
	221	1,974,500				

Average Number of Customers	18
Average Consumption	8,934
Median Consumption	2,036

Supporting Schedules:

Recap Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-5
Title: Bill Count

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

1 1/2-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-		-	-	0.00%	-	0.00%
1,000		-	-	0.00%	-	0.00%
2,000		-	-	0.00%	-	0.00%
3,000	2	5,000	2	8.33%	5,000	0.90%
4,000	3	10,500	5	20.83%	15,500	2.80%
5,000	3	13,500	8	33.33%	29,000	5.24%
6,000	3	16,500	11	45.83%	45,500	8.22%
7,000	1	6,500	12	50.00%	52,000	9.39%
8,000		-	12	50.00%	52,000	9.39%
9,000		-	12	50.00%	52,000	9.39%
10,000		-	12	50.00%	52,000	9.39%
10,001 to 12,000		-	12	50.00%	52,000	9.39%
12,001 to 14,000		-	12	50.00%	52,000	9.39%
14,001 to 16,000		-	12	50.00%	52,000	9.39%
16,001 to 18,000		-	12	50.00%	52,000	9.39%
18,001 to 20,000	1	19,000	13	54.17%	71,000	12.83%
20,001 to 25,000	1	22,500	14	58.33%	93,500	16.89%
25,001 to 30,000	1	27,500	15	62.50%	121,000	21.86%
30,001 to 35,000	2	65,000	17	70.83%	186,000	33.60%
35,001 to 40,000	1	37,500	18	75.00%	223,500	40.38%
40,001 to 50,000	2	90,000	20	83.33%	313,500	56.64%
50,001 to 60,000	2	110,000	22	91.67%	423,500	76.51%
60,001 to 70,000	2	130,000	24	100.00%	553,500	100.00%
70,001 to 80,000		-	24	100.00%	553,500	100.00%
80,001 to 90,000		-	24	100.00%	553,500	100.00%
90,001 to 100,000		-	24	100.00%	553,500	100.00%
	24	553,500				

Average Number of Customers	2
Average Consumption	23,063
Median Consumption	16,000

Supporting Schedules:

Recap Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

1 1/2-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-		-	-	0.00%	-	0.00%
1,000	10	5,000	10	83.33%	5,000	50.00%
2,000	1	1,500	11	91.67%	6,500	65.00%
3,000		-	11	91.67%	6,500	65.00%
4,000	1	3,500	12	100.00%	10,000	100.00%
5,000		-	12	100.00%	10,000	100.00%
6,000		-	12	100.00%	10,000	100.00%
7,000		-	12	100.00%	10,000	100.00%
8,000		-	12	100.00%	10,000	100.00%
9,000		-	12	100.00%	10,000	100.00%
10,000		-	12	100.00%	10,000	100.00%
10,001 to 12,000		-	12	100.00%	10,000	100.00%
12,001 to 14,000		-	12	100.00%	10,000	100.00%
14,001 to 16,000		-	12	100.00%	10,000	100.00%
16,001 to 18,000		-	12	100.00%	10,000	100.00%
18,001 to 20,000		-	12	100.00%	10,000	100.00%
20,001 to 25,000		-	12	100.00%	10,000	100.00%
25,001 to 30,000		-	12	100.00%	10,000	100.00%
30,001 to 35,000		-	12	100.00%	10,000	100.00%
35,001 to 40,000		-	12	100.00%	10,000	100.00%
40,001 to 50,000		-	12	100.00%	10,000	100.00%
50,001 to 60,000		-	12	100.00%	10,000	100.00%
60,001 to 70,000		-	12	100.00%	10,000	100.00%
70,001 to 80,000		-	12	100.00%	10,000	100.00%
80,001 to 90,000		-	12	100.00%	10,000	100.00%
90,001 to 100,000		-	12	100.00%	10,000	100.00%
		-	12	100.00%	10,000	100.00%
	12	10,000				

Average Number of Customers	1
Average Consumption	833
Median Consumption	600

Supporting Schedules:

Recap Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-5
Title: Bill Count

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

2-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	6	-	6	9.84%	-	0.00%
1,000		-	6	9.84%	-	0.00%
2,000	1	1,500	7	11.48%	1,500	0.04%
3,000		-	7	11.48%	1,500	0.04%
4,000		-	7	11.48%	1,500	0.04%
5,000		-	7	11.48%	1,500	0.04%
6,000		-	7	11.48%	1,500	0.04%
7,000	1	6,500	8	13.11%	8,000	0.22%
8,000		-	8	13.11%	8,000	0.22%
9,000	1	8,500	9	14.75%	16,500	0.44%
10,000		-	9	14.75%	16,500	0.44%
10,001 to 12,000		-	9	14.75%	16,500	0.44%
12,001 to 14,000		-	9	14.75%	16,500	0.44%
14,001 to 16,000	3	45,000	12	19.67%	61,500	1.66%
16,001 to 18,000		-	12	19.67%	61,500	1.66%
18,001 to 20,000		-	12	19.67%	61,500	1.66%
20,001 to 25,000	6	135,000	18	29.51%	196,500	5.30%
25,001 to 30,000	2	55,000	20	32.79%	251,500	6.78%
30,001 to 35,000	2	65,000	22	36.07%	316,500	8.53%
35,001 to 40,000	2	75,000	24	39.34%	391,500	10.56%
40,001 to 50,000	4	180,000	28	45.90%	571,500	15.41%
50,001 to 60,000	6	330,000	34	55.74%	901,500	24.31%
60,001 to 70,000	6	390,000	40	65.57%	1,291,500	34.83%
70,001 to 80,000	2	150,000	42	68.85%	1,441,500	38.87%
80,001 to 90,000	5	425,000	47	77.05%	1,866,500	50.33%
90,001 to 100,000	4	380,000	51	83.61%	2,246,500	60.58%
100,300	1	100,300	52	85.25%	2,346,800	63.28%
118,900	1	118,900	53	86.89%	2,465,700	66.49%
120,900	1	120,900	54	88.52%	2,586,600	69.75%
122,100	1	122,100	55	90.16%	2,708,700	73.04%
139,500	1	139,500	56	91.80%	2,848,200	76.80%
146,800	1	146,800	57	93.44%	2,995,000	80.76%
168,700	1	168,700	58	95.08%	3,163,700	85.31%
176,100	1	176,100	59	96.72%	3,339,800	90.06%
179,100	1	179,100	60	98.36%	3,518,900	94.89%
189,600	1	189,600	61	100.00%	3,708,500	100.00%
		-	61	100.00%	3,708,500	100.00%
	61	3,708,500				

Average Number of Customers	5
Average Consumption	60,795
Median Consumption	50,417

Supporting Schedules:

Recap Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

2-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	8	-	8	13.56%	-	0.00%
1,000	10	5,000	18	30.51%	5,000	0.61%
2,000	2	3,000	20	33.90%	8,000	0.97%
3,000	1	2,500	21	35.59%	10,500	1.27%
4,000	1	3,500	22	37.29%	14,000	1.70%
5,000	3	13,500	25	42.37%	27,500	3.33%
6,000	2	11,000	27	45.76%	38,500	4.67%
7,000	1	6,500	28	47.46%	45,000	5.45%
8,000	1	7,500	29	49.15%	52,500	6.36%
9,000	1	8,500	30	50.85%	61,000	7.39%
10,000	2	19,000	32	54.24%	80,000	9.70%
10,001 to 12,000	1	11,000	33	55.93%	91,000	11.03%
12,001 to 14,000	1	13,000	34	57.63%	104,000	12.61%
14,001 to 16,000	2	30,000	36	61.02%	134,000	16.24%
16,001 to 18,000	2	34,000	38	64.41%	168,000	20.36%
18,001 to 20,000	8	152,000	46	77.97%	320,000	38.79%
20,001 to 25,000	4	90,000	50	84.75%	410,000	49.70%
25,001 to 30,000	2	55,000	52	88.14%	465,000	56.36%
30,001 to 35,000	3	97,500	55	93.22%	562,500	68.18%
35,001 to 40,000	1	37,500	56	94.92%	600,000	72.73%
40,001 to 50,000		-	56	94.92%	600,000	72.73%
50,001 to 60,000		-	56	94.92%	600,000	72.73%
60,001 to 70,000	1	65,000	57	96.61%	665,000	80.61%
70,001 to 80,000	1	75,000	58	98.31%	740,000	89.70%
80,001 to 90,000	1	85,000	59	100.00%	825,000	100.00%
90,001 to 100,000		-	59	100.00%	825,000	100.00%
	59	825,000				

Average Number of Customers	5
Average Consumption	13,983
Median Consumption	8,500

Supporting Schedules:

Recap Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

3-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-		-	-	0.00%	-	0.00%
1,000		-	-	0.00%	-	0.00%
2,000		-	-	0.00%	-	0.00%
3,000		-	-	0.00%	-	0.00%
4,000		-	-	0.00%	-	0.00%
5,000		-	-	0.00%	-	0.00%
6,000		-	-	0.00%	-	0.00%
7,000		-	-	0.00%	-	0.00%
8,000		-	-	0.00%	-	0.00%
9,000		-	-	0.00%	-	0.00%
10,000		-	-	0.00%	-	0.00%
10,001 to 12,000		-	-	0.00%	-	0.00%
12,001 to 14,000		-	-	0.00%	-	0.00%
14,001 to 16,000		-	-	0.00%	-	0.00%
16,001 to 18,000		-	-	0.00%	-	0.00%
18,001 to 20,000		-	-	0.00%	-	0.00%
20,001 to 25,000		-	-	0.00%	-	0.00%
25,001 to 30,000		-	-	0.00%	-	0.00%
30,001 to 35,000	1	32,500	1	8.33%	32,500	0.48%
35,001 to 40,000		-	1	8.33%	32,500	0.48%
40,001 to 50,000		-	1	8.33%	32,500	0.48%
50,001 to 60,000	1	55,000	2	16.67%	87,500	1.29%
60,001 to 70,000		-	2	16.67%	87,500	1.29%
70,001 to 80,000		-	2	16.67%	87,500	1.29%
80,001 to 90,000		-	2	16.67%	87,500	1.29%
90,001 to 100,000	1	95,000	3	25.00%	182,500	2.68%
130,600	1	130,600	4	33.33%	313,100	4.60%
261,000	1	261,000	5	41.67%	574,100	8.44%
500,700	1	500,700	6	50.00%	1,074,800	15.80%
627,700	1	627,700	7	58.33%	1,702,500	25.02%
903,600	1	903,600	8	66.67%	2,606,100	38.30%
909,200	1	909,200	9	75.00%	3,515,300	51.66%
995,100	1	995,100	10	83.33%	4,510,400	66.29%
1,073,500	1	1,073,500	11	91.67%	5,583,900	82.07%
1,220,200	1	1,220,200	12	100.00%	6,804,100	100.00%
	12	6,804,100				

Average Number of Customers	1
Average Consumption	567,008
Median Consumption	564,200

Supporting Schedules:

Recap Schedules:

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

4-Inch Meter - Residential

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	10	-	10	27.78%	-	0.00%
1,000	1	500	11	30.56%	500	0.00%
2,000		-	11	30.56%	500	0.00%
3,000		-	11	30.56%	500	0.00%
4,000		-	11	30.56%	500	0.00%
5,000		-	11	30.56%	500	0.00%
6,000		-	11	30.56%	500	0.00%
7,000		-	11	30.56%	500	0.00%
8,000		-	11	30.56%	500	0.00%
9,000		-	11	30.56%	500	0.00%
10,000		-	11	30.56%	500	0.00%
10,001 to 12,000		-	11	30.56%	500	0.00%
12,001 to 14,000		-	11	30.56%	500	0.00%
14,001 to 16,000		-	11	30.56%	500	0.00%
16,001 to 18,000		-	11	30.56%	500	0.00%
18,001 to 20,000		-	11	30.56%	500	0.00%
20,001 to 25,000		-	11	30.56%	500	0.00%
25,001 to 30,000	1	27,500	12	33.33%	28,000	0.08%
30,001 to 35,000		-	12	33.33%	28,000	0.08%
35,001 to 40,000		-	12	33.33%	28,000	0.08%
40,001 to 50,000		-	12	33.33%	28,000	0.08%
50,001 to 60,000		-	12	33.33%	28,000	0.08%
60,001 to 70,000		-	12	33.33%	28,000	0.08%
70,001 to 80,000		-	12	33.33%	28,000	0.08%
80,001 to 90,000		-	12	33.33%	28,000	0.08%
90,001 to 100,000		-	12	33.33%	28,000	0.08%
350,000	1	350,000	13	36.11%	378,000	1.09%
370,000	1	370,000	14	38.89%	748,000	2.15%
433,000	1	433,000	15	41.67%	1,181,000	3.40%
487,000	1	487,000	16	44.44%	1,668,000	4.80%
778,000	1	778,000	17	47.22%	2,446,000	7.04%
820,400	1	820,400	18	50.00%	3,266,400	9.40%
886,000	1	886,000	19	52.78%	4,152,400	11.95%
935,000	1	935,000	20	55.56%	5,087,400	14.64%
940,000	1	940,000	21	58.33%	6,027,400	17.35%
967,000	1	967,000	22	61.11%	6,994,400	20.13%
1,055,000	1	1,055,000	23	63.89%	8,049,400	23.17%
1,064,000	1	1,064,000	24	66.67%	9,113,400	26.23%
1,101,000	1	1,101,000	25	69.44%	10,214,400	29.40%
1,121,000	1	1,121,000	26	72.22%	11,335,400	32.62%
1,387,000	1	1,387,000	27	75.00%	12,722,400	36.61%
1,614,000	1	1,614,000	28	77.78%	14,336,400	41.26%
1,668,000	1	1,668,000	29	80.56%	16,004,400	46.06%
1,731,000	1	1,731,000	30	83.33%	17,735,400	51.04%
2,124,000	1	2,124,000	31	86.11%	19,859,400	57.15%
2,357,000	1	2,357,000	32	88.89%	22,216,400	63.94%
2,403,000	1	2,403,000	33	91.67%	24,619,400	70.85%
2,510,000	1	2,510,000	34	94.44%	27,129,400	78.08%
2,772,000	1	2,772,000	35	97.22%	29,901,400	86.05%
4,846,000	1	4,846,000	36	100.00%	34,747,400	100.00%
	36	34,747,400				

Average Number of Customers	3
Average Consumption	965,206
Median Consumption	853,200

Supporting Schedules:

Recap Schedules:

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

4-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	6	-	6	85.71%	-	0.00%
1,000		-	6	85.71%	-	0.00%
2,000		-	6	85.71%	-	0.00%
3,000		-	6	85.71%	-	0.00%
4,000		-	6	85.71%	-	0.00%
5,000		-	6	85.71%	-	0.00%
6,000		-	6	85.71%	-	0.00%
7,000		-	6	85.71%	-	0.00%
8,000		-	6	85.71%	-	0.00%
9,000		-	6	85.71%	-	0.00%
10,000		-	6	85.71%	-	0.00%
10,001 to 12,000		-	6	85.71%	-	0.00%
12,001 to 14,000		-	6	85.71%	-	0.00%
14,001 to 16,000		-	6	85.71%	-	0.00%
16,001 to 18,000		-	6	85.71%	-	0.00%
18,001 to 20,000		-	6	85.71%	-	0.00%
20,001 to 25,000		-	6	85.71%	-	0.00%
25,001 to 30,000	1	27,500	7	100.00%	27,500	100.00%
30,001 to 35,000		-	7	100.00%	27,500	100.00%
35,001 to 40,000		-	7	100.00%	27,500	100.00%
40,001 to 50,000		-	7	100.00%	27,500	100.00%
50,001 to 60,000		-	7	100.00%	27,500	100.00%
60,001 to 70,000		-	7	100.00%	27,500	100.00%
70,001 to 80,000		-	7	100.00%	27,500	100.00%
80,001 to 90,000		-	7	100.00%	27,500	100.00%
90,001 to 100,000		-	7	100.00%	27,500	100.00%
	7	27,500				

Average Number of Customers	1
Average Consumption	3,929
Median Consumption	-

Supporting Schedules:

Recap Schedules:

Note:
One of the monthly minimum amounts was $99 instead of $165, so the bill count revenue generated must be reduced by $66 to account for this partial month.

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

6-Inch Meter - Commercial

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-	1	-	1	8.33%	-	0.00%
1,000		-	1	8.33%	-	0.00%
2,000		-	1	8.33%	-	0.00%
3,000		-	1	8.33%	-	0.00%
4,000		-	1	8.33%	-	0.00%
5,000		-	1	8.33%	-	0.00%
6,000		-	1	8.33%	-	0.00%
7,000		-	1	8.33%	-	0.00%
8,000		-	1	8.33%	-	0.00%
9,000		-	1	8.33%	-	0.00%
10,000		-	1	8.33%	-	0.00%
10,001 to 12,000		-	1	8.33%	-	0.00%
12,001 to 14,000		-	1	8.33%	-	0.00%
14,001 to 16,000		-	1	8.33%	-	0.00%
16,001 to 18,000		-	1	8.33%	-	0.00%
18,001 to 20,000		-	1	8.33%	-	0.00%
20,001 to 25,000		-	1	8.33%	-	0.00%
25,001 to 30,000		-	1	8.33%	-	0.00%
30,001 to 35,000		-	1	8.33%	-	0.00%
35,001 to 40,000		-	1	8.33%	-	0.00%
40,001 to 50,000		-	1	8.33%	-	0.00%
50,001 to 60,000		-	1	8.33%	-	0.00%
60,001 to 70,000		-	1	8.33%	-	0.00%
70,001 to 80,000		-	1	8.33%	-	0.00%
80,001 to 90,000		-	1	8.33%	-	0.00%
90,001 to 100,000		-	1	8.33%	-	0.00%
248,000	1	248,000	2	16.67%	248,000	2.16%
267,000	1	267,000	3	25.00%	515,000	4.49%
766,000	1	766,000	4	33.33%	1,281,000	11.16%
507,000	1	507,000	5	41.67%	1,788,000	15.58%
567,000	1	567,000	6	50.00%	2,355,000	20.52%
735,000	1	735,000	7	58.33%	3,090,000	26.92%
904,000	1	904,000	8	66.67%	3,994,000	34.80%
972,000	1	972,000	9	75.00%	4,966,000	43.27%
1,420,000	1	1,420,000	10	83.33%	6,386,000	55.64%
1,833,000	1	1,833,000	11	91.67%	8,219,000	71.61%
3,258,000	1	3,258,000	12	100.00%	11,477,000	100.00%
	12	11,477,000				

Average Number of Customers	1
Average Consumption	956,417
Median Consumption	651,000

Supporting Schedules:

Recap Schedules:

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Rebuttal Schedule H-5
Title: Bill Count

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule(s) showing billing activity by block for each rate schedule.

Hydrant Sales

Block	Number of Bills by Block	Consumption By Blocks	Cumulative Bills No.	Cumulative Bills % of Total	Cumulative Consumption Amount	Cumulative Consumption % of Total
-		-	-	0.00%	-	0.00%
1,000		-	-	0.00%	-	0.00%
2,000		-	-	0.00%	-	0.00%
3,000		-	-	0.00%	-	0.00%
4,000		-	-	0.00%	-	0.00%
5,000		-	-	0.00%	-	0.00%
6,000		-	-	0.00%	-	0.00%
7,000		-	-	0.00%	-	0.00%
8,000		-	-	0.00%	-	0.00%
9,000		-	-	0.00%	-	0.00%
10,000		-	-	0.00%	-	0.00%
10,001 to 12,000	1	11,000	1	16.67%	11,000	0.91%
12,001 to 14,000		-	1	16.67%	11,000	0.91%
14,001 to 16,000		-	1	16.67%	11,000	0.91%
16,001 to 18,000		-	1	16.67%	11,000	0.91%
18,001 to 20,000		-	1	16.67%	11,000	0.91%
20,001 to 25,000	1	22,500	2	33.33%	33,500	2.76%
25,001 to 30,000		-	2	33.33%	33,500	2.76%
30,001 to 35,000		-	2	33.33%	33,500	2.76%
35,001 to 40,000		-	2	33.33%	33,500	2.76%
40,001 to 50,000		-	2	33.33%	33,500	2.76%
50,001 to 60,000		-	2	33.33%	33,500	2.76%
60,001 to 70,000		-	2	33.33%	33,500	2.76%
70,001 to 80,000		-	2	33.33%	33,500	2.76%
80,001 to 90,000	1	85,000	3	50.00%	118,500	9.76%
90,001 to 100,000		-	3	50.00%	118,500	9.76%
232,852	1	232,852	4	66.67%	351,352	28.94%
319,396	1	319,396	5	83.33%	670,748	55.25%
543,230	1	543,230	6	100.00%	1,213,978	100.00%
	6	1,213,978				

Average Number of Customers	1
Average Consumption	202,330
Median Consumption	158,926

Supporting Schedules:

Recap Schedules:

ATTACHMENT 3

BEFORE THE ARIZONA CORPORATION COMMISSION

Docket No. W-01380A-12-0254

REBUTTAL TESTIMONY
of
Kara D. Festa, P.E.

On Behalf of Ray Water Company, Inc.

REBUTTAL TESTIMONY OF KARA D. FESTA, P.E.
On Behalf of Ray Water Company, Inc.

Q. **Please state your name and business address.**

A. My name is Kara D. Festa, P.E., and my business address is 4001 E. Paradise Falls Drive, Tucson, Arizona, 85712.

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

A. I am employed by WestLand Resources, Inc. (WestLand), as a civil engineer, and I am a principal of the company.

Q. **Please briefly describe your educational background and work experience.**

A. I have a Bachelors degree in Civil Engineering and Masters degree in Environmental Engineering from the University of Arizona. I have been working in the engineering field, primarily in water and wastewater planning and design, for 17 years, 14 of those years at WestLand. I am Registered Professional Engineer in Arizona and New Mexico.

Q. **Please describe your involvement with previous work for Ray Water Company.**

A. I have been working on water system engineering projects with Ray Water Company (Company) since 2000, as a project engineer, project manager, and then in my capacity as a principal with WestLand. My work with Company has included water system hydraulic modeling and master planning, design for pipelines, booster stations, reservoirs, and wells, and general operational and engineering assistance and advice. I have overseen the equipment and site design for three new wells in the Company system over the past 5 years, to replace older wells that exceeded their useful life. In

addition, I have assisted the water company during well outages, to help with troubleshooting, selection of new well equipment, review of well videos and providing engineering recommendations.

Q. **What is the purpose of your testimony?**

A. My testimony presents my professional opinion as to the existing reliable well infrastructure and overall capacity and reliability of the Company well supplies, and whether Well No. 8 provides excess capacity or is reasonably necessary to meet the water demand of the Company system. My testimony also addresses engineering issues relative to hydropneumatic tank capacity and the use of variable frequency drives (VFDs) in the Company system and miscellaneous engineering items relative to information in the ACC staff report.

Q. **Please summarize your conclusions regarding the matters addressed in your testimony.**

A. The Ray Water Company has had a total of eight well sites in operation at various times during the twelve years I have worked with the water company. Several wells are approximately 30 to 40 years old and have reached the end of their useful operating lives. The water company has slowly taken wells out of service and discontinued their use as the casings have aged and damage has indicated that it was no longer feasible to rely on those wells.

The water company currently has three wells in good operating condition that form the backbone of the well capacity for this water company, Well Nos. 2D, 7 and 8. These three wells provided more than 81 percent of the total well pumping for the water

system in the last 12 months. There are several other old wells in the water system, all of which are in poor condition and do not represent a reliable, long-term supply for the water company. Exhibit 1 illustrates this point.

Q. **What information and/or records did you review for this testimony?**

A. I reviewed well capacity information and historical data regarding the well drilling, well inspections, and pumping equipment installations for Company Well Nos. 1 through 8. I also reviewed the testimony and staff report prepared by Dorothy Hains, P.E.

Q. **Can you provide a summary of the well capacity and status of the well within the water system right now?**

A. The current equipped and available capacities and the year drilled are provided in the table below:

Well No.	*Year Drilled*	*GPM*	*In service*
1	1957	_	No
2d	2007	400	Yes
3	1969	185	Yes
4	1973	_	No
5	1963	_	No
6	1983	_	No, strictly a backup well
7	2007	325	Yes
8	2010	370	Yes
		1,280	

Q. **Can you provide a brief narrative regarding the status of each of the water company's wells?**

A. The three wells that form the backbone of the water system are Well Nos. 2D, 7 and 8. Well Nos. 2D and 7 were drilled in 2007, and Well No. 8 was drilled in 2010. These new wells were drilled to replace failed or failing capacity of several nearby wells.

Well Nos. 1 and 5 were both over 40 years old when they were taken out of service in 2005 due to casing failure. Screen shots from well videos of these wells are set forth in Exhibit 2. These photos provide an example of the gaping holes in the casings in each of these wells.

Company has also experienced a number of issues with the well casings and pumping capacities of Well Nos. 3, 4, and 6. Screen shots from well videos of these wells are set forth in Exhibit 3. These photos provide an example of the gaping holes in the casings in each of these wells. The conditions in each of these wells are similar to those that led to Well Nos. 1 and 5 being taken out of service in 2005.

Well No. 4 is approximately 39 years old. The pump in Well No. 4 failed in mid-2012, and during subsequent video investigation of the well it was discovered that the casing has numerous holes, several of which are substantially larger than the last time a well video was performed. The Company has not re-equipped the well with a pump due to the condition of the well casing, and the likelihood of failure of the well casing.

Well No. 6 is approximately 29 years old. The capacity of Well No. 6 was replaced by the capacity of the new Well No. 8, which was drilled on an adjacent site in 2010

due to the failing condition of Well No. 6. There is still a pump in Well No. 6, but the well is generally unreliable and can be considered unavailable due to its structural condition, as well as due to the interference effects between Well No. 6 and Well No. 8. These two wells cannot run at the same time, as they are right next to each other, and there is only so much water available in any given area of the aquifer. For this reason, the well controls are also set up so that Well No. 6 would need to be turned on manually in the event of an outage of Well No. 8.

Well No. 3 is approximately 43 years old. The casing of Well No. 3 is in poor condition, probably as poor as the condition of Well Nos. 4 and 6. The water company continues to use this well to some extent because the well pumps to a dedicated storage tank and booster station, and this facility provides supplemental pressure to the northeastern area of the Company system. This well is not reliable capacity, but the water company will probably have to continue to use this well as long as it is capable of running.

Q. **How do you typically determine what well capacity should be provided in a water system?**

A. A water company must have sufficient well capacity to meet the peak day usage, also called Peak Day Demand, because the well source water has to be able to keep up with the demands of the water system during the highest demand days of the year. This typically occurs during early summer. There can be a series of days of very high demand where the water company is essentially pumping at or near Peak Day Demand values for a sustained period. In that situation, the wells would need to be running nearly full-time just to keep the reservoirs full enough for the booster stations to meet

system demands. And in reality, due to the variability of demand over the day and available reservoir capacity to accept the well supply, the wells may not be able to run 100% of the time even on Peak Day.

Because of how water system operates, we always need to have, at a minimum, at least enough well capacity to meet Peak Day Demand. Because we also never know when a well outage will occur due to casing failure or pumping and electrical equipment issues, the accepted engineering recommendation is to be able to supply Peak Day Demand with the largest well out of service.

Q. **What is the demand for well supply due to the current customers of Company?**

A. Company's wells pumped approximately 646,000 gallons per day or 450 gpm in 2011. The standard peaking factor of two times the Average Day Demand provides a Peak Day Demand of 900 gpm.

I would like to point out that Peak Day Demand should not be confused with other types of peaking calculations. For example, the "calculated highest use" per customer provided in the staff report (Phase 5, Section I, Water Sold) is the Average Day of the Peak Month, rather than the Peak Day usage. Peak Day Demand is generally in the range of 1.5 times higher than the Average Day of the Peak Month usage. The value provided in that section of the report is also based on customer use, rather than well pumping, which doesn't account for any lost and unaccounted for uses.

Q. **Can the Company meet the required Peak Day Demand of the existing water system?**

A. If Well Nos. 2D, 3, 7 and 8 are in operation, then the water company can meet the peak day demand of approximately 900 gpm. These wells have a total capacity of 1,280 gpm.

Q. **What would happen if the largest well was out of service, which is the criteria for adequate well capacity?**

A. The largest well is Well No. 2D, with a capacity of 400 gpm. If this well is out of service the available well capacity in the water system would be 880 gpm. This is less than the calculated Peak Day Demand. Depending on when the outage occurred, the Company may have to notify customers to reduce water use in this instance.

Q. **Could the water company operate Well No. 6 in that instance to increase capacity?**

A. Not effectively. Well No. 8 was a replacement for the Well No. 6 capacity in the water system. These two wells are very close to each other, and they each wouldn't be able to produce their typical full flow if operated together. The water company might be able to get enough together from the two wells to meet Peak Day Demand in an emergency that is managed well.

Q. **What would be the case if Well No. 8 needed to be taken out of service?**

A. Well No. 6 would be useful in its capacity as a backup well. In that instance, the water company could operate Well No. 6 in lieu of Well No. 8 in order to meet Peak Day Demands.

Q. **What would you consider the reliable source water capacity of the Company system?**

A. The reliable source capacity is about 1,095 gpm, from Well Nos. 2D, 7, and 8.

Q. **How would you characterize the remaining well capacity?**

A. The remaining well capacity is unreliable and all of the casings are known to be in poor condition. The water company cannot consider these wells as reliable, long-term capacity.

Q. **Can you give some examples of the types of issues that Company has experienced with their wells?**

A. There are two general types of issues: (1) mechanical and electrical equipment failures; and (2) casing failures. The older wells in Company produce significant sand due to the holes in the casing and the general condition of the casing. Sanding in wells causes premature failure of pumping equipment due to wear. Sanding issues and general aging have caused pumps to be removed from service for repairs. In addition, some pumps have experienced motor failures and other electrical equipment issues that have caused the pumps to be removed from service for repairs.

When these types of equipment failures happen and the pump is removed from the well, the water company typically takes the opportunity to video the well casing and review the condition. As a result of these videos, the water company has also documented problems, such as holes in the casing and plugged perforations. When these problems are identified the wells are cleaned, patched or otherwise treated, but many of these are short-term fixes to keep the wells up and operating as long as

possible. Sometimes, the well casing is found to be in such poor condition that it would be a waste of money to put another pump in the hole, due to the sanding issues that would damage the pump, and the potential for collapse of the well.

Q. **When these types of issues occur, how long are the wells out of service?**

A. It can vary from a few days to a few weeks for a mechanical or electrical failure, and from a few weeks to a month or more for casing inspection, rehabilitation, and repairs. For the worst casing issues, wells have been taken out of service permanently.

Q. **How long does it take to drill and equip a new well, and what is involved?**

A. A water company should plan on a minimum of approximately 12 months for a well replacement project. There are two separate construction phases in a well replacement project, well drilling and then site construction. Both phases typically involve preparation of plans and/or specifications, bidding for the construction services, and the actual construction work. There are also permits that must be obtained prior to well drilling and prior to construction of the well site and equipping the well.

The water company would typically have a specification prepared by a hydrogeologist for the well replacement. The hydrogeologist would also help the water company apply for the Arizona Department of Water Resources (ADWR) well drilling permit. The water company would then obtain bids from multiple licensed well drillers to obtain a competitive price, and select a driller to perform the work based on price and availability. Once the driller is selected, ADWR can complete and issue the well permit. Depending upon the availability of drillers, there can sometimes be a wait of weeks or months before the driller mobilizes to the site. The well drilling, casing,

development, and testing typically take 4 to 6 weeks, but the entire process for specifications, bidding, permitting and construction would typically take 3 to 4 months.

The testing of the well provides the information needed for the sizing of the well pump. Then the engineer can complete the well equipping plans and specifications and submit to the Arizona Department of Environmental Quality (ADEQ) for Approval to Construct. The construction plans are typically bid to multiple contractors to ensure a competitive price. The engineering plans and specifications, bidding, permitting and construction would typically take 7 to 8 months.

These timeframe for the well replacement project could be compressed somewhat, perhaps to a timeframe of 6 to 8 months, at significant additional cost to the water company.

Q. **When an at-risk well has to be taken out of service due to casing failure, it could take up to a year or more to replace that well capacity, and during that time the water company may not have adequate capacity to serve customer demands?**

A. That is correct.

Q. **What was the timeframe for the construction of Well No. 8?**

A. Well No. 8 took approximately 16 months from the start of preparation of the well drilling specifications to the completion of construction and operation of the new well.

Q. **Did any of the other wells fail during the time that Well No. 8 was under construction?**

A. Fortunately, no. As I mentioned previously, Well No. 4 was taken out of service in May of 2012 due to pump failure. In addition, Well No. 6 has not been used during 2012 due to the casing condition and sanding issues, as well as its proximity to Well No. 8.

Q. **Could you summarize your professional opinion about the well capacity of the Company system?**

A. I believe that Company has reliable well capacity in the three backbone well facilities, Well No. 2D, 7 and 8, and some additional available capacity in Well No. 3 although this well is in poor condition and should not be pumped strenuously. The other wells in the system are not reliable capacity, and due to prudent planning, the water company no longer has to rely on these failing wells.

Due to the history of well failures and the condition of the casings of several older wells, the water company's approach to proactive well capacity replacement is prudent engineering practice and sensible water system operation. Well No. 8 is not only used and useful, but critical to the reliable operation of Company to meet customer demands.

Q. **There is a section in Staff's testimony (Page 4, Section II.b. Hydropneumatic Tank) that states "[t]he Ray Water system does not have adequately sized pressure vessels. In lieu of installing additional pressure tank capacity Ray has installed multiple variable frequency drive ("VFD") motors to address the issue."**

Is this an accurate assessment of the hydropneumatic tank capacity and the purpose of the variable frequency driven pumps in the Ray Water Company system?

A. No. This is a misunderstanding on the part of ACC staff regarding both the appropriate sizing of hydropneumatic tanks in a system such as the Company, and the purpose and function of VFD pumps in a water system.

There is a section of Arizona Department of Environmental Quality Engineering Bulletin No. 10, the addresses design of hydropneumatic tanks. It states that "[h]ydropneumatic tanks shall be sized such that the system can supply instantaneous demand for a minimum of 20 minutes". However, there are a number of other statements in Bulletin 10 that are relevant and that should be considered when determining an appropriate hydropneumatic tank volume for a water plant site and for an overall water system. The Company system are more complex than the types of systems that were contemplated when Bulletin No. 10 was published in 1978, and these facilities are significantly larger in capacity, with more ground storage and booster pump capacity, than the types of systems which I believe that section of Bulletin No. 10 was written to address.

Further, the sentence above needs to be considered in context of the entire section, which states:

> Correct sizing of a hydropneumatic tank is important because <u>the size of the tank directly determines the frequency of pump cycling</u>. If the tank is too small in relation to system demands, the pump must cycle excessively, prematurely wearing out the pump motor. Normal pump cycling is in the range of 2 to 6 times per hour. <u>A tank that is too large in relation to system requirements does not take advantage of the hydropneumatic concept</u>. Because hydropneumatic tanks to do not effectively provide

> storage, the pumps serving the system must be able to supply the peak demand within the required pressure range.
>
> Hydropneumatic tanks shall be sized such that the system can supply instantaneous demand for a minimum of 20 minutes. Consideration may be given to the inflow pumping rate in the system design.
>
> Instantaneous demand shall be determined from Table 3, "Tabulated Maximum Instantaneous Flows", or from historical records. The demand and pumping rate are in units of gallons per minute (gpm). If the well or other water supply cannot provide enough water for maximum use, ground level storage shall make up the difference.
>
> A minimum of 2 pumps shall be provided above a maximum instantaneous demand rate of 105 gpm." (Emphasis added).

The primary point that should be taken from Bulletin No. 10 is that these guidelines are intended to make sure that proper pump cycling is maintained, and adequate pressure is provided to the water system even under the highest system demands.

In the Company system there are booster pumps providing sufficient capacity to meet maximum instantaneous demands, and these boosters are sized to supply adequate flow and pressure to the system under all demand conditions. The total booster station capacity in the system is in excess of the calculated maximum instantaneous demands per Bulletin No. 10, because booster capacity includes sufficient capacity for peak day demand plus commercial fire flow requirements. In addition, there is a sufficient volume of storage tanks to supply the source for booster stations, such that the hydropneumatic tank does not need to also provide storage volume for the system. With the appropriately sized booster stations and storage tanks in the Ray Water Company system, the main purpose of the hydropneumatic tanks becomes simply surge protection, and to provide some operational volume to keep pump cycling at a reasonable number of starts per hour.

As a final complexity in trying to apply Bulletin No. 10 calculations to the Ray Water Company system, their highest capacity booster pump station is controlled by variable frequency drives (VFDs), which eliminate the need for a hydropneumatic tank due to the nature of the pumps. VFD controlled pumps do not start and stop (cycle) based on pressure controls on a hydropneumatic tank, but rather ramp up and down in speed to meet the system demand. This type of system operation and control generally didn't exist in water systems in 1978 when Bulletin No. 10 was written, but are quite common in water systems now. This type of operation thoroughly changes (eliminates) the requirements for a hydropneumatic tank for pump operation. These systems require the smaller volume bladder tanks for proper operation.

All of these things combined should be considered when determining how to appropriately design and operate a water system, and size hydropneumatic tanks. The Company system has more than sufficient storage and booster pump capacity to meet instantaneous demands, and pump cycling is reasonable and has not caused undue wear or stress on the pumps and motors over Ray Water Company's many years of operation.

Q. **Are the hydropneumatic tanks in the Ray Water Company system adequately sized?**

A. The hydropneumatic tanks are adequately sized for the satisfactory operation of this water system, and the Company does not have pressure or water delivery issues, or pump cycling issues, associated with inadequate hydropneumatic tank capacity.

Q. **Is there anything unusual about using VFD pumps in water systems in general, or in the Company system specifically?**

A. No, VFDs are very common in water systems of all sizes, and they are in an appropriate application in the Ray Water Company system.

Q. **Do you think that the recommended "formal study" regarding the sizing of hydropneumatic tanks and use of VFDs is necessary?**

A. No, the recommended study would not serve a useful purpose.

Q. **How much might something like this "formal study" cost?**

A. To provide an engineering evaluation, calculations, cost estimates, and stamped report could cost in the range of $10,000 to $20,000, depending on the final scope of the work agreed upon for the project.

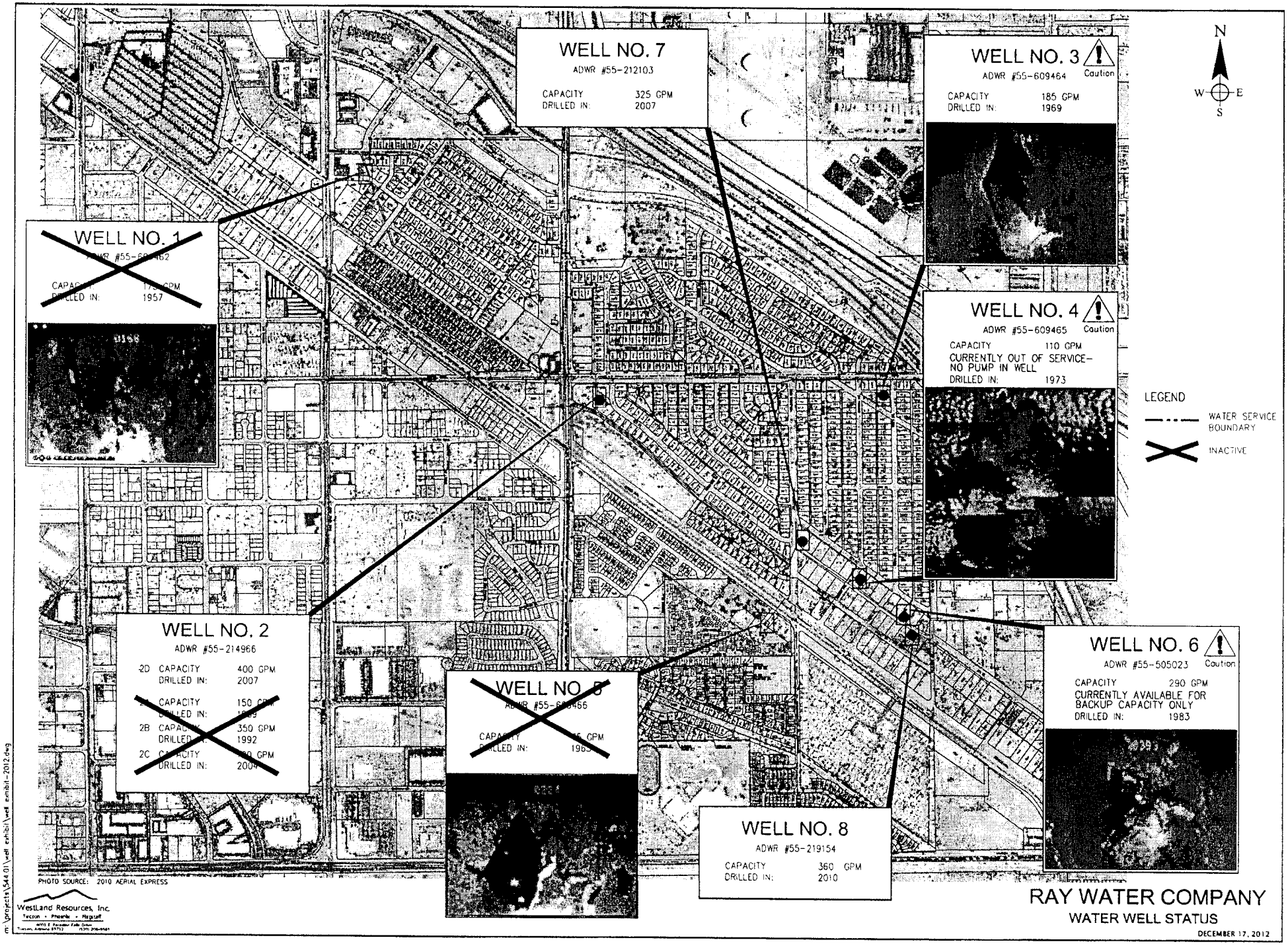
Q. **Do you have any other comments regarding the staff report filed in this case?**

A. Yes, there are a number of minor errors in numbers and dates on the schematics provided in the staff report, which are also carried through the report in tables and text. A copy of the corrected schematics is set forth in Exhibit 4.

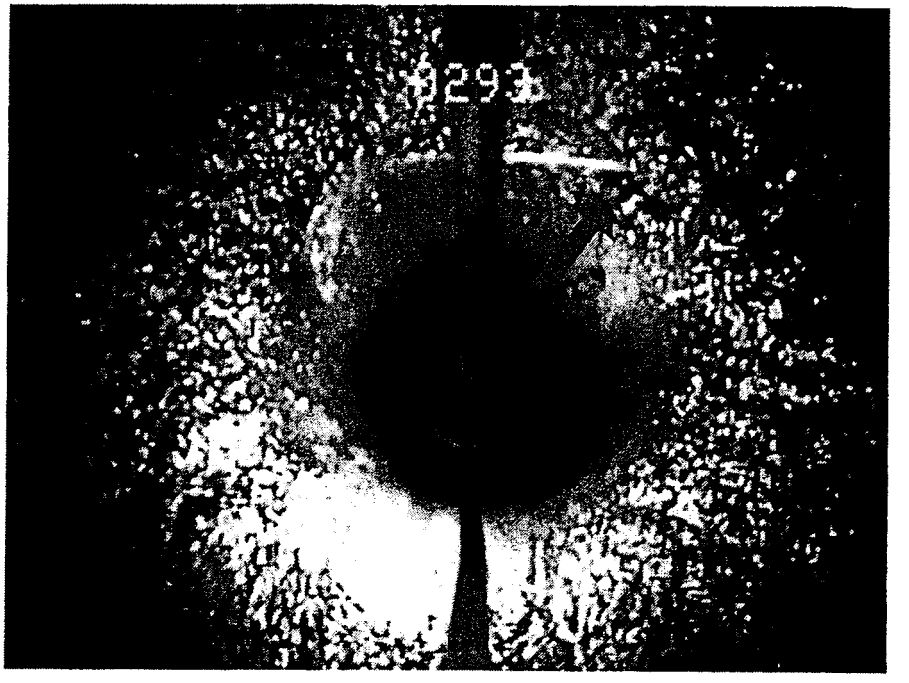
Q. **Does this conclude your testimony?**

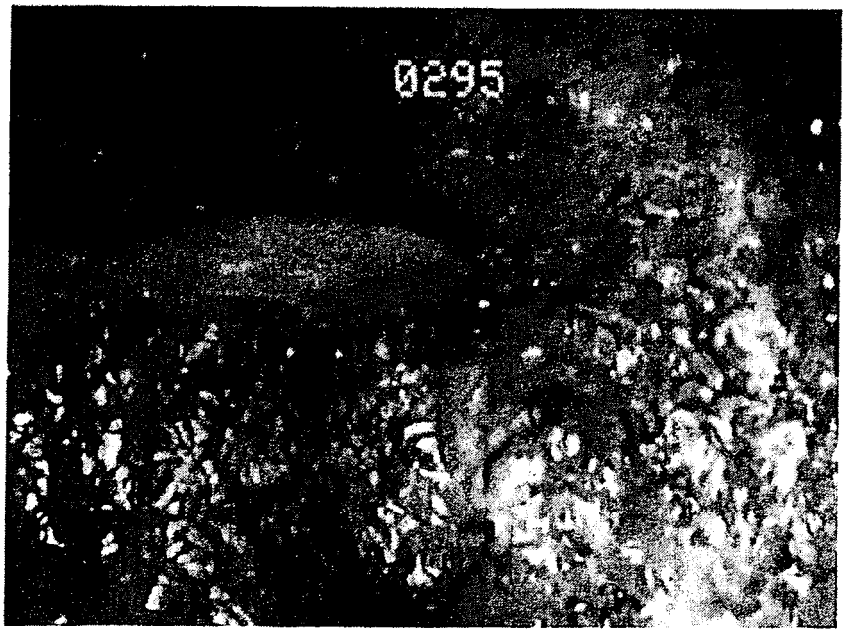
A. Yes, it does.

EXHIBIT 1


WELL NO. 7
ADWR #55-212103
CAPACITY 325 GPM
DRILLED IN: 2007
WELL NO. 3
Caution
ADWR #55-609464
CAPACITY 185 GPM
DRILLED IN: 1969
WELL NO. 1
DRILLED IN: 1957
WELL NO. 4
Caution
ADWR #55-609465
CAPACITY 110 GPM
CURRENTLY OUT OF SERVICE-
NO PUMP IN WELL
DRILLED IN: 1973
WELL NO. 2
ADWR #55-214966
-2D CAPACITY 400 GPM
DRILLED IN: 2007
CAPACITY 150
DRILLED IN:
2B CAPACITY 350 GPM
DRILLED 1992
2C CAPACITY GPM
DRILLED IN: 2008
WELL NO. 5
ADWR #55-609466
CAPACITY GPM
DRILLED IN: 1963
WELL NO. 6
Caution
ADWR #55-505023
CAPACITY 290 GPM
CURRENTLY AVAILABLE FOR
BACKUP CAPACITY ONLY
DRILLED IN: 1983
WELL NO. 8
ADWR #55-219154
CAPACITY 360 GPM
DRILLED IN: 2010
N
W
E
S
LEGEND
WATER SERVICE BOUNDARY
INACTIVE
PHOTO SOURCE: 2010 AERIAL EXPRESS
WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff
RAY WATER COMPANY
WATER WELL STATUS
DECEMBER 17, 2012
m:\projects\544.01\well exhibit\well exhibit-2012.dwg

Downward view of Well No. 6 at 293 feet* below land surface, showing cascading water (see arrow) entering the well through a hole in the split casing.

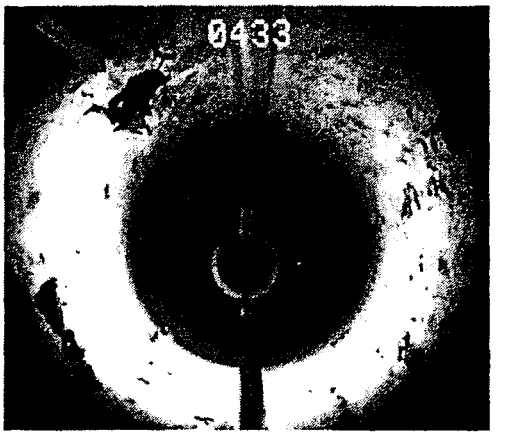




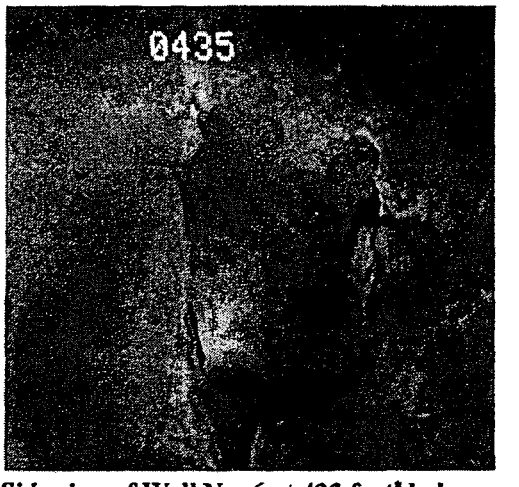
Side view of Well No. 6 at 293 feet* below land surface, showing a close up view of cascading water entering the well.

*** Note:** The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

Side view of Well No. 6 at 391 feet* below land surface, showing close up view of split well casing and gravel pack coming through.

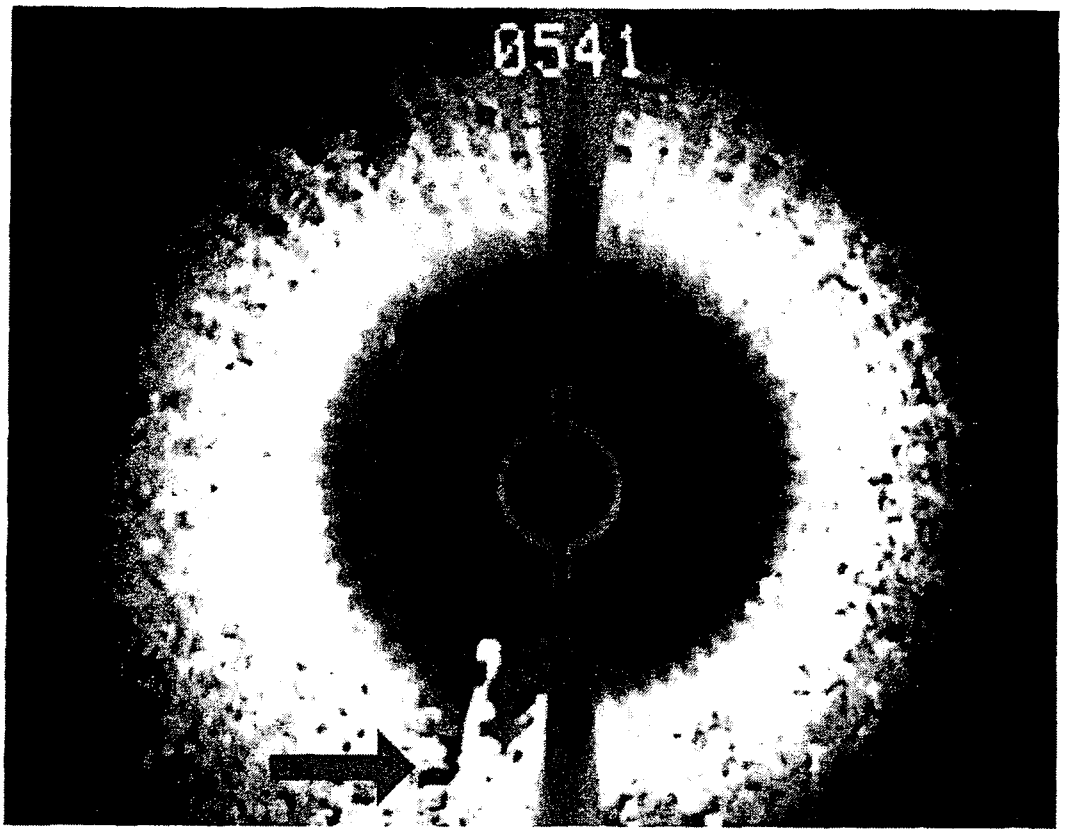


Downward view of Well No. 6 at 433 feet* below land surface, showing corrosion hole in well casing (see arrow).



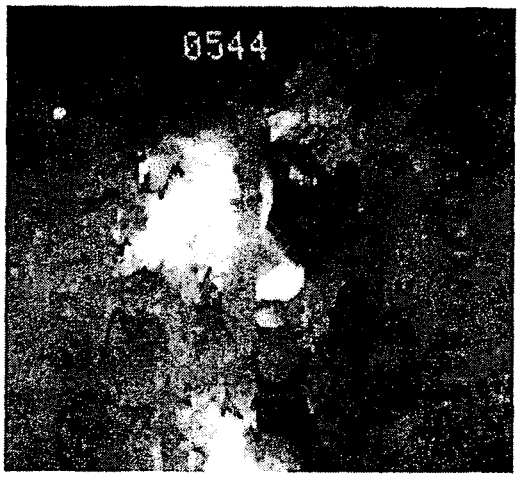
Side view of Well No. 6 at 433 feet* below land surface, showing detail view of corrosion hole in well casing.

* Note: The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



Downward view **of Well No. 6 at 541 feet* below land surface, showing ripped wire-wrap well screen (see arrow).**

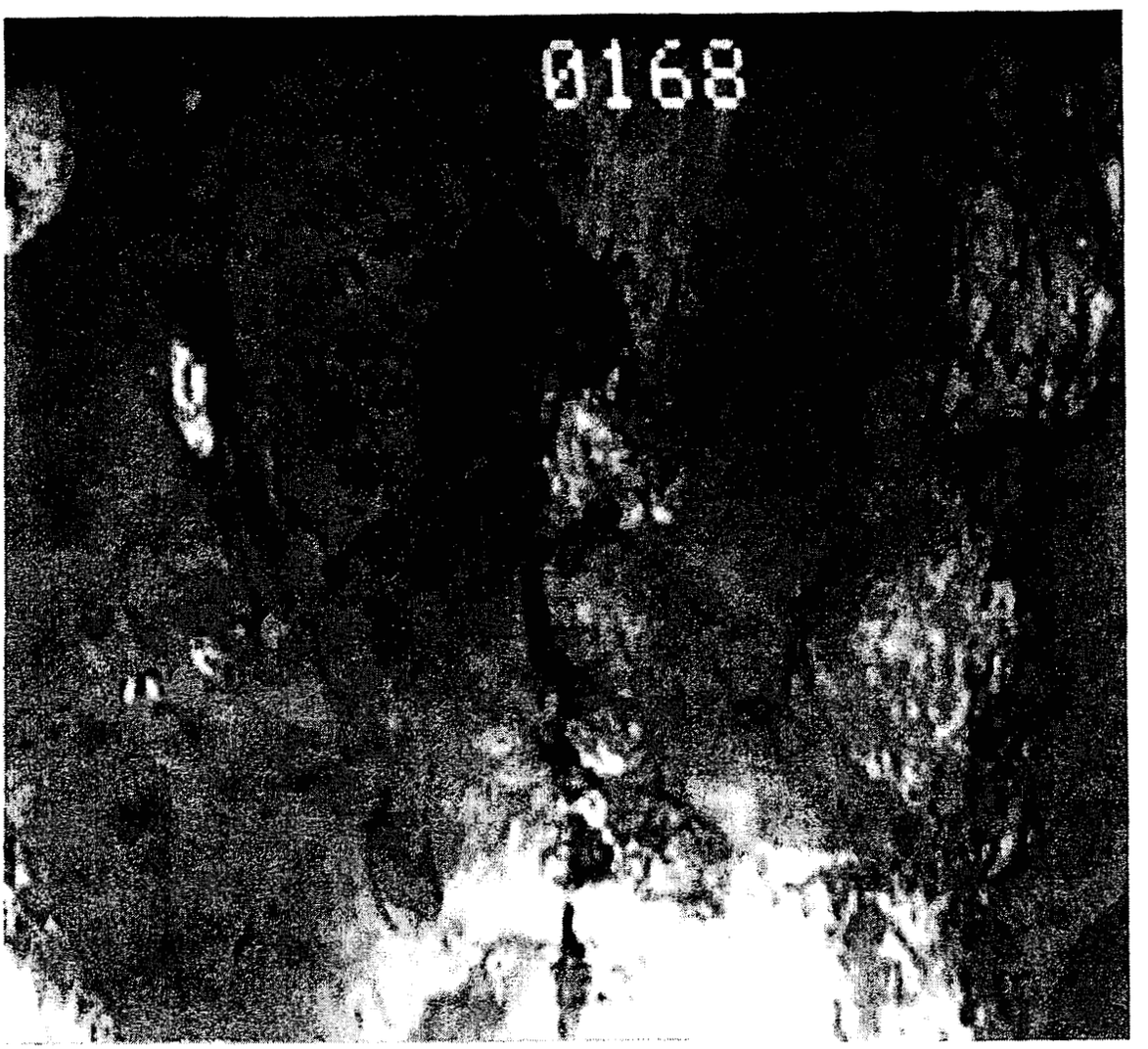
Side view **of Well No. 6 at 542 feet* below land surface, showing close up view of ripped well screen with gravel pack coming through.**



Side view **of Well No. 6 at 542 feet* below land surface, showing close up view of ripped well screen with gravel pack coming through.**

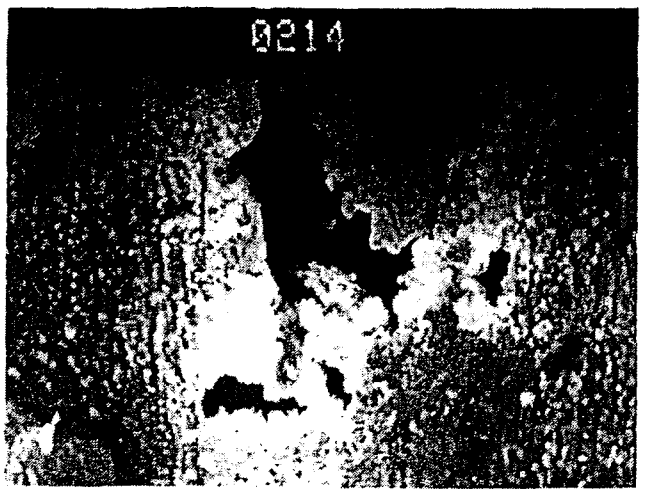
* Note: The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

EXHIBIT 2

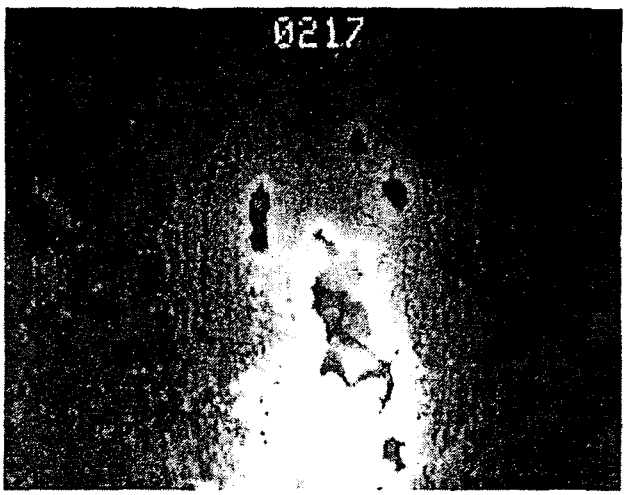


Side view **of Well No. 1 at 166 feet* below land surface, showing vertical split and hole in well casing.**

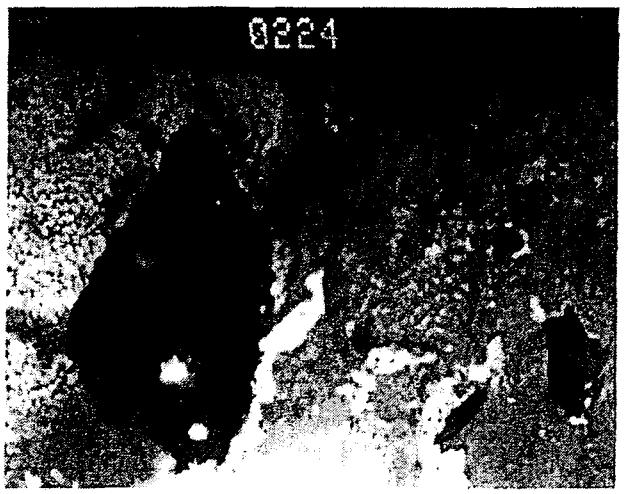
* **Note:** The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



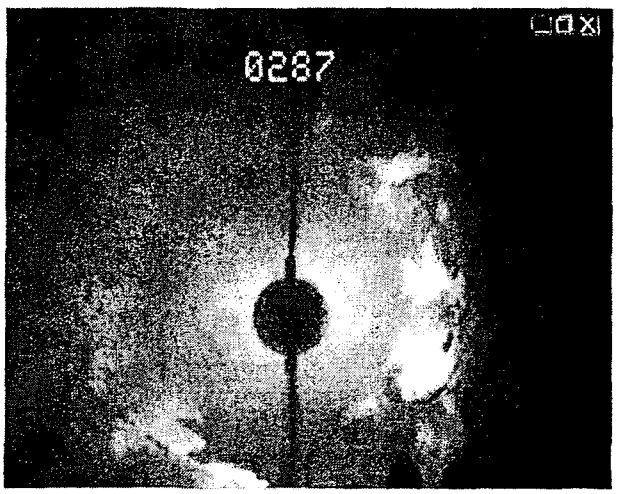
Side view **of Well No. 5 at 212 feet* below land surface, showing large corrosion hole in the well casing.**



Side view **of Well No. 5 at 215 feet* below land surface, showing multiple corrosion holes in the well casing.**



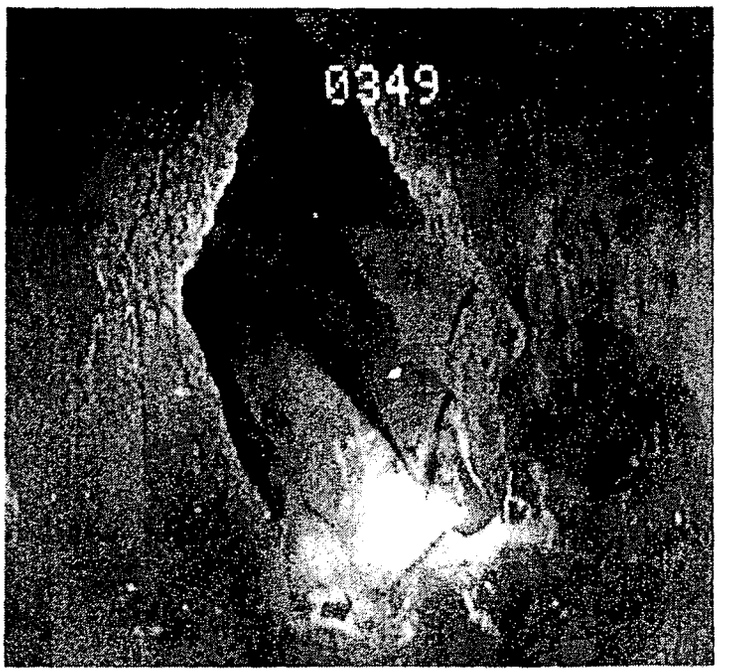
Side view **of Well No. 5 at 222 feet* below land surface, showing multiple corrosion holes in the well casing.**



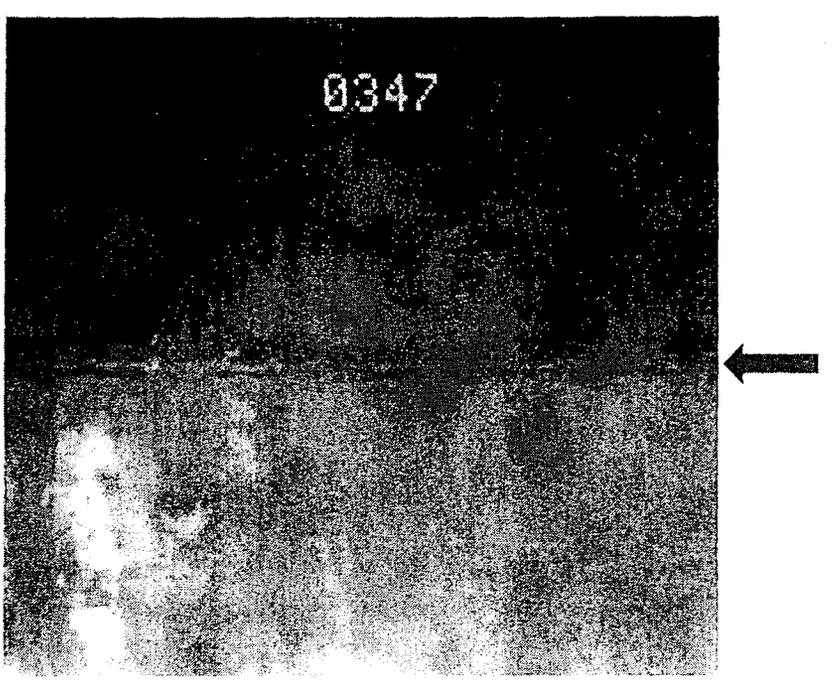
Downward view **of Well No. 5 at 287 feet* below land surface, showing extensive corrosion, with about 1/3 of well casing completely gone.**

* **Note:** The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

EXHIBIT 3

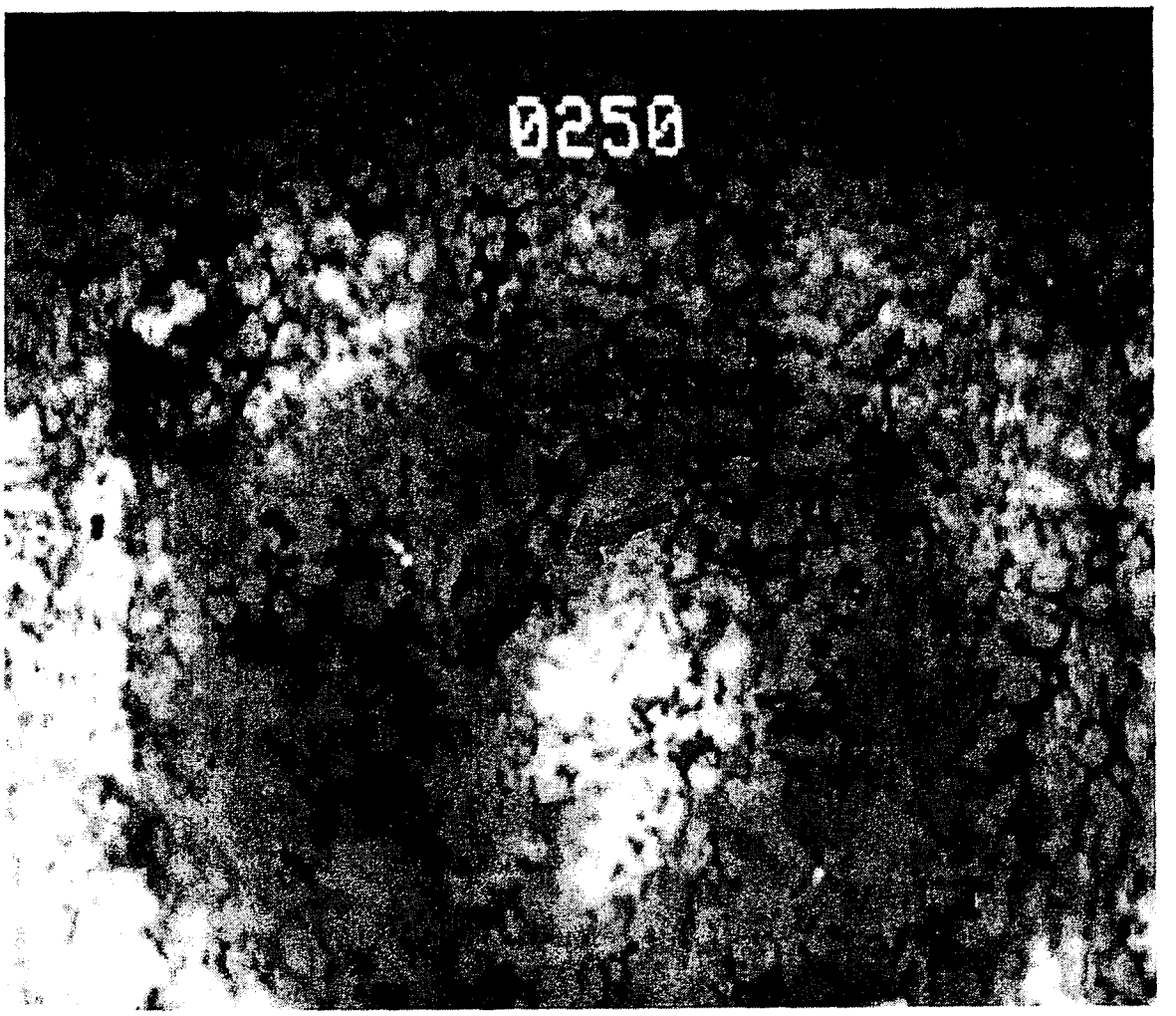


Side view **of Well No. 3 at 347 feet* below land surface, showing a corrosion hole in the well casing.**



Side view **of Well No. 3 at 345 feet* below land surface, showing the top edge (see arrow) of the casing patch that was installed from 345 to 349 feet.**

*** Note:** The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



***Side view* of Well No. 4 at 248 feet* below land surface, showing a small corrosion hole (see arrow) in the well casing.**

* Note: The depth indicated is based on the downward-looking camera lens. The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

EXHIBIT 4

EXHIBIT 3A

SYSTEMATIC DRAWING

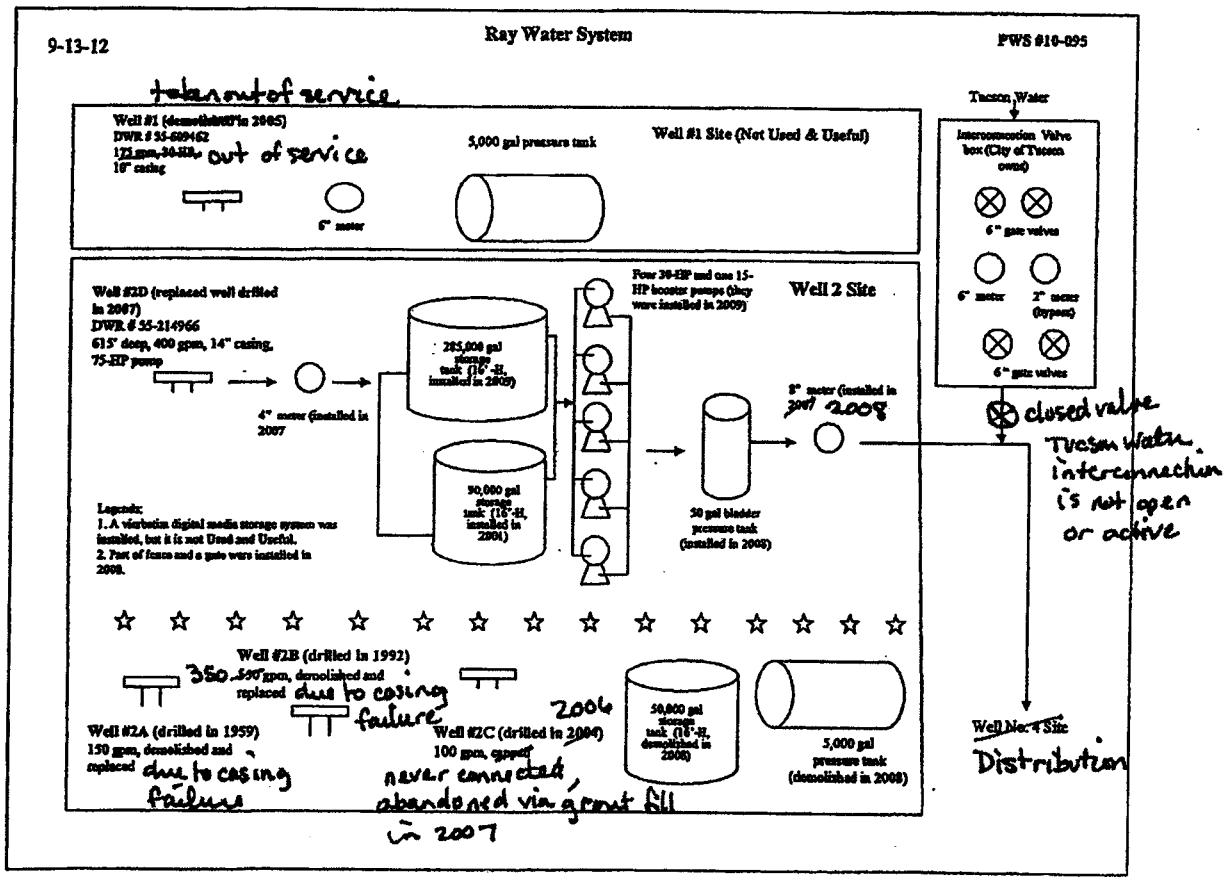


EXHIBIT 3B

SYSTEMATIC DRAWING

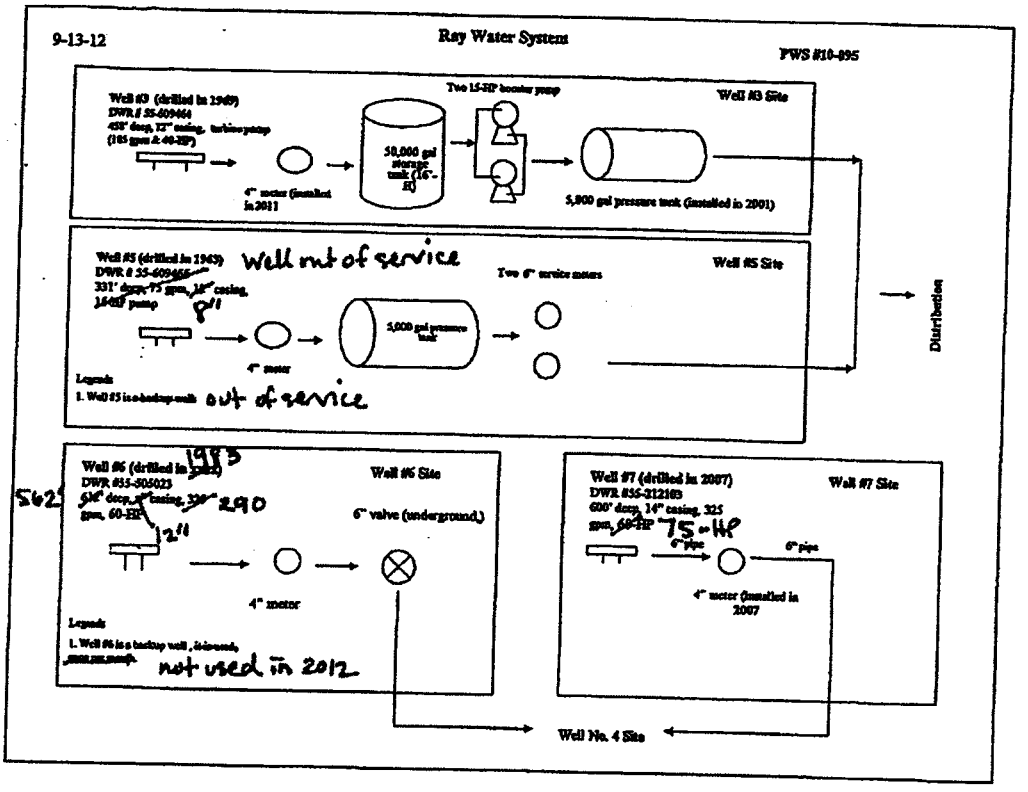
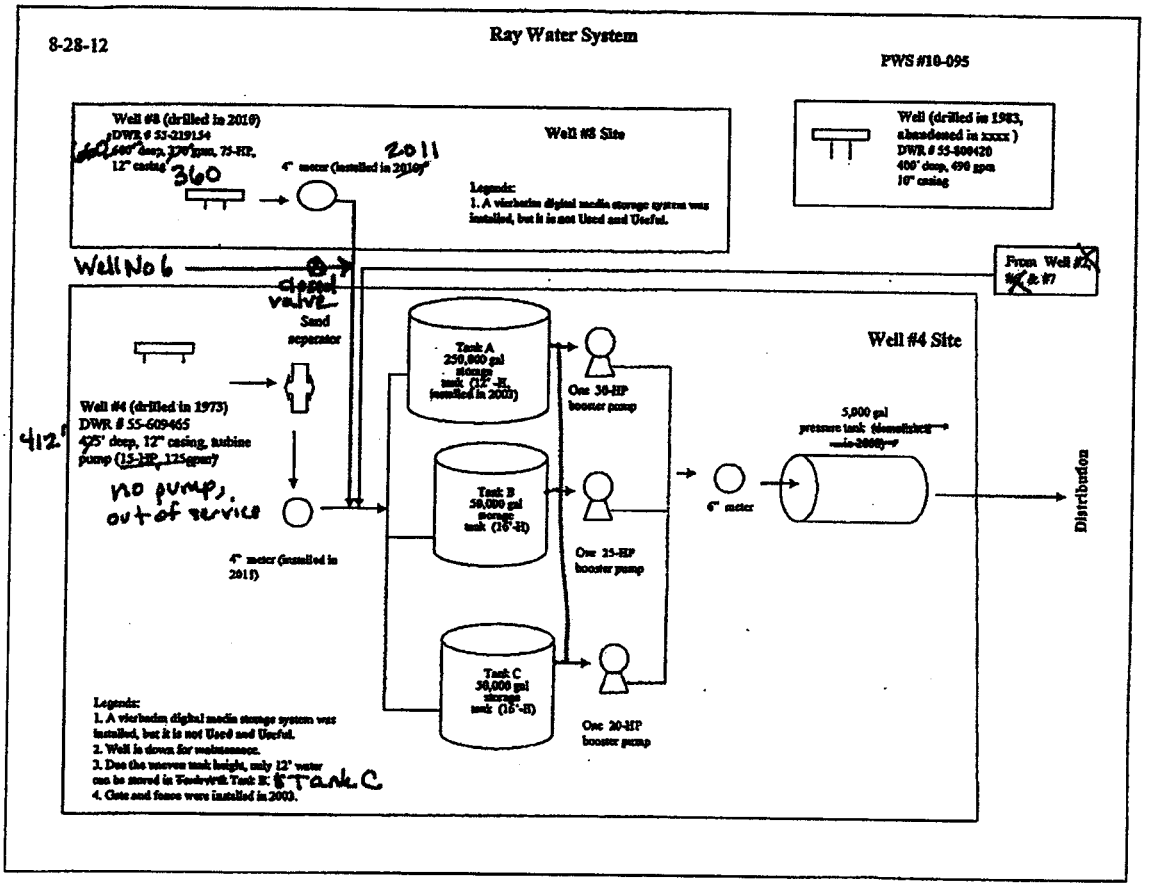


EXHIBIT 3C

SYSTEMATIC DRAWING



ATTACHMENT 4

BEFORE THE ARIZONA CORPORATION COMMISSION

Docket No. W-01380A-12-0254

TESTIMONY
of
Marvin F. Glotfelty, R.G.

On Behalf of Ray Water Company, Inc.

REBUTTAL TESTIMONY OF MARVIN F. GLOTFELTY, R.G.
On Behalf of Ray Water Company, Inc.

Q. **Please state your name and business address.**

A. My name is Marvin Glotfelty, R.G., and my business address is 6155 E. Indian School Road, Suite 200, Scottsdale, Arizona, 85251.

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

A. I am employed by Clear Creek Associates as a Principal Hydrogeologist.

Q. **Please briefly describe your educational background and work experience.**

A. I have a Bachelors and Masters degree in Geology from Northern Arizona University, and I have been involved with hydrogeological studies in the southwestern United States for about 30 years. I am a Registered Professional Geologist in Arizona and California, and I am also a Licensed Well Driller in Arizona.

Q. **Please describe your involvement with previous work for Ray Water Company.**

A. In my capacity as Principal Hydrogeologist, I have evaluated existing Ray Water Company (Company) wells and have overseen the installation of new wells in the Company system, to replace older wells that have exceeded their useful life.

Q. **What is the purpose of your testimony?**

A. My testimony is in response to the direct testimony of Dorothy Hains, P.E., and presents my professional opinion as to the structural stability and overall reliability of

the existing wells in the Company system, and whether Well No. 8 provides excess capacity or is reasonably necessary to meet the Company's water demand.

Q. **Please summarize your conclusions regarding the matters addressed in your testimony.**

A. A well location/condition map that was prepared by WestLand Resources, Inc. is presented in Exhibit 1. That map shows that Company Wells No. 1, 2A, 2B, 2C, and 5 are inactive. Therefore, my analysis for this testimony has been focused on older wells that are not currently in service, or have been reserved for backup capacity only. These older wells lack the structural stability that would be required for them to serve as a reliable water source for Company. My review of videos for Wells No. 3, 4, and 6 indicated corrosion holes and structural failures in the casing and screens of each well. The videos for Wells No. 2D, 7 and 8 were not reviewed because those wells were recently drilled and constructed. Wells No. 3, 4, and 6 may structurally fail (collapse) at essentially any time, and such a well failure would probably occur during peak water pumping periods when the wells are being relied upon by Company to the greatest extent.

Q. **What information and/or records did you review for this testimony?**

A. To augment the records I previously reviewed in preparation for the ACC Hearing in October 2009, I reviewed more recent video surveys of Well No. 4 from May 29, 2012 and August 31, 2012.

Q. **Please briefly describe your findings and conclusions from your review of the Well No. 3 videos, and the other available data for that well.**

A. Company Well No. 3 is located at 5710 S. Herpa in Tucson, Arizona, and has ADWR Registration Number 55-609464. Well No. 3 was drilled by a cable tool rig in 1969. It has a 12-inch diameter machine perforated casing, a total depth of 458 feet, and a static water level of 198 feet below land surface in June 2008. Well No. 3 reportedly produces approximately 185 gpm. In 2008, a well video showed that the perforations were significantly blocked, so the well was cleaned by brushing and bailing. After the well was cleaned, the condition of the well casing (which was previously obscured by the accumulated scale) could be observed. A large corrosion hole in the wall of the steel casing was observed at a depth of approximately 347 feet. A photograph (screen capture from the well video) of the corrosion hole from at 347 feet in this well is presented in Exhibit 2. A casing patch was subsequently placed over the corrosion hole. The 4-foot long casing patch extends from 345 feet to 349 feet, and a photograph of the top edge of the patched casing is also shown in Exhibit 2. Due to its age (43 years old) and the history of other wells in the Company service area, Well No. 3 is near the end of its economically useful life.

Q. **You mentioned the casing patch from 345 feet to 349 feet in Well No. 3. Why couldn't additional casing patches be installed to address all the corrosion problems in this well?**

A. Corrosion holes in steel well casings are rarely a localized condition, and typically reflect the overall corrosive characteristics of the aquifer material surrounding the well. This situation is demonstrated by many of the older wells in the Company system, which have corrosion holes at multiple locations and depths within each well. Casing patches can be used to cover isolated problem areas, but as the corrosion

becomes more extensive in older wells, the application of additional casing patches will not serve as effective "band-aids" to cover multiple problem areas, and will not provide structural stability of the overall well.

Q. **Please briefly describe your findings and conclusions from your review of the Well No. 4 video, and the other available data for this well.**

A. Company Well No. 4 is located at 4410 E. Rex in Tucson, Arizona, and has ADWR Registration Number 55-609465. Well No. 4 was drilled using a cable tool rig in 1973. It has a 12-inch diameter steel well casing with machined perforations. The depth of this well is reportedly 425 feet, and the static water level was 193 feet below land surface in August 2012. The current water production from this well is reportedly about 125 gpm, although this well has not been pumped since the first quarter of 2012, and is not currently equipped with a pump. The well videos from May and August 2012 show extensive corrosion at various depths throughout the well. Examples are presented in Exhibit 2, which includes a photograph (screen capture from the well video) of small corrosion holes as shallow as 27 feet below land surface, and also a very large corrosion hole in the casing at a depth of 184 feet. Other corrosion holes were observed in this well at depths of 187 feet and 260 feet. Due to its age (39 years old) and the history of other wells in the Company service area, Well No. 4 is at the end of its economically useful life.

Q. **Please briefly describe your findings and conclusions from your review of the Well No. 6 videos, and the other available data for this well.**

A. Company Well No. 6 is located at 4450 E. Rex in Tucson, Arizona, and has ADWR Registration Number 55-800420. Well No. 6 was drilled in 1983 using the rotary

drilling method. It was constructed with a gravel packed envelope surrounding a 12-inch diameter low-carbon steel casing and wire-wrapped screen. The total depth of Well No. 6 is reportedly 642 feet, and the static water level of this well was at 341 feet below land surface in December 2008. The well reportedly produced approximately 325 gpm, but video surveys in 2008 indicated blocked perforations and holes in the well casing and well screen. The December 1, 2008 video for this well indicates that the well has a split casing at a depth of about 293 feet, which is allowing cascading water to enter the well (Exhibit 2). Cascading water such as this is commonly of poor quality, and may lead to pump damage and accelerated scale growth and corrosion of the well casing. The December 2008 video of Well No. 6 also indicates multiple locations with corrosion holes and casing splits (Exhibit 2). In the screened interval of Well No. 6, the wire-wrapped screen was observed to be ripped at a depth of about 541 feet, with filter pack and native sediment spilling in through the ripped area (Exhibit 2). Due to its age (29 years old), extensive corrosion, and damaged screen, Well No. 6 is considered to have reached the end of its economically useful life. This well has not been pumped during the past year, and is currently considered available only for backup capacity in an emergency. Also, due to it's proximity to Well No. 8 (see Figure 1), this well should not be pumped simultaneous with Well No. 8. Not only would the combined groundwater withdrawal of the two neighboring wells cause excessive water-table drawdown and unwarranted energy requirements during their pumping, but structural damage to the wells could also result from such an activity.

Q. How do the structural problems indicated by the video surveys impact the water production capability and reliability of the Company system?

A. The video surveys and the respective ages of Wells No. 3, No. 4, and No. 6 make it quite clear that these wells are subject to collapse and catastrophic failure at essentially any time. Therefore, it would not be prudent for the Company to rely on any of these wells as a reliable water supply source. Various scenarios of water supply are presented in Table 1, which shows various well use conditions and the resulting water production. In Table 1A, Wells No. 2D, No. 3, No. 7, and No. 8 are being pumped at their reported pumping capacities. The combined flow rate of all these wells is 1,280 gallons per minute, which is equivalent to about 55.3 million gallons per month. Assuming a reasonable pumping frequency (duty cycle) of 65%, the monthly water production from all these wells would be only about 35.9 million gallons (Table 1).

Q. What is the basis for your assumption of a 65% duty cycle?

A. I was privileged to have been selected as the *Distinguished McEllhiney Lecturer* by the National Ground Water Association, so during the past year, I have presented over 30 lectures to professional organizations on the topic: *Life-Cycle Economic Analysis of Water Wells with Considerations for Design and Construction.* In preparation for that lecture series, I evaluated actual construction costs of 70 public supply wells across the state of Arizona. That evaluation added to other information I had already obtained during consulting projects on this topic for a large municipality and large private water company in Arizona. From the large body of evidence I had collated and reviewed, the average duty cycle for pumping of public supply wells for systems was 65%. The McEllhiney Lecture was presented in 17 states and in three other countries, and I never encountered a contradiction to this duty cycle assumption during my lecture series. Based on that research and the experience of my lecture tour, I

consider the value of 65% to be a reasonable duty cycle number for pump operation in private water companies and municipalities.

Q. Did the research you conducted in preparation for your lecture tour provide any other insights that are relevant to this testimony?

A. Yes. For wells in Arizona that have low-carbon steel well casings and screens, I found that the typical life expectancy of a well is approximately 25 years. After that period of time, most low-carbon steel wells have exceeded their useful life and must be decommissioned and replaced. Again, this is based on review of multiple wells from across the state and reports from individuals who operate wells fields for municipal and private water purveyors.

Q. How does that typical life expectancy for low-carbon steel wells compare with the ages of the Company wells?

A. Company Wells No. 2D, No. 7 and No. 8 were installed within the past five years or so, and those wells are currently performing efficiently, as expected. The older wells – No. 3, No. 4, and No. 6 – have substantially exceeded the typical longevity of Arizona low-carbon steel wells of that age. Although there are examples of wells that last longer than 25 years, it is by far more common for low-carbon steel wells to come to the end of their useful life at the age of about 25, due to corrosion and structural degradation that accumulates of the years. This demonstrates that Company has operated this water system in such a fashion as to maximize the utility and value of each well far beyond the typical timeframe, which has enabled them to reduce well replacement costs for their customers. However, the recent videos for Wells No. 3, No. 4, and No. 6 clearly indicate that although those wells may continue to play a

supporting role as backup or conditional water supply sources, their structural condition and age make it unwise for these wells to serve as primary water sources.

Q. So, with the assumptions of a 65% duty cycle and 25-year life expectancy of the older Company wells, what would be the vulnerabilities to system reliability?

A. As I mentioned previously, the scenario on Table 1A shows that in the case where Wells 2D, 3, 7, and 8 were all pumping, the monthly water production would be approximately 35.9 million gallons per month (Table 1). We have to keep in mind, however, that the reported pump yield for these wells are annual averages and not actual daily or hourly values. There may be times when any individual pump produces somewhat less than these values due to daily or seasonal fluctuations in the water table, or due to wear and tear on the pump equipment. In addition, there are inevitable equipment failures and required maintenance that could also impact the real-time pump yield values. It is the responsibility of the water company to meet peak-day and peak-hour demands for water supply and fire protection flow requirements, so just barely meeting the average annual or monthly water demand is inadequate. The Company monthly water demands from 2011 that Ms. Hains presented in her testimony indicated a monthly water demand of approximately 21,000 to 33,000 gallons. Table 1A shows that the summertime monthly demands can be met with the existing system (including Well No. 8), but if Well No. 3 is excluded (Table 1B), the water supply is significantly compromised. To an even greater extent, if Well No. 8 is excluded from the water system (Table 1C), the water system is compromised to the extent that it cannot meet the summertime monthly demands at a 65% duty cycle, and would even struggle to meet those demands at a 100% duty cycle. If Well No. 8 were excluded from the water system, there would also be a very good

possibility of the additional failure of Well No. 3, due to its advanced age, and this scenario is shown in Table 1D. In this scenario, the water supply is significantly inadequate to meet the water demands of the Company system (Table 1).

Q. **Can you summarize your professional opinion regarding the well videos and well records of the Company wells you reviewed?**

A. Wells No. 1, 2A, 2B, 2C, and 5 are out of service, and the structural conditions of Wells No. 3, No. 4, and No. 6 are extremely poor. Thus, Wells 3, 4, and 6 should not be relied upon as critical water sources for the Company system, because these wells could structurally fail at essentially any time. Well No. 8 is useful to provide a reliable water supply for the Company system, and it is demonstrably used during periods of peak demand, and also to enable Company to maintain operational flexibility to conduct routine well maintenance without disruption of service to its customers. Additionally, Well No. 8 provides a necessary water supply in the event of a failure of one of the older wells in the system. Well No. 8 is necessary and increases the reliability and cost-efficiency of the Company system.

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

A. Yes, it does.

EXHIBIT 1

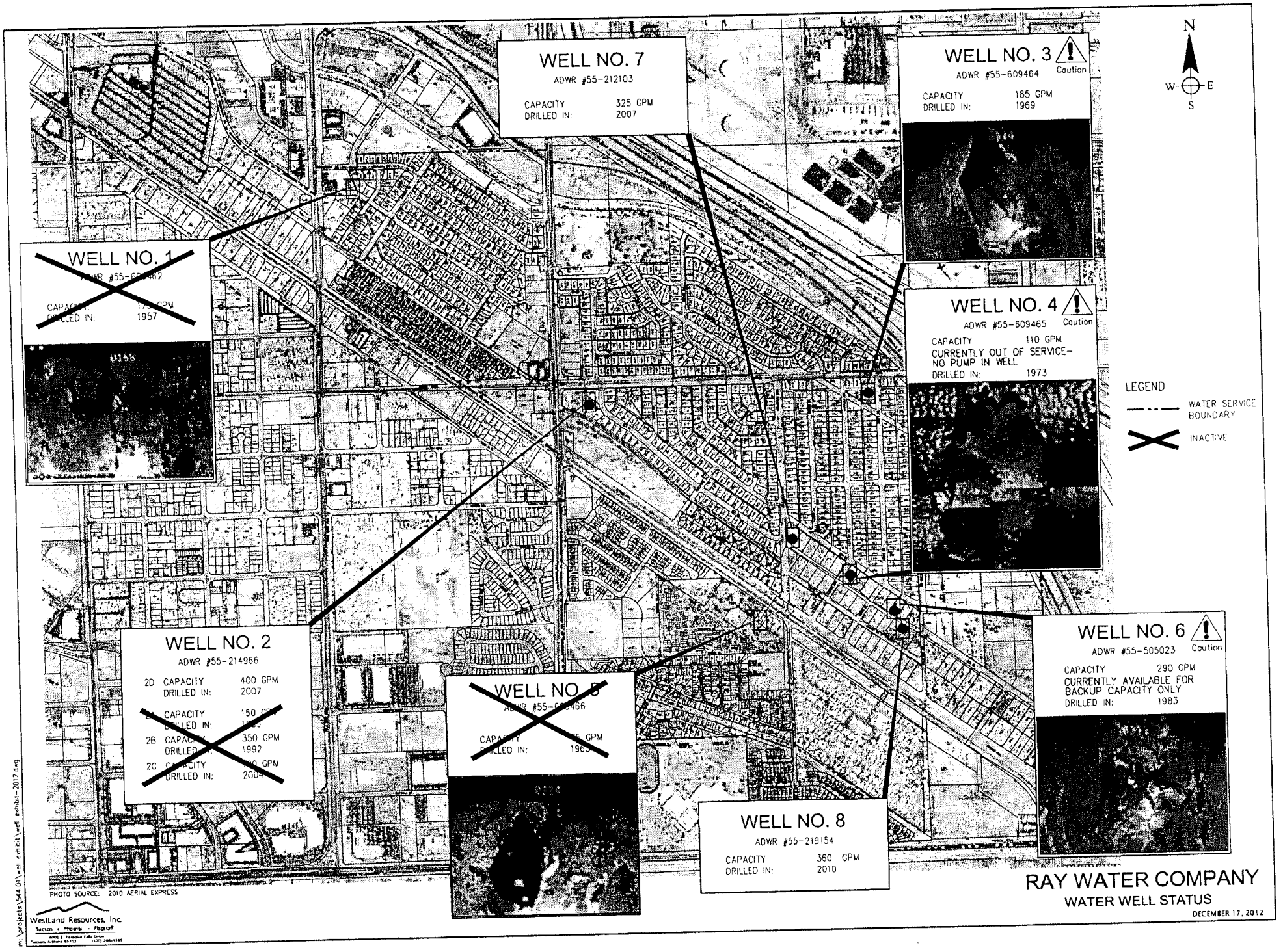
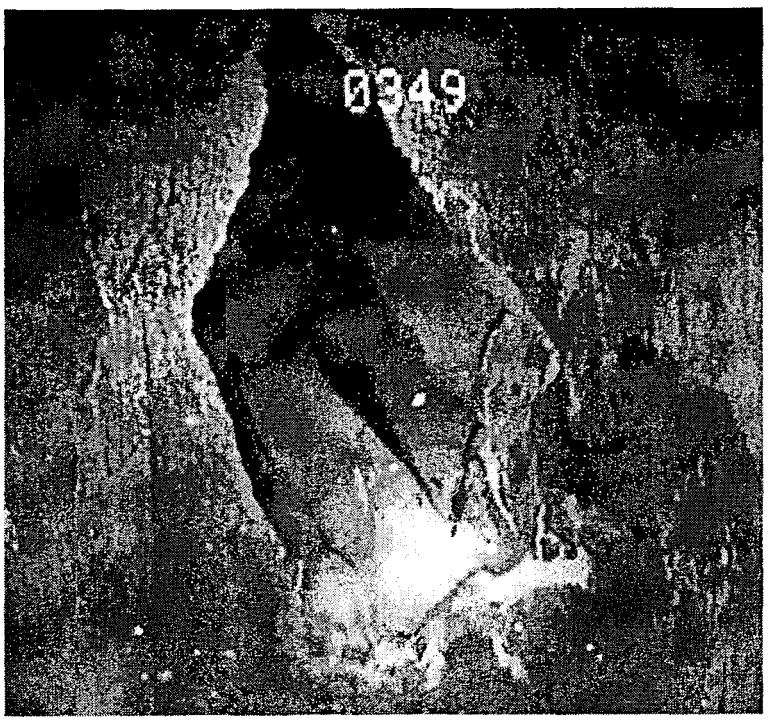
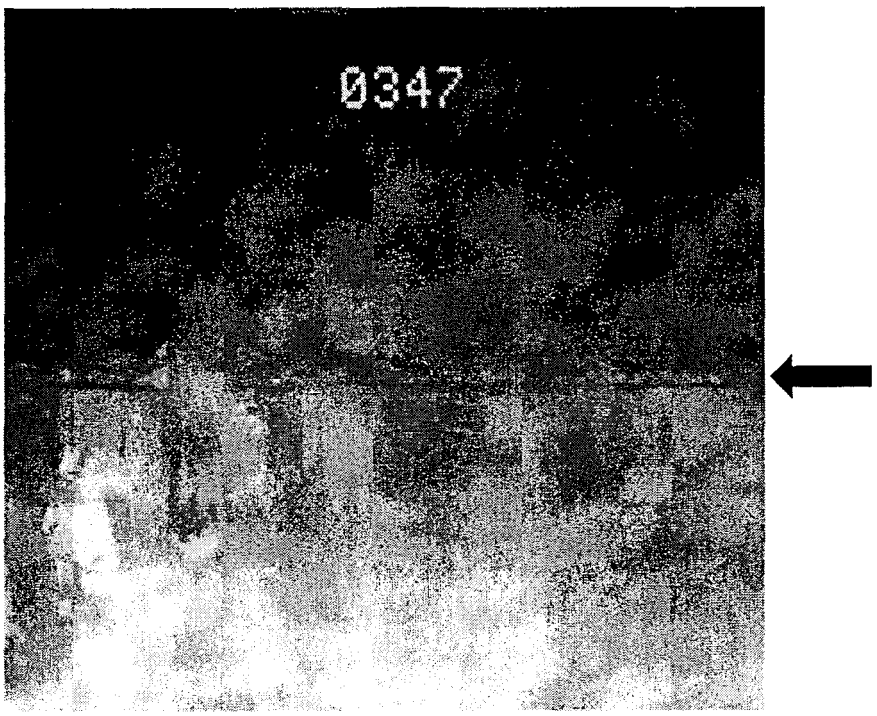

WELL NO. 7
ADWR #55-212103
CAPACITY 325 GPM
DRILLED IN: 2007
WELL NO. 3
Caution
ADWR #55-609464
CAPACITY 185 GPM
DRILLED IN: 1969
N
W
E
S
WELL NO. 1
CAPACITY
DRILLED IN: 1957
WELL NO. 4
Caution
ADWR #55-609465
CAPACITY 110 GPM
CURRENTLY OUT OF SERVICE-
NO PUMP IN WELL
DRILLED IN: 1973
LEGEND
WATER SERVICE BOUNDARY
INACTIVE
WELL NO. 2
ADWR #55-214966
2D CAPACITY 400 GPM
DRILLED IN: 2007
CAPACITY 150 GPM
DRILLED IN:
2B CAPACITY 350 GPM
DRILLED IN: 1992
2C CAPACITY GPM
DRILLED IN: 2004
WELL NO. 5
CAPACITY GPM
DRILLED IN: 1965
WELL NO. 6
Caution
ADWR #55-505023
CAPACITY 290 GPM
CURRENTLY AVAILABLE FOR
BACKUP CAPACITY ONLY
DRILLED IN: 1983
WELL NO. 8
ADWR #55-219154
CAPACITY 360 GPM
DRILLED IN: 2010
PHOTO SOURCE: 2010 AERIAL EXPRESS
Westland Resources, Inc.
Tucson • Phoenix • Flagstaff
RAY WATER COMPANY
WATER WELL STATUS
DECEMBER 17, 2012
m:\projects\344.01\well exhibit\well exhibit-2012.dwg

EXHIBIT 2

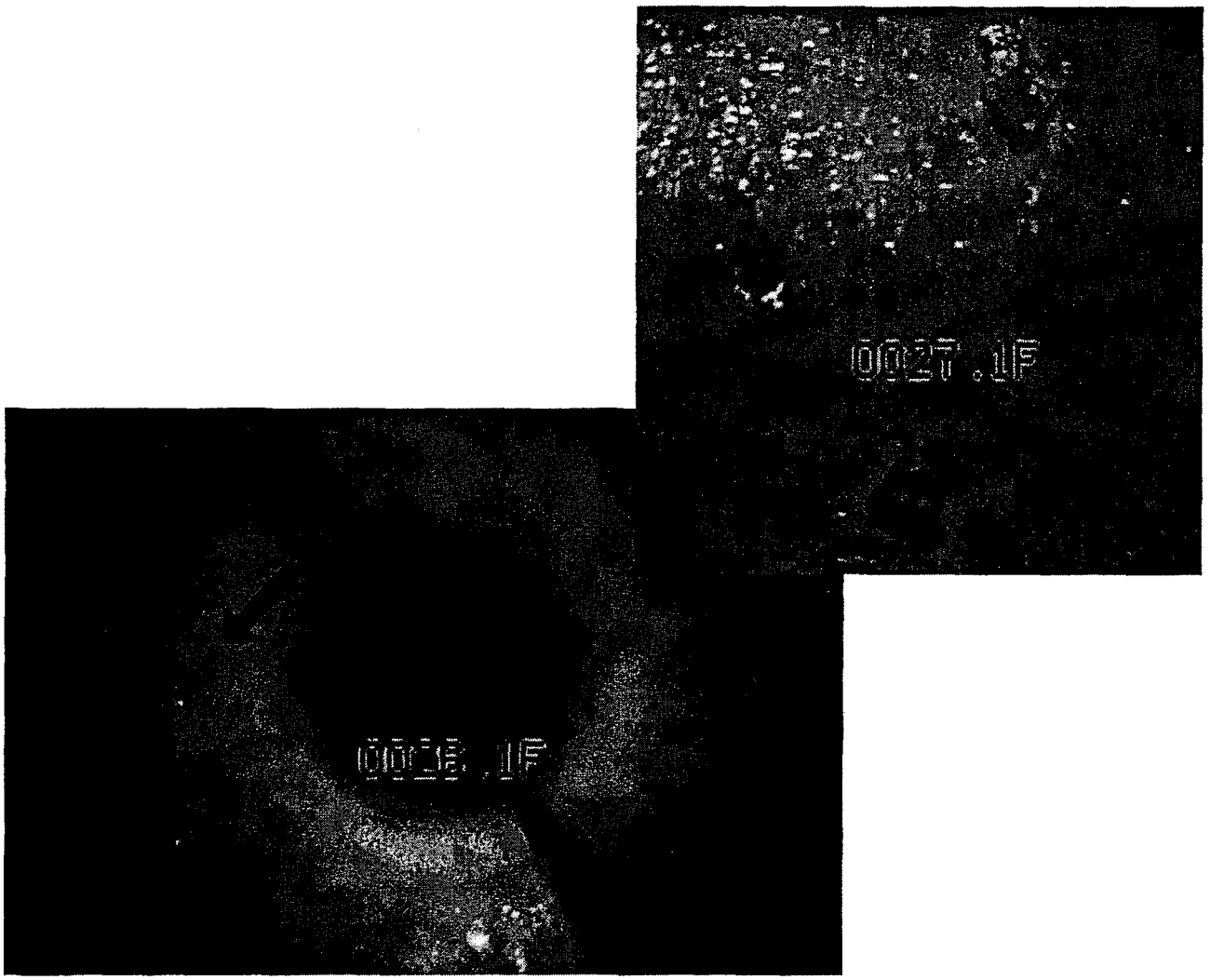


Side view **of Well No. 3 at 347 feet* below land surface, showing a corrosion hole in the well casing.**



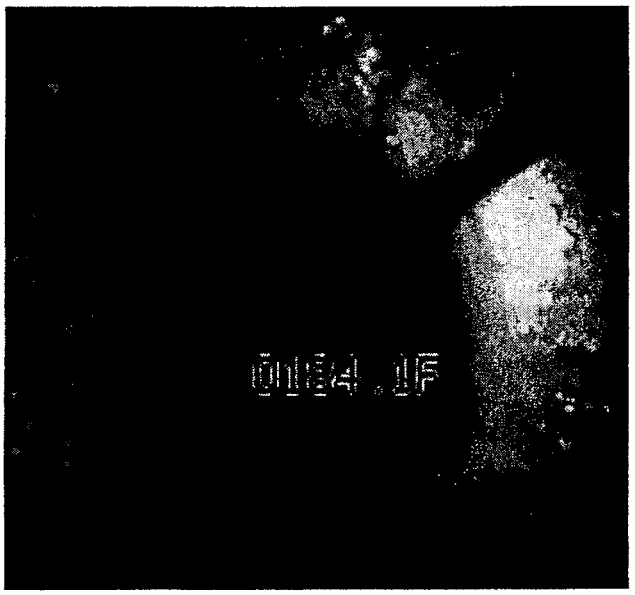
Side view **of Well No. 3 at 345 feet* below land surface, showing the top edge (see arrow) of the casing patch that was installed from 345 to 349 feet.**

*** Note:** The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

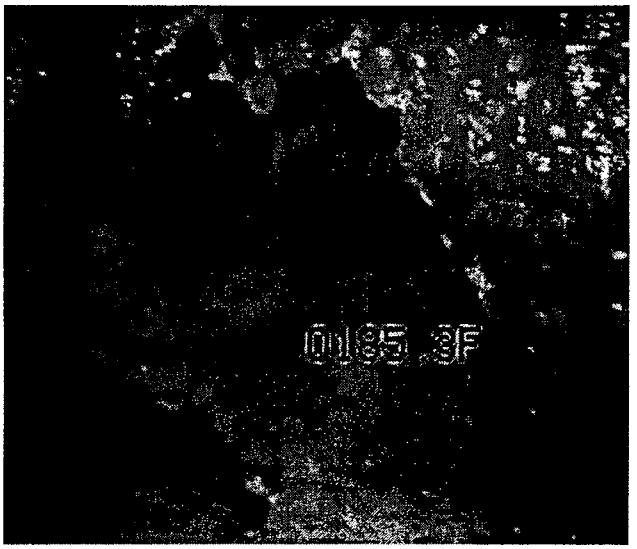


Well No. 4 at 27 feet* below land surface, showing small corrosion holes (see arrows) in the well casing in *downward view* (left photo) and *Side view* (right photo).

*** Note:** The side-view camera is positioned one foot above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 101-foot side view).

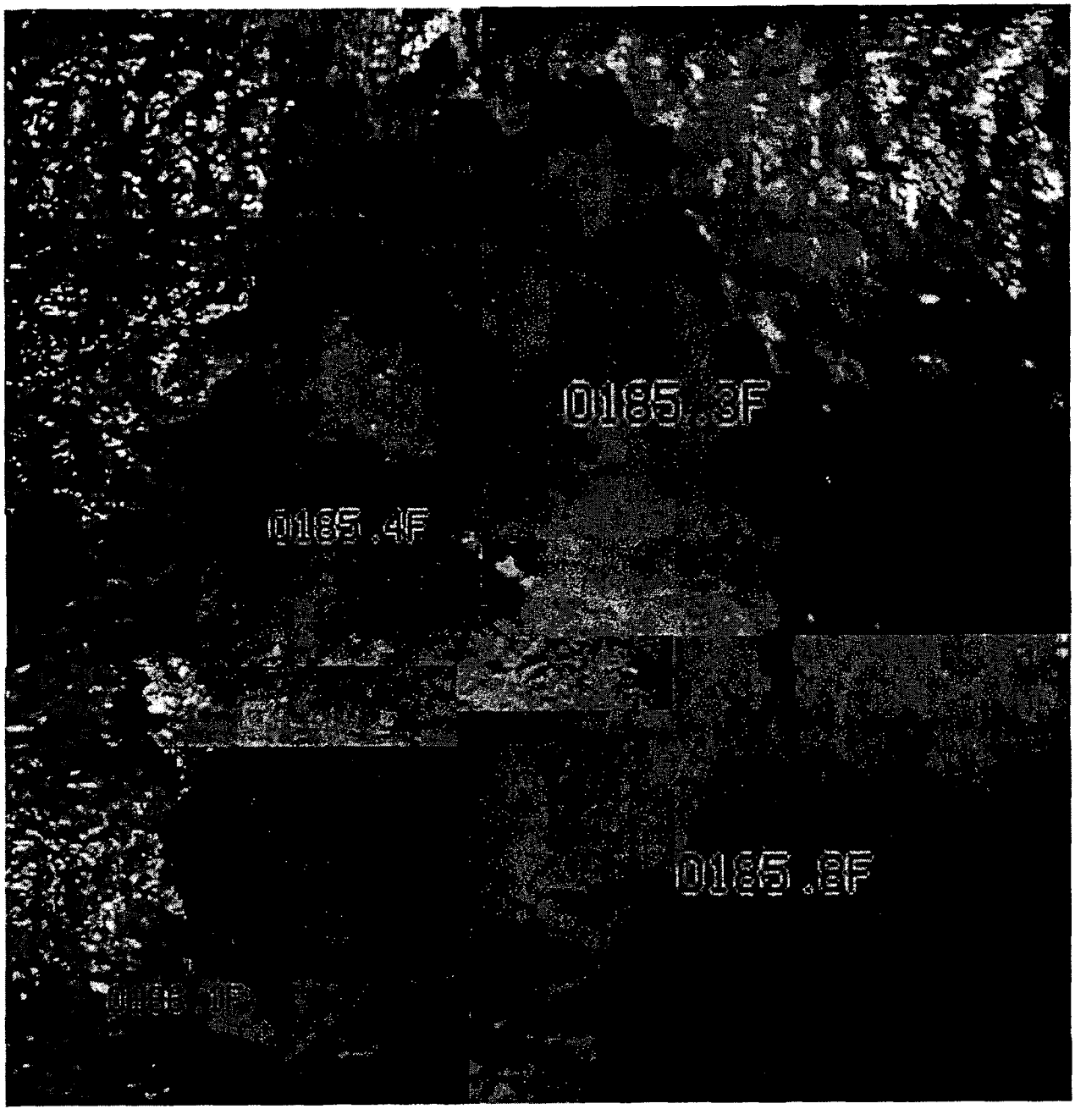


Downward views **of Well No. 4 at 184 feet* below land surface, showing an extremely large corrosion hole, with about 1/4 of well casing completely gone. The top portion of the hole is on the left photograph, and the bottom of the hole is on the right photograph.**



Side views **of Well No. 4 at 184 feet* below land surface, showing details of the corrosion hole.**

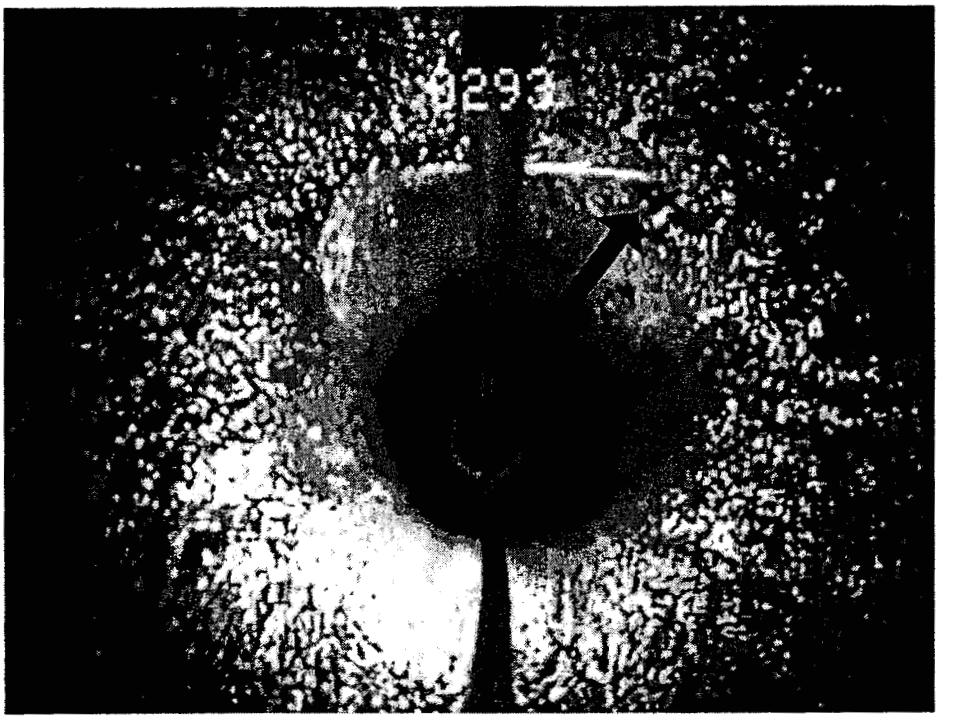
*** Note:** The side-view camera is positioned one foot above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 101-foot side view).

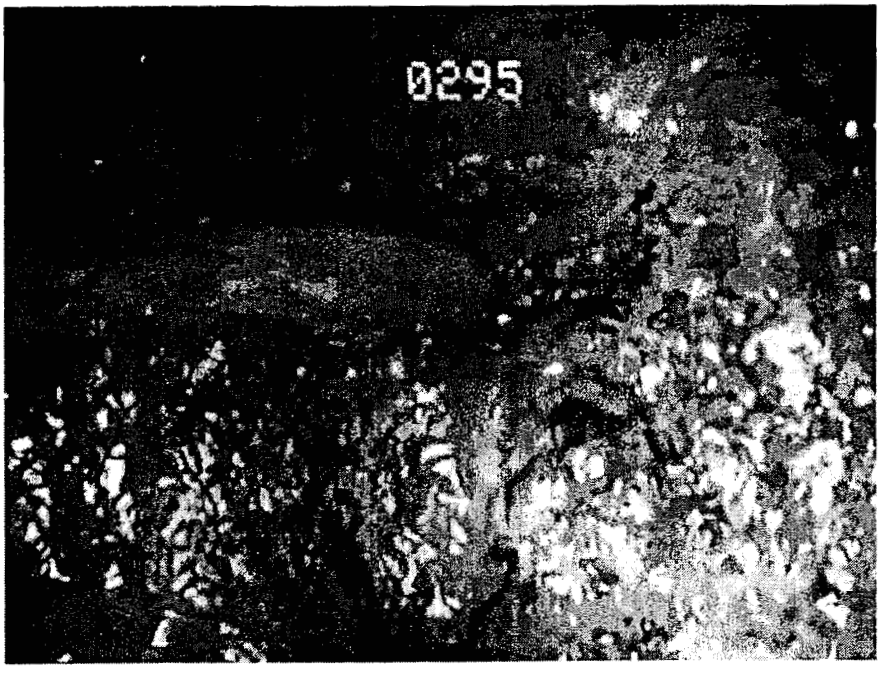


Composite *Side view* of Well No. 4 at 184 feet* below land surface, showing a large corrosion hole in the well casing.

*** Note:** The side-view camera is positioned one foot above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 101-foot side view).

Downward view of Well No. 6 at 293 feet* below land surface, showing cascading water (see arrow) entering the well through a hole in the split casing.

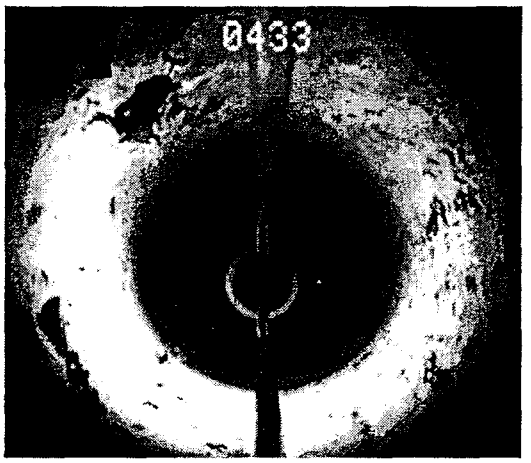




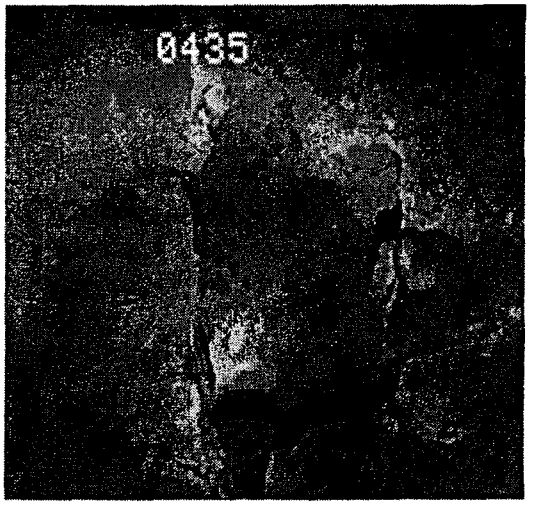
Side view of Well No. 6 at 293 feet* below land surface, showing a close up view of cascading water entering the well.

*** Note:** The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

Side view **of Well No. 6 at 391 feet* below land surface, showing close up view of split well casing and gravel pack coming through.**

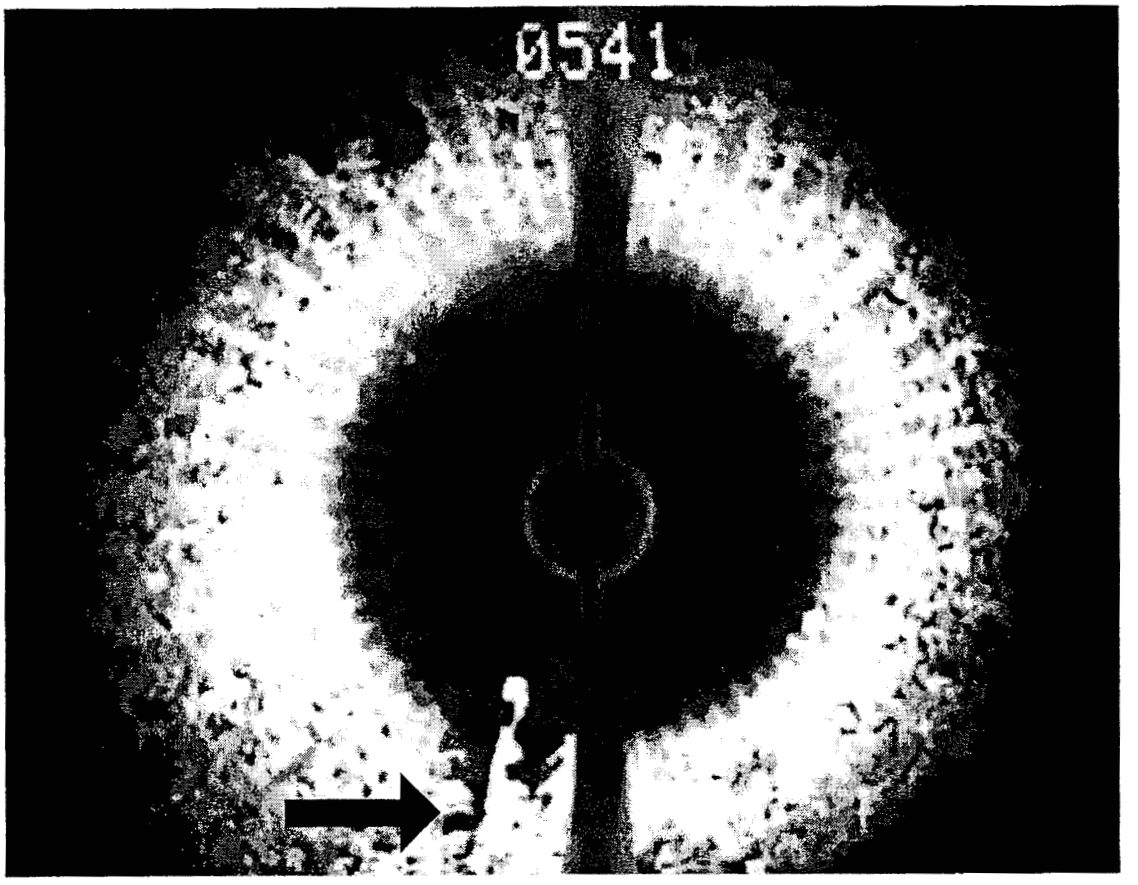


Downward view **of Well No. 6 at 433 feet* below land surface, showing corrosion hole in well casing (see arrow).**



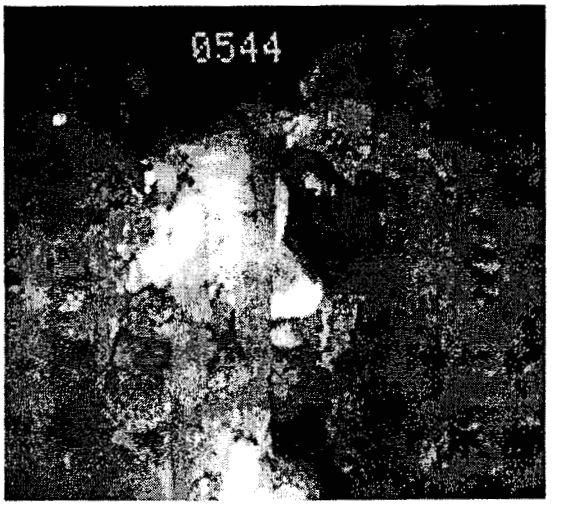
Side view **of Well No. 6 at 433 feet* below land surface, showing detail view of corrosion hole in well casing.**

*** Note:** The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



Downward view **of Well No. 6 at 541 feet* below land surface, showing ripped wire-wrap well screen (see arrow).**

Side view **of Well No. 6 at 542 feet* below land surface, showing close up view of ripped well screen with gravel pack coming through.**



Side view **of Well No. 6 at 542 feet* below land surface, showing close up view of ripped well screen with gravel pack coming through.**

*** Note:** The side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

EXHIBIT 3

TABLE 1 WATER PRODUCTION SCENARIOS - RAY WATER COMPANY

A. Water Production - All active wells in use

Well No.	Year Drilled	Age (years)	Pump Yield (gpm)
2D	2007	5	400
3	1969	43	185
7	2007	5	325
8	2010	2	370
		TOTAL =	1,280 gpm
		=	1,843,200 gal/day
		=	55,296,000 gal/month
		=	35,942,400 gal/month @ 65% duty cycle

B. Water Production - Well No. 3 out of service Scenario

Well No.	Year Drilled	Age (years)	Pump Yield (gpm)
2D	2007	5	400
7	2007	5	325
8	2010	2	370
		TOTAL =	1,095 gpm
		=	1,576,800 gal/day
		=	47,304,000 gal/month
		=	30,747,600 gal/month @ 65% duty cycle

C. Water Production - Well No. 8 out of service Scenario

Well No.	Year Drilled	Age (years)	Pump Yield (gpm)
2D	2007	5	400
3	1969	43	185
7	2007	5	325
		TOTAL =	910 gpm
		=	1,310,400 gal/day
		=	39,312,000 gal/month
		=	25,552,800 gal/month @ 65% duty cycle

D. Water Production - Wells 3 and 8 our of service Scenario

Well No.	Year Drilled	Age (years)	Pump Yield (gpm)
2D	2007	5	400
7	2007	5	325
		TOTAL =	725 gpm
		=	1,044,000 gal/day
		=	31,320,000 gal/month
		=	20,358,000 gal/month @ 65% duty cycle

Ray Water
Analysis of Current Revenue and Rates versus Staff's Recommendation
Based on Bill Count Revenue Amounts

Staff Proposed Metered Water Revenue	$ 707,799
Adjusted Test Year Metered Water Revenue	558,323
Staff Proposed Increase Amount	$ 149,476

	Test Year Monthly Minimum	Staff Proposed Monthly Minimum	Difference	% Change	Test Year Commodity	Staff Proposed Commodity	Difference	% Change	Total Test Year Revenue	Total Staff Proposed Revenue	Difference	% Change	Test Year Number of Customers	Staff Average Increase per Customer per Year	Staff Average Increase per Customer per Month
Residential															
5/8"	$ 194,434	$ 261,570	$67,136	34.53%	$ 211,681	$ 183,728	$(27,953)	-13.21%	$ 406,115	$ 445,298	$ 39,183	9.65%	1,453	$ 26.96	$ 2.25
1"	4,680	4,800	120	2.56%	7,691	12,483	4,792	62.30%	12,371	17,283	4,912	39.70%	10	491.17	40.93
1.5"	1,488	1,488	-	0.00%	858	1,229	371	43.30%	2,346	2,717	371	15.83%	2	185.74	15.48
2"	6,710	6,710	-	0.00%	5,748	10,073	4,324	75.23%	12,458	16,783	4,324	34.71%	5	850.69	70.89
4"	5,940	5,940	-	0.00%	53,858	111,636	57,778	107.28%	59,798	117,576	57,778	96.62%	3	19,259.33	1,604.94
Total Residential	$ 213,252	$ 280,508	$67,256	31.54%	$ 279,837	$ 319,149	$ 39,312	14.05%	$ 493,089	$ 599,657	$ 106,568	21.61%	1,473	$ 72.34	$ 6.03
Commercial															
5/8"	$ 1,371	$ 1,845	$ 474	34.53%	$ 9,481	$ 17,542	$ 8,061	85.02%	$ 10,853	$ 19,387	$ 8,535	78.64%	10	$ 832.65	$ 69.39
1"	8,619	8,840	221	2.56%	3,060	3,743	683	22.31%	11,679	12,583	904	7.74%	18	49.07	4.09
1.5"	744	744	-	0.00%	16	6	(9)	-60.48%	760	750	(9)	-1.23%	1	(9.38)	(0.78)
2"	6,490	6,490	-	0.00%	1,279	1,625	346	27.05%	7,769	8,115	346	4.45%	5	70.34	5.86
3"	1,500	1,500	-	0.00%	10,546	21,592	11,046	104.74%	12,046	23,092	11,046	91.70%	1	11,045.93	920.49
6"	3,960	3,960	-	0.00%	17,789	36,770	18,981	106.70%	21,749	40,730	18,981	87.27%	1	18,980.88	1,581.74
Total Commercial	$ 22,684	$ 23,379	$ 695	3.06%	$ 42,172	$ 81,279	$ 39,107	92.73%	$ 64,856	$ 104,658	$ 39,802	61.37%	37	$ 1,087.97	$ 90.66
Hydrant	$ -	$ -	$ -	0.00%	$ 1,882	$ 3,933	$ 2,052	109.03%	$ 1,882	$ 3,933	$ 2,052	109.03%	Not Meaningful		
Totals	$ 235,936	$ 303,887	$67,951	28.80%	$ 323,890	$ 404,361	$ 80,471	24.85%	$ 559,826	$ 708,248	$ 148,422	26.51%	1,510	$ 98.30	$ 8.19
								Bill Count Rounding	(1,503)	(449)	1,054				
								Tie to Staff Surrebuttal Schedule CSB-15, Line 1	$ 558,323	$ 707,799	$ 149,476				

ORIGINAL

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swene@law-msh.com
Attorneys for Ray Water Company, Inc.

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EXHIBIT
A-4
ADMITTED

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
GARY PIERCE, CHAIRMAN
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP
BRENDA BURNS

APPLICATION OF RAY WATER COMPANY FOR A PERMANENT INCREASE IN ITS RATES	Docket No. W-01380A-12-0254 **FILING OF MATT ROWELL'S REBUTTAL TESTIMONY**

Ray Water Company, ("Company"), hereby files rebuttal testimony of Matt Rowell. *See* Attachment 1.

Dated this 4th day of January, 2013.

MOYES SELLERS & HENDRICKS LTD.

Steve Wene

Steve Wene

Arizona Corporation Commission
DOCKETED
JAN 04 2013
DOCKETED BY

Original and 13 copies of the foregoing filed this 4th day of January, 2013, with:

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

Dinney Herbert

ATTACHMENT 1

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
GARY PIERCE, CHAIRMAN
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP
BRENDA BURNS

APPLICATION OF RAY WATER COMPANY FOR A PERMANENT INCREASE IN ITS RATES	Docket No. W-01380A-12-0254 **REBUTTAL TESTIMONY OF MATTHEW ROWELL**

Q. Are you the same Matthew Rowell that submitted testimony in support of Ray Water Company's ("Company" or "Ray") Application in this Docket?

A. Yes.

Q. Please summarize your rebuttal testimony.

A. Staff's recommended prohibition on the Company's use of short term debt should be rejected. Staff's capital structure and cost of debt are appropriate only if Well No. 8 is included in rate base. If Well No. 8 is excluded from rate base a 100% equity capital structure should be adopted. Staff's proposed ROE of 9.5% is acceptable but several factors will deny Ray the opportunity to actually earn a 9.5% ROE. If those factors are not addressed a ROE of 10.9% is necessary. Further, Staff apparently does not understand my testimony regarding my proposed 65 basis point risk adjustment, which I will explain in detail below to ensure the misunderstandings are resolved. Nonetheless, Staff's direct testimony on this issue should be afforded little weight.

Q. At page 8 of his testimony Mr. Cassidy raises concerns regarding a line of credit and seems to indicate that the Company is prohibited from accessing this line of credit. How do you respond?

A. As long as the Company uses the line of credit as a source of short term (less than 12 month) financing, Staff's concerns are unfounded.

Q. Does this short term debt issue have any bearing on the revenue requirement or rates in this proceeding?

A. No. The Company currently has no short term debt so this is a prospective issue only.

Q. Please discuss the Company's and Staff's proposed cost of debt.

A. The Company proposes a cost of debt of 6.25%. Staff is proposing a cost of debt of 6.3% which is acceptable to the Company.

Q. Please discuss the Company's and Staff's proposed capital structures.

A. Staff is proposing a capital structure made up of $87,346 of debt and $1,059,748 in equity or 7.61% debt and 92.39% equity. This is somewhat different from the capital structure proposed by the Company: 7.41% debt and 92.59% equity. I do not fully agree with how Staff developed their proposed capital structure, nonetheless, the difference is immaterial. So in order to decrease the issues in dispute, the Company accepts Staff's proposed capital structure subject to the caveat below.

Q. Does the testimony of Staff witness Crystal Brown raise any concerns regarding Ray's capital structure?

A. Yes. Staff is recommending that Well No. 8, which was financed with the loan authorized in Decision 71691, not be included in rate base (Staff Rate Base Adjustment #1). All of the debt included in the Company's capital structure was used to finance Well No 8. If Well No 8 is removed from rate base then the corresponding debt should be removed from the capital structure. So if the Commission were to adopt Staff's recommendation regarding Well No 8, the capital structure should be 100% equity. If the

Commission sides with the Company on this issue and allows Well No 8 into rate base than Staff's recommended capital structure of 7.61% debt and 92.39% equity is appropriate.

Q. Do you have any general comments about Staff's cost of equity recommendation?

A. Staff's cost of equity recommendation is, on the whole, reasonable. Staff's decision not to impose "a downward financial risk adjustment" because Ray does not have access to equity capital markets is a rational and realistic approach to the capital structure issues in this case. Further, Staff's decision to add a positive 60 basis point "Economic Assessment Adjustment" to the cost of equity estimates derived from averaging their financial models is a reasonable and fair way to deal with the shortcomings of those models.

Q. Staff is proposing a 9.5% ROE, how does that compare to ROEs approved around the country?

A. Each Fall, Public Utilities Fortnightly publishes its Rate Case Study that lists the approved ROE's for gas and electric utilities around the country. The 2012 edition lists authorized ROEs for 79 different utilities across the country. Staff's recommended ROE of 9.5% is less than 82% of those authorized ROEs.

Q. What is your response to Staff's proposed 9.5% ROE?

A. A 9.5% ROE is low. But to limit the number of issues in dispute, the Company is willing to agree to the 9.5% ROE provided the Company actually has an opportunity to earn 9.5%. The main problem is that Staff's other recommendations and adjustments deny the Company the opportunity to earn 9.5%. In other words, Staff's recommendations and adjustments discussed below render the 9.5% ROE illusory, and

the Company will agree to this proposed ROE only if those recommendations and adjustments are not adopted.

Q. Does Staff's rate design adversely affect Ray's opportunity to earn its authorized ROE?

A. Yes. There are two primary issues. First, Staff's tiered rates are intended to promote water conservation. But when setting rates to meet the revenue requirement, Staff presumes that water conservation will not occur. So we know that tiered rates will lead to conservation, which leads to revenue requirements not being met, which leads to authorized ROEs not being met. The second issue is that under Staff's proposal most of the monthly minimum charges do not change materially. This means the bulk of the increase is set forth in the commodity charges. Thus, as customers use less water, the adverse impact to the Company's revenue is even greater.

This is why a revenue adjustment mechanism as recommended in the Rebuttal Testimony of Sonn Rowell is appropriate. Alternatively, this issue could be addressed by putting a much higher percentage of the increase on the monthly minimum charge. Another alternative is to include an upward adjustment to the ROE.

Q. **Is it normal to assign 100% of a recommended increase to commodity charges?**

A. No. This is a radical departure from normal ratemaking practices. Staff has provided no explanation for why they chose this position. Staff's radical and unexplained recommendation insures that Ray will not have an opportunity to achieve its authorized ROE.

Q. How do you recommend that these rate design issues be dealt with?

A. The problems associated with tiered rates can be alleviated through a revenue adjustment mechanism as recommended in the Rebuttal Testimony of Sonn Rowell. It

could also be alleviated by putting a much higher percentage of the increase on the monthly minimum charge. Another alternative is to include an upward adjustment to the ROE.

Q. What accounting adjustments recommended by Staff will deny Ray the opportunity to earn its authorized rate of return?

A. Staff is recommending several adjustments that incorrectly reduce Ray's recoverable expenses. These adjustments artificially reduce Ray's operating costs (on paper). A revenue requirement based on artificially low operating costs ensures that Ray's authorized ROE is unobtainable. For example, Staff Adjustment #6 reduces rent expense based on incorrect assumptions about Ray's Court Avenue location. Staff Adjustment # 7 artificially reduces maintenance expenses for Ray's vehicles. Staff Adjustment #10 results in an artificially low level of property taxes.

Q. What about Staff's recommendation to exclude Well No. 8 from rate base?

A. Of course excluding used and useful plant from rate base will result in an inability to achieve the authorized ROE. Staff's recommendation regarding Well No. 8 also raises other issues relevant to ROE. This recommendation demonstrates the extreme risks faced by Arizona water utilities. A utility that makes pro-active investments to replace aging infrastructure faces the risk of having those investments disallowed. A utility that foregoes such investments faces the risk that its existing infrastructure will fail catastrophically. Such risks are not reflected in the standard ROE estimation techniques employed by Staff (the CAPM and DCF).

Staff's recommendation to exclude Well No. 8 from rate base has increased rate case expense because it has forced the Company to hire additional engineering witnesses. If this additional rate case expense is not included in rates it will further inhibit Ray from achieving its authorized ROE.

Q. Are there other aspects of Staff's engineering testimony that you find troubling?

A. Yes. Staff is recommending the adoption of 5 BMP tariffs, water loss reduction measures, and a study on drive motors. Yet, there is no provision in rates for the costs of complying with these recommendations. Adoption of these recommendations without approving revenue enhancements to cover their costs is further insurance that Ray will not have an opportunity to achieve its authorized ROE

Q. Please summarize your testimony regarding the appropriate ROE for Ray.

A. If the Staff recommendations discussed above are not adopted an authorized ROE as recommended by Staff (9.5%) is acceptable. However, if these Staff recommendations are adopted an authorized ROE as I originally recommended (10.9%) is necessary to account for the fact that Staff's recommendations deny the Company an opportunity to achieve its authorized ROE.

Q. How do you respond to Staff's contention that the Comparable Earnings method is inappropriate (at pages 37 and 38 of Mr. Cassidy's Direct Testimony)?

A. First, comparable earnings is an accepted method of developing authorized ROEs; it is employed by many utility commissions around the country and it is included as a legitimate method in every text on the subject of utility ROE that I am aware of. Second, Staff's critique of the comparable earnings method completely ignores the standards laid out in the Hope and Bluefield cases. While Staff insists that only forward looking factors be included in ROE analysis, the Hope and Bluefield cases contain no such limitation. In fact, the standards set forth in Hope and Bluefield requires that authorized ROEs be "commensurate with returns on investments in other enterprises having corresponding risks."[1] Third, Staff asserts that I am implicitly recommending that "returns on equity

---

[1] *Federal Power Commission et. al. v. Hope Natural Gas Company (320 U.S. 591).*

authorized by other regulatory jurisdictions are appropriate for RWC"[2] even though I state explicitly that returns authorized in other jurisdictions are not sufficient to account for the risks of an Arizona water utility and I propose and adjustment for those risks. Fourth, Staff criticizes the use of historical accounting returns but employs such returns itself when developing its DCF model.[3] Finally, each technique for developing authorized ROEs has its pros and cons. Staff's focus on the cons of the Comparable Earnings technique with no acknowledgement of its pros is not reasonable.

Q. **Staff characterizes your proposed risk adjustment as a small company risk premium. How do you respond?**

A. That characterization is wrong. I proposed a 65 basis point adjustment to account for the demonstrated difference (both in terms of level and spread) between achieved ROEs by Arizona utilities and the sample utilities. I listed several factors that I believe result in that difference. The small size of Arizona's utilities was just one of those several factors. In their data requests, Staff asked questions about the tiered rates factor.[4] Ironically, Staff is recommending an adjustment to their ROE recommendation very similar to the one I proposed (60 basis points vs. 65). Staff did not offer a detailed rationale for their adjustment. So even though Staff mischaracterizes my testimony, Staff is offering virtually the same result with no explanation, so their criticism should be afforded little weight.

Q. Does this conclude your testimony?

A. Yes

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[2] Direct Testimony of John Cassidy page 37 line 18.
[3] See Direct Testimony of John Cassidy page 19 lines 10-11.
[4] Staff data request JAC 8.11.

EXHIBIT
A-5
ADMITTED

Updated Comparable Earnings Analysis (using simple average.)

Company	Symbol	Realized ROE as of 9/30/12	
American States	AWR	11.26%	
Aqua American	WTR	12.77%	
California Water	CWT	9.62%	
Connecticut Water	CTWS	10.89%	
Middlesex Water	MSEX	7.43%	Water Company
SJW Corp	SJW	8.46%	Average
York Water Co.	YORW	9.14%	**9.94%**
Atmos Energy Corp	ATO	9.19%	
Laclede Group, inc.	LG	10.41%	
New jersey Resources Corporation	NJR	11.41%	
Northwest Natural Gas Co.	NWN	8.46%	
Piedmont Natural Gas Company	PNY	12.57%	NG Company
UGI CORP	UGI	**NOT INCLUDED**	Average
WGL Holdings, inc	WGL	10.88%	**10.49%**
Simple Average		**10.19%**	

WELL NO. 7
ADWR #55-212103
CAPACITY 325 GPM
DRILLED IN: 2007
WELL NO. 3
Caution
ADWR #55-609464
CAPACITY 185 GPM
DRILLED IN: 1969
WELL NO. 1
ADWR #55-609462
CAPACITY: 17[illegible] GPM
DRILLED IN: 1957
WELL NO. 4
Caution
ADWR #55-609465
CAPACITY 110 GPM
CURRENTLY OUT OF SERVICE-
NO PUMP IN WELL
DRILLED IN: 1973
WELL NO. 2
ADWR #55-214966
2D CAPACITY 400 GPM
DRILLED IN: 2007
2A CAPACITY 150 GPM
DRILLED IN: 1999
2B CAPACITY 350 GPM
DRILLED IN: 1992
2C CAPACITY [illegible] GPM
DRILLED IN: 2004
WELL NO. 5
ADWR #55-609466
CAPACITY [illegible] GPM
DRILLED IN: 1963
WELL NO. 6
Caution
ADWR #55-505023
CAPACITY 290 GPM
CURRENTLY AVAILABLE FOR
BACKUP CAPACITY ONLY
DRILLED IN: 1983
WELL NO. 8
ADWR #55-219154
CAPACITY 360 GPM
DRILLED IN: 2010
N
W
E
S
LEGEND
WATER SERVICE BOUNDARY
INACTIVE
EXHIBIT
tabbies
A-6
ADMITTED
PHOTO SOURCE: 2010 AERIAL EXPRESS
WestLand Resources, Inc.
Tucson • Phoenix • Flagstaff
4001 E. Paradise Falls Drive
Tucson, Arizona 85712
(520) 206-9585
m:\projects\544.01\well exhibit\well exhibit-2012.dwg
RAY WATER COMPANY
WATER WELL STATUS
DECEMBER 17, 2012

EXHIBIT
A-7
ADMITTED

ATTACHMENT A
Well Location and Condition Map

Ray Water Company

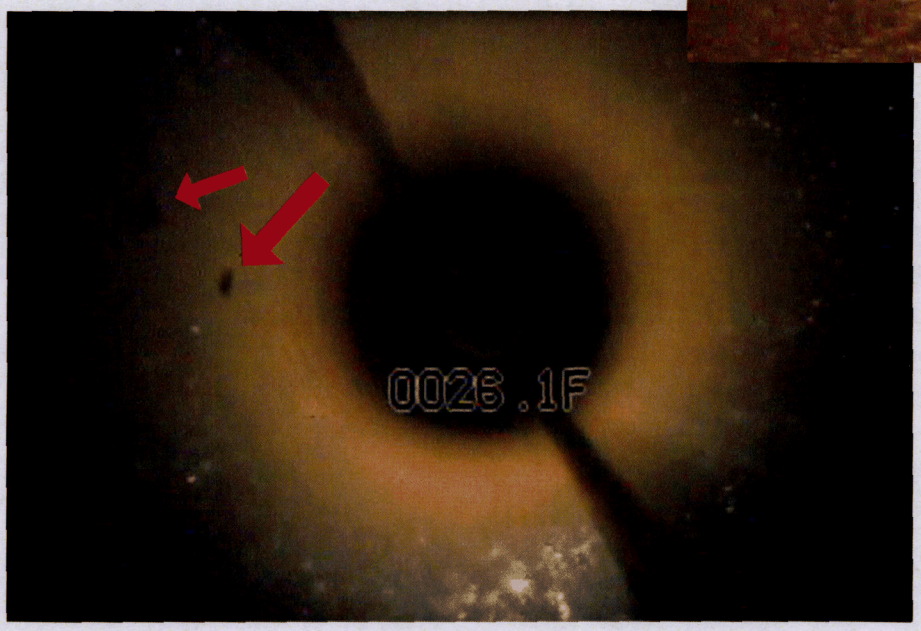
ATTACHMENT B
Images from Well Videos

Ray Water Company
Wells No. 3, No. 4, and No. 6

Side view **of Well No. 3 at 347 feet* below land surface, showing a corrosion hole in the well casing.**

Side view **of Well No. 3 at 345 feet* below land surface, showing the top edge (see arrow) of the casing patch that was installed from 345 to 349 feet.**

*** Note:** In this 2008 video, the side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



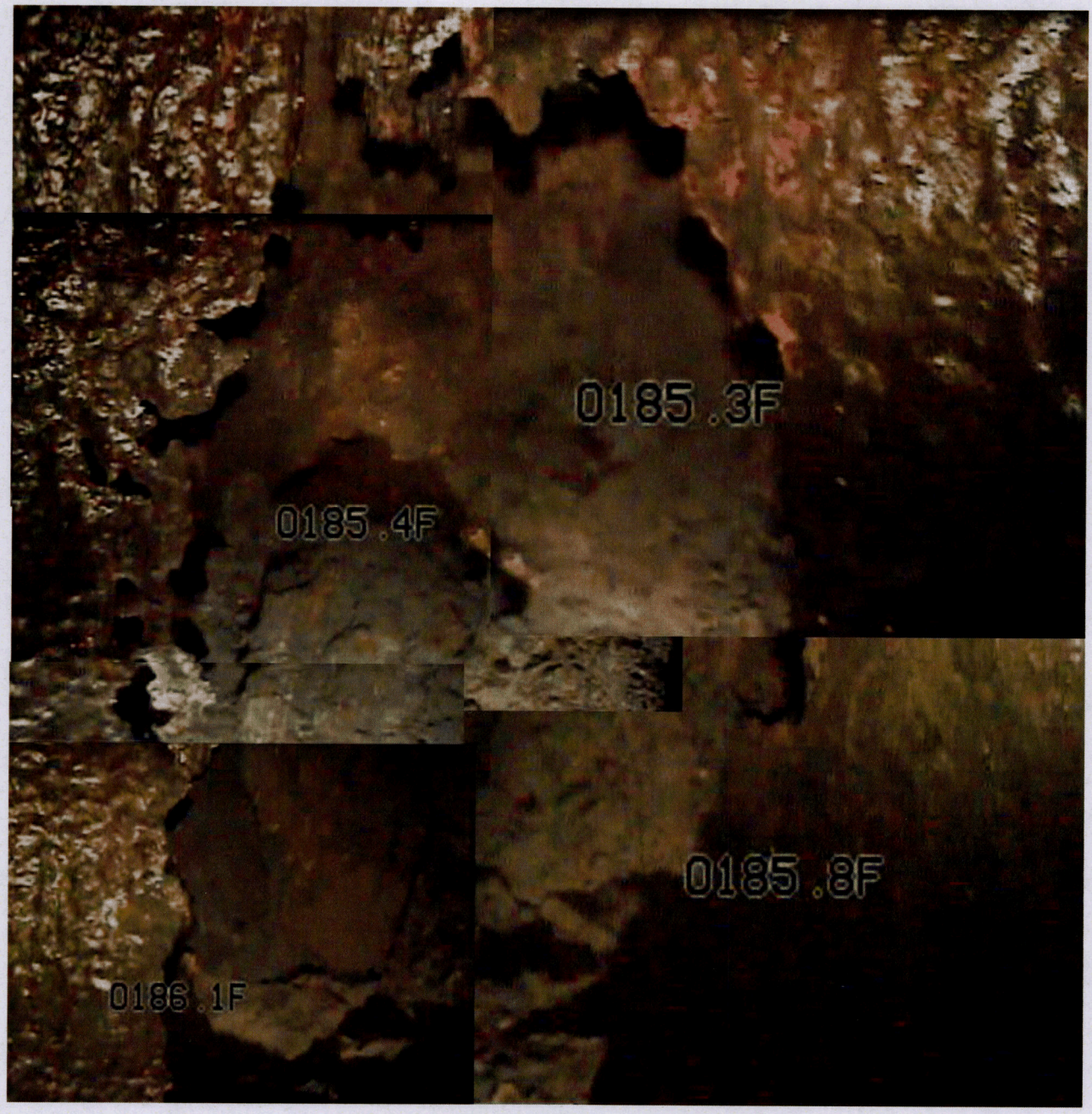
Well No. 4 at 27 feet* below land surface, showing small corrosion holes (see arrows) in the well casing in *downward view* (left photo) and *Side view* (right photo).

*** Note:** In this 2012 video, he side-view camera is positioned one foot above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 101-foot side view).

Downward views **of Well No. 4 at 184 feet* below land surface, showing an extremely large corrosion hole, with about 1/4 of well casing completely gone. The top portion of the hole is on the left photograph, and the bottom of the hole is on the right photograph.**

Side views **of Well No. 4 at 184 feet* below land surface, showing details of the corrosion hole.**

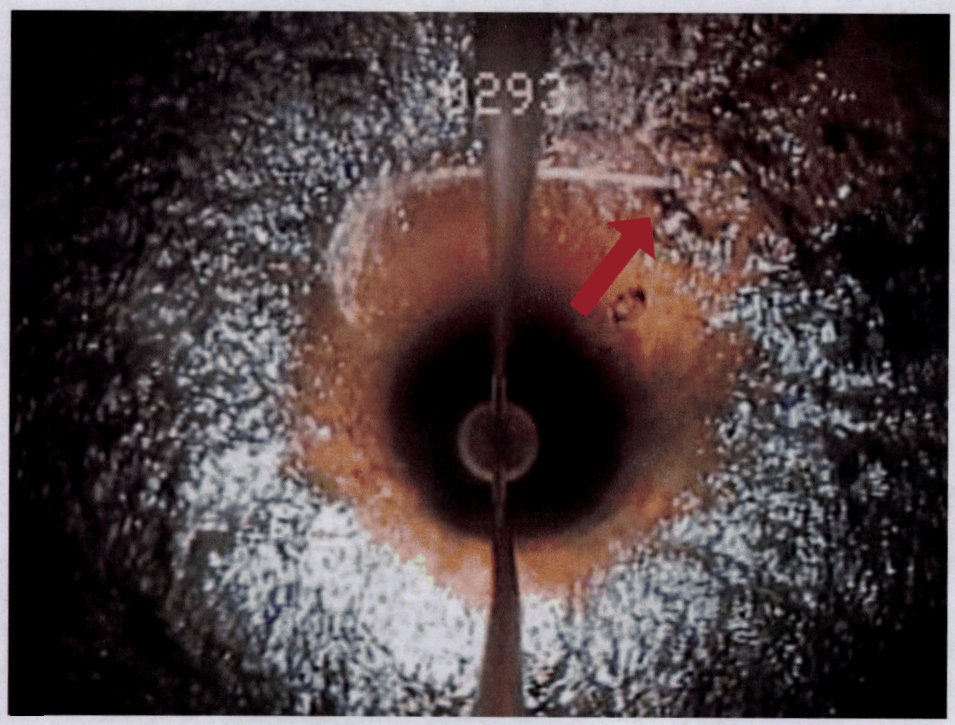
*** Note:** In this 2012 video, the side-view camera is positioned one foot above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 101-foot side view).

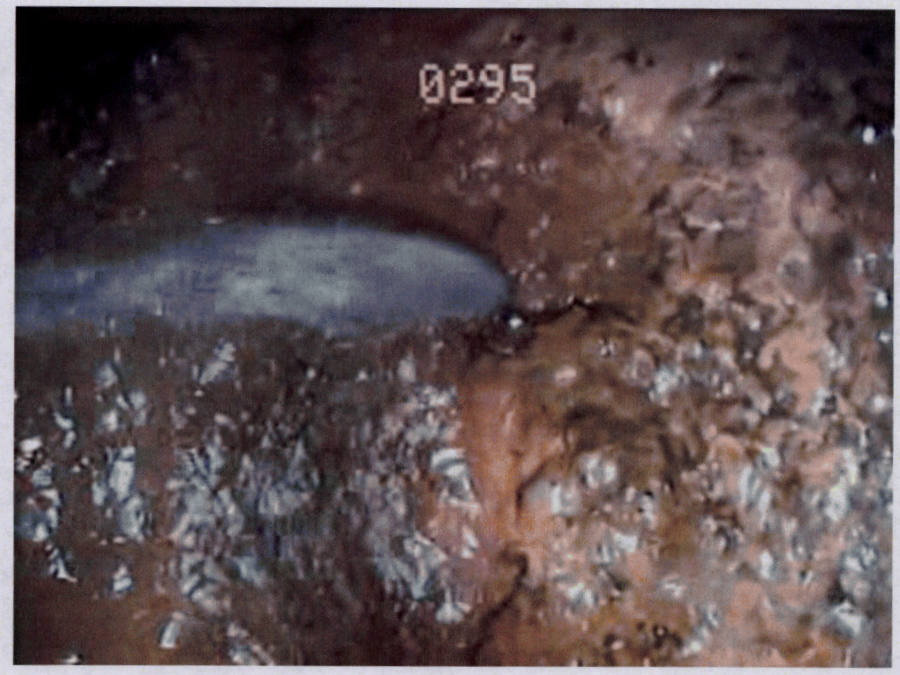


Composite *Side view* of Well No. 4 at 184 feet* below land surface, showing a large corrosion hole in the well casing.

*** Note:** In this 2012 video, he side-view camera is positioned one foot above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 101-foot side view).

Downward view of Well No. 6 at 293 feet* below land surface, showing cascading water (see arrow) entering the well through a hole in the split casing.

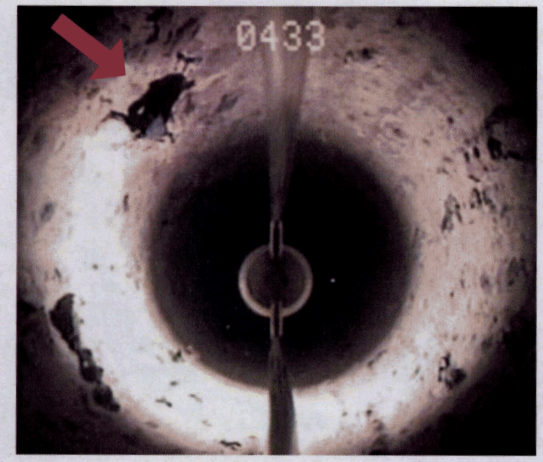




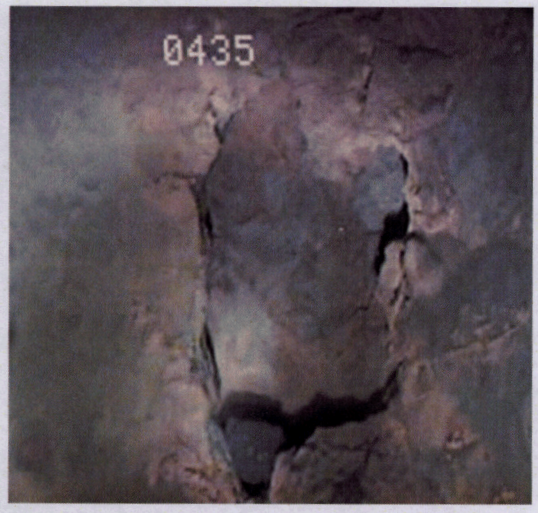
Side view of Well No. 6 at 293 feet* below land surface, showing a close up view of cascading water entering the well.

*** Note:** In this 2008 video, the side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

Side view **of Well No. 6 at 391 feet* below land surface, showing close up view of split well casing and gravel pack coming through.**

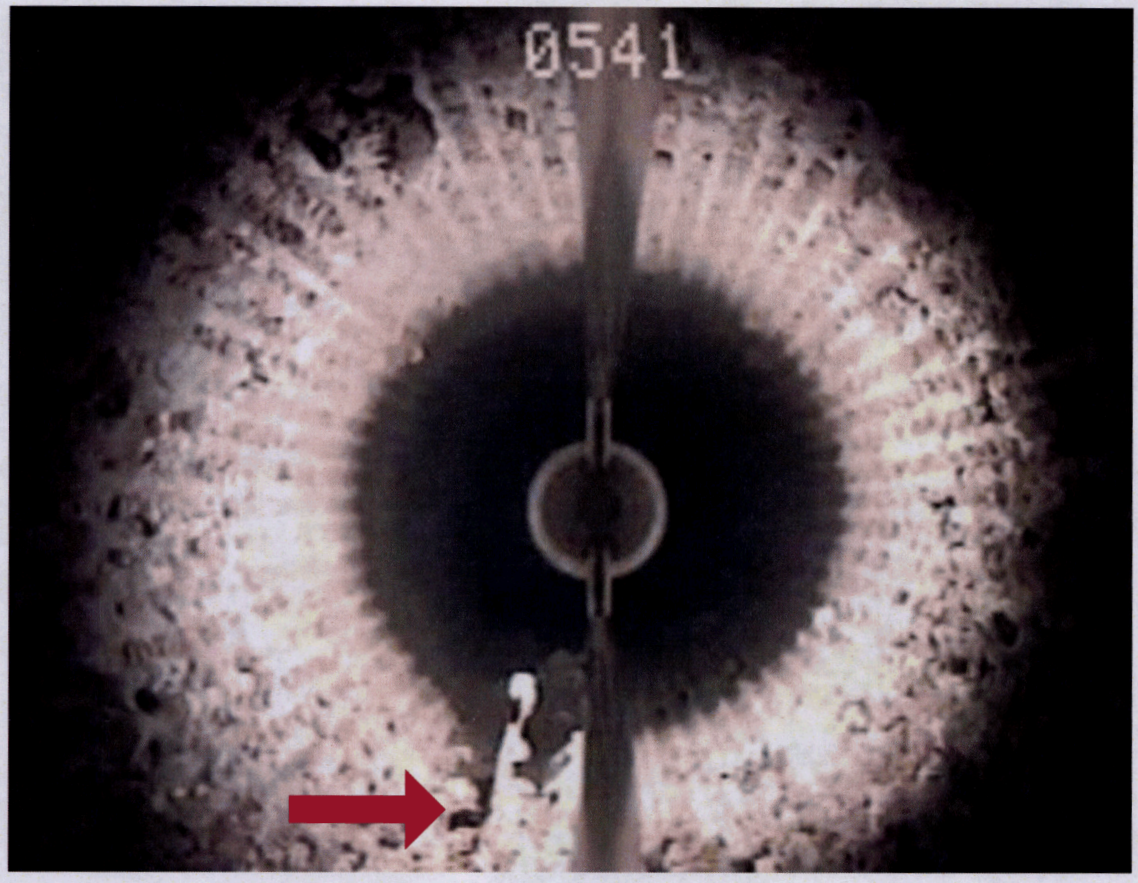


Downward view **of Well No. 6 at 433 feet* below land surface, showing corrosion hole in well casing (see arrow).**

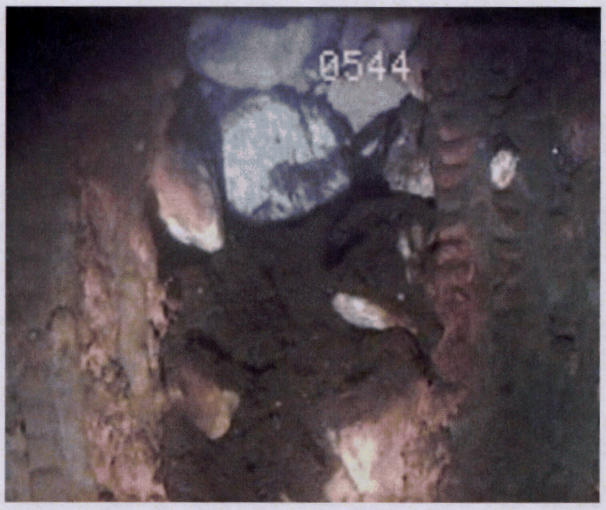


Side view **of Well No. 6 at 433 feet* below land surface, showing detail view of corrosion hole in well casing.**

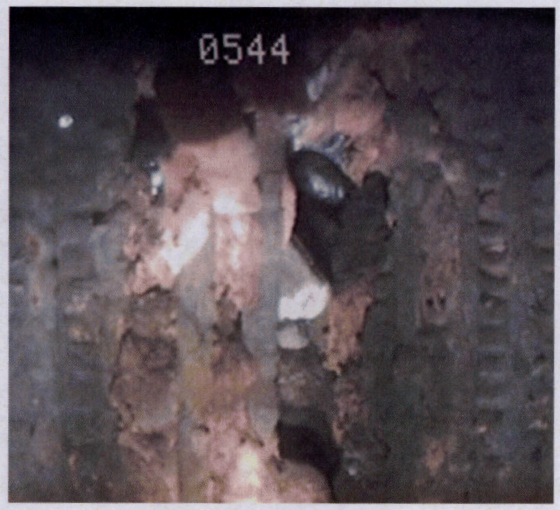
*** Note:** In this 2008 video, the side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).



Downward view **of Well No. 6 at 541 feet* below land surface, showing ripped wire-wrap well screen (see arrow).**



Side view **of Well No. 6 at 542 feet* below land surface, showing close up view of ripped well screen with gravel pack coming through.**



Side view **of Well No. 6 at 542 feet* below land surface, showing close up view of ripped well screen with gravel pack coming through.**

*** Note:** In this 2008 video, the side-view camera is positioned two feet above the downward-looking lens (e.g., a downward view at a depth of 100 feet is the same location as a 102-foot side view).

EXHIBIT
A-8
ADMITTED

Ray Water Company
Summary of Costs by Well Number

Well Infrastructure

Well	Original Cost	Retire	Adjusted Wells
1	$ 51,597.44	$ (51,597.44)	$ -
2A	-		-
2B	28,271.85	(28,271.85)	-
2C	14,627.74	(14,627.74)	-
2D	757,546.62		757,546.62
3	37,924.46		37,924.46
4	28,000.39		28,000.39
5	25,749.62		25,749.62
6	123,617.47		123,617.47
7	338,678.68		338,678.68
8	268,821.10		268,821.10
	$ 1,674,835.37	$ (94,497.03)	$ 1,580,338.34
		to pressure tank	(1,032.00)
			1,579,306.34

Pumping Equipment

Well	Original Cost	Retire	Adjusted Pump Eq
1	$ 10,140.97	$ (10,140.97)	$ -
2	306,950.20		306,950.20
3	27,088.60		27,088.60
4	96,131.56		96,131.56
5	19,878.64		19,878.64
6	31,825.10		31,825.10
7	226,585.68		226,585.68
8	154,629.00		154,629.00
	$ 873,229.75	$ (10,140.97)	$ 863,088.78

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Final Schedule A-1
Title: Computation of Increase in Gross Revenue Requirements

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Special Reqmt [ ]

Explanation:
Schedule showing computation of increase in gross revenue requirements and spread of revenue increase by customer classification.

Line		Original Cost		RCND	
1	Adjusted Rate Base	$ 1,008,013	(a)		(a)
2	Adjusted Operating Income	$ (93,738)	(b)		(b)
3	Current Rate of Return	-9.30%			
4	Required Operating Income	$ 103,045			
5	Required Rate of Return	10.22%			
6	Operating Income Deficiency (4 - 2)	$ 196,783			
7	Gross Revenue Conversion Factor	1.489	(c)		(c)
8	Increase in Gross Revenue Requirements (6 x 7)	**$ 293,091**			

	Customer Classification	Adjusted Revenue at Present Rates	Revenue at Proposed Rates	Projected Revenue Increase Due to Rates	% Dollar Increase	
9	Residential	$ 491,575	$ 732,451	$ 240,876	49.00%	(d)
10	Commercial	64,867	115,005	50,138	77.29%	
11	Hydrant	1,881	3,958	2,077	110.40%	
12	Other	22,491	22,491	-	0.00%	
13	**Total**	**$ 580,814**	**$ 873,905**	**$ 293,091**	**50.46%**	

Note: For combination utilities, the above information should be presented in total and by department.

Supporting Schedules:
(a) B-1 (c) C-3
(b) C-1 (d) H-1

EXHIBIT
A-9
ADMITTED

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Final Schedule B-1
Title: Summary of Original Cost and RCND

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing elements of adjusted original cost and RCND rate bases.

Line	Description	Original Cost Rate Base*		RCND Rate Base*	
1	Gross Utility Plant in Service	$ 5,142,927			
2	Less: Accumulated Depreciation	(1,716,790)			
3	Net Utility Plant in Service	$ 3,426,137	(a)		(b)
4	**Less:**				
5	Advances in Aid of Construction	$ (1,590,890)	(c)		(c)
6	Contributions in Aid of Construction	(982,352)	(c)		(c)
7	Customer Security Deposits	(105,315)			
8	**Add:**				
9	Amortization of Contributions	$ 260,433			
10	Allowance for Working Capital	-	(d)		(d)
11	**Total Rate Base**	**$ 1,008,013**	(e)		(e)

* Including pro forma adjustments

NOTE: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) B-2 (d) B-5
(b) N/A
(c) E-1

Recap Schedules:
(e) A-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Final Schedule B-2
Title: Original Cost Rate Base
Proforma Adjustments

Required for: All Utilities, Class A, Class B, Class C, Class D, Specl Reqmt

Explanation:
Schedule showing pro forma adjustments to gross plant in service and accumulated depreciation for the original cost rate base.

Line	Description	Actual at End Of Test Year (a)	Pro forma Adjustment 1	Pro forma Adjustment 2	Pro forma Adjustment 3	Pro forma Adjustment 4	Pro forma Adjustment 5	Pro forma Adjustment 6	Adjusted at End Of Test Year (b)
1	Gross Utility Plant in Service	$ 5,261,065	$ (13,500)			$ (94,497)	$ (10,141)		$ 5,142,927
2	Less: Accumulated Depreciation	(1,834,663)	2,363	10,873		94,497	10,141		(1,716,790)
3	Net Utility Plant in Service	$ 3,426,402	$ (11,138)	$ 10,873	$ -	$ -	$ -	$ -	$ 3,426,137
4	Less:								
5	Advances in Aid of Construction	$ (1,633,387)						$ 42,497	$ (1,590,890)
6	Contributions in Aid of Construction	(982,352)							(982,352)
7	Customer Security Deposits	(86,080)			(19,235)				(105,315)
8	Plus:								
9	Amortization of Contributions	$ 260,433							$ 260,433
10	Allowance for Working Capital	-							-
11	**Total Rate Base**	**$ 985,016**	**$ (11,138)**	**$ 10,873**	**$ (19,235)**	**$ -**	**$ -**	**$ 42,497**	**$ 1,008,013**

12 ***All pro forma adjustments should be adequately explained on this schedule or on attachments hereto.***

13	Adjustment 1 - reflects the reduction to Transportation Equipment for half the value of the SUV ($27,000 x 50%),		$ (13,500)
	and increases the related accumulated depreciation for the SUV value reduction ($13,500 x 5% x 3.5 years).		$ 2,363
14	Adjustment 2 - corrects excess depreciation in Meters (account 334), a portion of which became fully depreciated in 2009.		
15	2009 excess accumulated depreciation related to Meters	$ 1,827	
16	2010 excess accumulated depreciation related to Meters	4,530	
17	2011 excess accumulated depreciation related to Meters	4,516	
18	Total decrease to Accumulated Depreciation - Adjustment 2		$ 10,873
19	Adjustment 3 - Adopt Staff Adjustment No. 9 on Schedule CSB-13		$ (19,235)
20	Adjustment 4 - Capped/Inactive Well Retirements		
21	Well #1 Retirements	$ 51,597	
22	Well #2B Retirements	28,272	
23	Well #2C Retirements	14,628	
24	Total Adjustment 4 for Well Retirements and related accumulated depreciation		$ 94,497
25	Adjustment 5 - Pumping Equipment related to Capped/Inactive Well Retirements		
26	Well #1 pumping equipment retirements	$ 10,141	
27	Total Adjustment 5 for Pumping Equipment for Well Retirements and related accumulated depreciation		$ 10,141
28	Adjustment 6 - Adjustments to AIAC related to retired wells		
29	Well 2B	$ 27,869	
30	Well 2C	14,628	
31	Total Adjustment 6 to AIAC for retired well costs		$ 42,497

NOTE: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) E-1

Recap Schedules:
(b) B-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Final Schedule C-1
Title: Adjusted Test Year Income Statement

Required for:

All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule showing statement of income for the test year, including pro forma adjustments.

Line	Acct	Description	Actual for Test Year Ended (a) 31-Dec-11	Ref	Proforma Adjustments (b)	Test Year Results After Pro Forma Adjustments	Ref	Proposed Rate Increase	Adjusted Test Year With Rate Increase
		Operating Revenues:							
1	461	Metered Water Revenue	$ 559,457	A1	$ (1,134)	$ 558,323	P	$ 293,091	$ 851,414
2	460	Unmetered Water Revenue	-			-			-
3	474	Other Water Revenue	26,651	A2	(4,160)	22,491			22,491
4		**Total Operating Revenue**	$ 586,108		$ (5,294)	$ 580,814		$ 293,091	$ 873,905
5		**Operating Expenses:**							
6	601	Salaries and Wages	$ 226,744	S	$ (30,259)	$ 196,485			$ 196,485
7	604	Employee Pensions and Benefits	-	B	4,550	4,550			4,550
8	610	Purchased Water	-			-			-
9	615	Purchased Power	82,011	C	15,270	97,281			97,281
10	618	Chemicals	-			-			-
11	620	Materials & Supplies	2,347			2,347			2,347
12	621	Office Supplies and Expense	11,481	D	10,709	22,190			22,190
13	630	Contractual Services - Billing	69,767			69,767			69,767
14	631	Contractual Services - Professional	17,001			17,001			17,001
15	635	Contractual Services - Testing	1,375	E	5,240	6,615			6,615
16	636	Contractual Services - Other	11,459	F	(546)	10,913			10,913
17	640	Rents	22,000			22,000			22,000
18	650	Transportation Expenses	13,316	R	(886)	12,430			12,430
19	655	Insurance	10,590			10,590			10,590
20	665	Rate Case Expense	3,000	G	11,801	14,801			14,801
21	670	Bad Debt Expense	-	H	295	295			295
22	675	Miscellaneous Expenses	23,473	I	(13,811)	9,662			9,662
23	403	Depreciation Expenses	169,486	J	(1,683)	167,803			167,803
24	408	Taxes Other Than Income	18,527	K	(1,414)	17,113			17,113
25	408.11	Property Taxes	32,260	LI	111	32,371	L2	5,441	37,812
26	409	Income Taxes	(43,940)	M	(1,435)	(45,375)	Q	90,867	45,492
27	427.4	Interest Expense - Customer Deposits	5,713			5,713			5,713
28		**Total Operating Expenses**	$ 676,610		$ (2,058)	$ 674,552		$ 96,308	$ 770,860
28		**OPERATING INCOME/(LOSS)**	$ (90,502)		$ (3,236)	$ (93,738)	(c)	$ 196,783	$ 103,045
29		**Other Income/(Expense):**							
30	419	Interest Income	$ 492			$ 492			$ 492
31	421	Non-Utility Income	4,548	A2	(4,548)	-			-
32	426	Miscellaneous Non-Utility Expenses	(5,032)	N	5,032	-			-
33	427	Interest Expense		O	(5,020)	(5,020)			(5,020)
34		**Total Other Income/(Expense)**	$ 8		$ (4,536)	$ (4,528)		$ -	$ (4,528)
35		**NET INCOME/(LOSS)**	**$ (90,494)**		**$ (7,771)**	**$ (98,265)**		**$ 196,783**	**$ 98,517**

Note: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) E-2
(b) C-2a to C-2r

Recap Schedules:
(c) A-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Final Schedule C-2c
Title: Income Statement Proforma Adjustments

DETAIL OF PURCHASED POWER EXPENSES ADJUSTMENT C

Line	Description	Total Actual Cost	Remove taxes and fees	2012 Actual Power Costs	Increase %	Increase Amount	Revised Power Costs
1	January 2012	$ 5,734	$ (415)	$ 5,734	4.00%	$ 229	$ 5,963
2	February 2012	4,733	(343)	4,390	4.00%	176	4,566
3	March 2012	5,148	(373)	4,775	4.00%	191	4,966
4	April 2012	5,822	(422)	5,400	10.00%	540	5,940
5	May 2012	7,402	(536)	6,866	15.00%	1,030	7,896
6	June 201	10,789	(782)	10,007	15.00%	1,501	11,508
7	July 2012	10,997	(797)	10,200	15.00%	1,530	11,730
8	August 2012	8,909	(646)	8,263	15.00%	1,240	9,503
9	September 2012	8,072	(585)	7,487	10.00%	749	8,236
10	October 2012	7,255	(526)	6,730	4.00%	269	6,999
11	November 2012	7,969	(577)	7,392	4.00%	296	7,688
12	December 2012	5,924	(429)	5,495	4.00%	220	5,715
13	Totals	$ 88,754	$ (6,431)	$ 82,738		$ 7,970	$ 90,708
14	Associated sales taxes and fees (Line 15 x 7.246%)						6,573
15	Total Projected Purchased Power Expense due to rate increase						$ 97,281
16	Test Year Purchased Power expense						82,011
17						**Total Adjustment C**	**$ 15,270**

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Final Schedule C-2g
Title: Income Statement Proforma Adjustments

DETAIL OF ADJUSTMENT G TO RATE CASE EXPENSES

Line	Description	As of 01/31/2013	Estimated Total
1	Engineering Professional	$ 6,292	$ 7,500
2	Hydrologist Analysis and Testimony	5,004	5,004
3	CPA	10,903	10,903
4	Regulatory Consultant	9,600	13,600
5	Cost of Capital Witness	3,900	5,000
6	Legal Services	22,203	32,000
7	Total Actual and Estimated Rate Case Costs	$ 57,902	$ 74,007
8	Amortization Period in years		5
9	Annual expense recovery		$ 14,801
10	Subtract Actual Test Year Rate Case Expenses		3,000
11		**Total Adjustment G**	**$ 11,801**

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Final Schedule C-2j
Title: Income Statement Proforma Adjustments

DETAIL OF PROPOSED DEPRECIATION EXPENSE CALCULATION - ADJUSTMENT J

Line	Account Number	Description	Plant @ End of Test Year 31-Dec-11	Proposed Depreciation Rate	Ref	Proposed Depreciation Expense
1	301	Intangibles	$ 700	0.00%		$ -
2	303	Land & Land Rights	62,540	0.00%		-
3	304	Structures & Improvements	22,078	3.33%	1	276
4	307	Wells & Springs	1,579,306	3.33%	2	48,398
5	311	Pumping Equipment	863,089	12.50%		107,886
6	320	Water Treatment Equipment	-	20.00%		-
7	320.1	Water Treatment Plants	-	3.33%		-
8	320.2	Solution Chemical Feeders	-	20.00%		-
9	330	Distribution Reservoirs & Standpipes	106,345	2.22%	3	-
10	330.1	Storage Tanks	516,989	2.22%		11,477
11	330.2	Pressure Tanks.	1,032	5.00%		52
12	331	Transmission & Distribution Mains	1,160,777	2.00%	4	11,622
13	333	Services	526,754	3.33%		17,541
14	334	Meters & Meter Installations	113,643	8.33%	5	1,966
15	335	Hydrants	105,490	2.00%		2,110
16	339	Other Plant and Misc Equipment	2,902	6.67%		194
17	340	Office Furniture & Equipment	8,901	6.67%		594
18	340.1	Computers and Software	8,967	20.00%		1,793
19	341	Transportation Equipment	58,735	20.00%		11,747
20	343	Tools, Shop, and Garage Equipment	1,932	5.00%		97
21	346	Communication Equipment	1,494	5.00%		75
22	348	Other Tangible Plant	1,253	5.00%	6	-
23		**Totals**	**$ 5,142,927**			**$ 215,826**
24				Test Year Amortization of CIAC		(48,023)
25				Adjusted Depreciation Expense		$ 167,803
26				Test Year Depreciation Expense		169,486
27	Ref			**Total Adjustment J**		**$ (1,683)**

28	1	$13,781 of the total is fully depreciated.
29	2	$125,924 of the total is fully depreciated.
30	3	The full $106,345 in this category is fully depreciated.
31	4	$579,693 of the total is fully depreciated.
32	5	$90,046 of the total is fully depreciated.
33	6	The total $1,253 is fully depreciated.

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Final Schedule E-5
Title: Detail of Utility Plant

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule showing utility plant balance, by detailed account number, at the end of the test year and the end of the prior fiscal year.

Line	Account Number	Description	End of Prior Year at 31-Dec-10	Net Additions	End of Test Year at 31-Dec-11	Proforma Adjustments	Adjusted Test Year at 31-Dec-11
1	302	Franchises	$ 700		$ 700		$ 700
2	303	Land & Land Rights	62,540		62,540		62,540
3	304	Structures & Improvements	15,868	6,210	22,078		22,078
4	307	Wells & Springs	1,401,600	272,203	1,673,803	(94,497)	1,579,306
5	311	Pumping Equipment	712,466	160,764	873,230	(10,141)	863,089
6	320	Water Treatment Equipment	-		-		-
7	320.1	Water Treatment Plants	-		-		-
8	320.2	Solution Chemical Feeders	-		-		-
9	330	Distribution Reservoirs & Standpipes	106,345		106,345		106,345
10	330.1	Storage Tanks	516,989		516,989		516,989
11	330.2	Pressure Tanks.	-	1,032	1,032		1,032
12	331	Transmission &Distribution Mains	1,139,554	21,223	1,160,777		1,160,777
13	333	Services	526,281	473	526,754		526,754
14	334	Meters & Meter Installations	112,671	972	113,643		113,643
15	335	Hydrants	105,490		105,490		105,490
16	339	Other Plant and Misc Equipment	2,902		2,902		2,902
17	340	Office Furniture & Equipment	8,901		8,901		8,901
18	340.1	Computers and Software	8,967		8,967		8,967
19	341	Transportation Equipment	72,235		72,235	(13,500)	58,735
20	343	Tools, Shop, and Garage Equipment	671	1,261	1,932		1,932
21	346	Communications Equipment	1,494		1,494		1,494
22	348	Other Tangible Plant	1,253		1,253		1,253
23		**Total Plant In Service**	**$ 4,796,927**	**$ 464,138**	**$ 5,261,065**	**$ (118,138)**	**$ 5,142,927**
24	108	Accumulated Depreciation	(1,639,135)	(183,527)	(1,822,662)	105,872	(1,716,790)
25		Net Plant In Service	$ 3,157,792	$ 280,611	$ 3,438,403	$ (12,266)	$ 3,426,137
26	103	Property Held for Future Use	-	-	-		-
27	105	Construction Work in Process	160,604	(152,306)	8,298		8,298
28		**Total Net Plant**	**$ 3,318,396**	**$ 128,305**	**$ 3,446,701**	**$ (12,266)**	**$ 3,434,435**

Supporting Schedules:

Recap Schedules:
E-1 A-4

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Final Schedule H-1
Title: Summary of Revenues by Customer Classification - Present and Proposed Rates

Required for: All Utilities [X]
Class A [ ]
Class B [ ]
Class C [ ]
Class D [ ]
Specl Reqmt [ ]

Explanation:
Schedule comparing revenues by customer classification for the Test Year, at present and proposed rates.

		Revenues in the Test Year (a)			Proposed Increase (b)		
Line	Customer Classification	Present Rates	Adjustments	Adjusted Present Rates	Proposed Rates	Amount	%
	Residential						
1	5/8 by 3/4-inch	$ 404,695		$ 404,695	$ 567,652	$ 162,957	40.27%
2	1-inch	12,343		12,343	17,481	5,138	41.63%
3	1 1/2-inch	2,332		2,332	3,274	942	40.40%
4	2-inch	12,402		12,402	18,344	5,942	47.91%
5	4-inch	59,803		59,803	125,699	65,896	110.19%
6	*Total Residential*	$ 491,575	$ -	$ 491,575	$ 732,451	$ 240,876	49.00%
	Commercial						
7	5/8 by 3/4-inch	$ 10,853		$ 10,853	$ 20,611	$ 9,758	89.91%
8	1-inch	11,691		11,691	13,155	1,464	12.52%
9	1 1/2-inch	760		760	1,033	273	35.92%
10	2-inch	7,736		7,736	9,577	1,841	23.79%
11	3-inch	12,051		12,051	24,740	12,689	105.29%
12	4-inch	1,134	(1,134)	-	-	-	0.00%
13	6-inch	21,776		21,776	45,890	24,114	110.74%
14	*Total Commercial*	$ 66,001	$ (1,134)	$ 64,867	$ 115,005	$ 50,138	77.29%
15	Hydrant Sales	1,881		1,881	$ 3,958	2,077	110.40%
16	Total Metered Water Revenue	$ 559,457	$ (1,134)	$ 558,323	$ 851,414	293,091	52.49%
17	Other Revenue	26,651	(4,160)	22,491	22,491	-	0.00%
18	***Total Revenue***	**$ 586,108**	**$ (5,294)**	**$ 580,814**	**$ 873,905**	**$ 293,091**	50.46%

Note: For combination utilities, above information should be presented in total and by department.

Supporting Schedules:
(a) N/A

Recap Schedules:
(b) A-1

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Final Schedule H-3
Title: Changes in Representative Rate Schedules - Page 1 of 2

Required for:	
All Utilities	X
Class A	
Class B	
Class C	
Class D	
Specl Reqmt	

Explanation:
Schedule comparing present rate schedules with proposed rate schedule.

(Rates apply to both residential and commercial usage)

Description	Present Rate	Proposed Rate	% change
MONTHLY USAGE CHARGE:			
5/8" x 3/4" Meter	$ 11.15	$ 20.00	79.37%
3/4" Meter	25.00	30.00	20.00%
1" Meter	39.00	50.00	28.21%
1-1/2" Meter	62.00	100.00	61.29%
2" Meter	110.00	160.00	45.45%
3" Meter	125.00	320.00	156.00%
4" Meter	165.00	500.00	203.03%
6" Meter	330.00	1,000.00	203.03%

Description	Present Rate	Proposed Rate	
COMMODITY CHARGES - Per 1,000 Gallons			
5/8 x 3/4-inch and 3/4-inch Meters			
1 - 3,000 Gallons	$ 1.55	$ 1.00	-35.48%
3,001 to 7,000 Gallons	1.55	1.30	-16.13%
7,001 to 25,000 Gallons	1.55	2.50	61.29%
Over 25,000 Gallons	1.55	3.26	110.32%
1-inch, 1 1/2-inch, and 2-inch Meters			
1 - 20,000 Gallons	$ 1.55	1.30	-16.13%
Over 20,000 Gallons	1.55	3.26	110.32%
3-inch Meters			
1 - 30,000 Gallons	$ 1.55	$ 1.30	-16.13%
Over 30,000 Gallons	1.55	3.26	110.32%
4-inch Meters			
1 - 60,000 Gallons	$ 1.55	$ 1.30	-16.13%
Over 60,000 Gallons	1.55	3.26	110.32%
6-inch Meters			
1 - 85,000 Gallons	$ 1.55	$ 1.30	-16.13%
Over 85,000 Gallons	1.55	3.26	110.32%
Standpipe sales			
Per 1,000 gallons	$ 1.55	$ 3.26	110.32%

Ray Water Company
Docket No. W-01380A-12-0254
Test Year Ended December 31, 2011

Final Schedule H-3
Title: Changes in Representative Rate Schedules (continued) - Page 2 of 2

Description	Present Rate	Proposed Rate	% change
SERVICE CHARGES			
Establishment	$ 25.00	$ 30.00	20.00%
Establishment (After Hours)	37.50	N/A	
Reconnection (Delinquent)	25.00	35.00	40.00%
Meter Test (If Correct)	30.00	30.00	0.00%
Deposit	*	*	0.00%
Deposit Interest	*	*	0.00%
Reestablishment (Within 12 Months)	**	**	0.00%
NSF Check	$ 15.00	$ 25.00	66.67%
Deferred Payment	***	***	0.00%
Meter Re-read (If Correct)	$ 15.00	$ 20.00	33.33%
Late Payment Fee	***	$ 5.00	
After Hours Charge	N/A	$ 25.00	

* Per A.A.C. R14-2-403(B)
** Months off system times the minimum (R14-2-403.D)
*** 1.50 percent per month of unpaid balance

SERVICE LINE AND METER INSTALLATION CHARGES:

Refundable Pursuant to A.A.C. R14-2-405

Description	Present Rate	Proposed Rates: Service Line	Proposed Rates: Meter Charge	Proposed Rates: Total Charge	% change
5/8" x 3/4" Meter	$ 410.00	$ 445.00	$ 155.00	$ 600.00	46.34%
3/4" Meter	455.00	445.00	255.00	700.00	53.85%
1" Meter	520.00	495.00	315.00	810.00	55.77%
1-1/2" Meter	740.00	550.00	525.00	1,075.00	45.27%
2" Meter - Turbine	1,235.00	830.00	1,045.00	1,875.00	51.82%
2" Meter - Compound	1,800.00	830.00	1,890.00	2,720.00	51.11%
3" Meter - Turbine	1,705.00	1,045.00	1,670.00	2,715.00	59.24%
3" Meter - Compound	2,340.00	1,165.00	2,545.00	3,710.00	58.55%
4" Meter - Turbine	2,700.00	1,490.00	2,670.00	4,160.00	54.07%
4" Meter - Compound	3,405.00	1,670.00	3,645.00	5,315.00	56.09%
6" Meter - Turbine	5,035.00	2,210.00	5,025.00	7,235.00	43.69%
6" Meter - Compound	6,510.00	2,330.00	6,920.00	9,250.00	42.09%
8" Meter	Cost			Cost	0.00%

NOTES:

A - Additional costs associated with service line installations in major traffic thoroughfares, such as but not limited to, underground borings, cutting and repaving, and traffic control, may be added to the above tariff at actual cost.

B - Major thoroughfares are as follows: Alvernon Way, Drexal Road, Benson Highway, Irvington Road, Palo Verde, Valencia, Country Club, Columbus, East Side of Belvedere, Felix, Nebraska between Palo Verde and Madison, Northeast side of Concord Strav.

C - Charges for meters and service lines larger than 6 inches shall be at actual cost.

Supporting Schedules:

Ray Water
Analysis of Current Revenue and Rates versus Company Recommendation
Based on Bill Count Revenue Amounts

Company Proposed Metered Water Revenue	$ 851,414	
Adjusted Test Year Metered Water Revenue	558,323	
Company Proposed Increase Amount	$ 293,091	52.49%

	Test Year Monthly Minimum	Ray Proposed Monthly Minimum	Difference	% Change	Test Year Commodity	Ray Proposed Commodity	Difference	% Change	Total Test Year Revenue	Total Ray Proposed Revenue	Difference	% Change	Test Year Number of Customers	Ray Average Increase per Customer per Year	Ray Average Increase per Customer per Month
Residential															
5/8"	$ 194,434	$ 348,760	$ 154,326	79.37%	$ 211,681	$ 219,285	$ 7,604	3.59%	$ 406,115	$ 568,045	$ 161,930	39.87%	1,453	$ 111.43	$ 9.29
1"	4,680	5,100	420	8.97%	7,691	12,381	4,690	60.99%	12,371	17,481	5,110	41.31%	10	511.04	42.59
1.5"	1,488	2,040	552	37.10%	858	1,234	376	43.84%	2,346	3,274	928	39.56%	2	464.06	38.67
2"	6,710	8,296	1,586	23.64%	5,748	10,048	4,300	74.81%	12,458	18,344	5,886	47.25%	5	1,157.94	96.50
4"	5,940	15,300	9,360	157.58%	53,858	110,399	56,541	104.98%	59,798	125,699	65,901	110.20%	3	21,966.92	1,830.58
Total Residential	$ 213,252	$ 379,496	$ 166,244	77.96%	$ 279,837	$ 353,348	$ 73,511	26.27%	$ 493,089	$ 732,844	$ 239,756	48.62%	1,473		
Commercial															
5/8"	$ 1,371	$ 2,460	$ 1,089	79.37%	$ 9,481	$ 18,151	$ 8,669	91.44%	$ 10,853	$ 20,611	$ 9,758	89.91%	10	$ 951.99	$ 79.33
1"	8,619	9,393	774	8.97%	3,060	3,762	702	22.94%	11,679	13,155	1,475	12.63%	18	80.12	6.68
1.5"	744	1,020	276	37.10%	16	13	(3)	-16.13%	760	1,033	274	36.01%	1	273.50	22.79
2"	6,490	8,024	1,534	23.64%	1,279	1,553	274	21.42%	7,769	9,577	1,808	23.27%	5	367.72	30.64
3"	1,500	3,264	1,764	117.60%	10,546	21,476	10,929	103.63%	12,046	24,740	12,693	105.37%	1	12,693.41	1,057.78
6"	3,960	10,200	6,240	157.58%	17,789	35,690	17,901	100.63%	21,749	45,890	24,141	111.00%	1	24,140.87	2,011.74
Total Commercial	$ 22,684	$ 34,361	$ 11,676	51.47%	$ 42,172	$ 80,645	$ 38,473	91.23%	$ 64,856	$ 115,005	$ 50,149	77.32%	37		
Hydrant	$ -	$ -	$ -	0.00%	$ 1,882	$ 3,958	$ 2,076	110.32%	$ 1,882	$ 3,958	$ 2,076	110.32%			
Totals	$ 235,936	$ 413,857	$ 177,920	75.41%	$ 323,890	$ 437,951	$ 114,060	35.22%	$ 559,826	$ 851,807	$ 291,981	52.16%	1,510		
								Bill Count Rounding	(1,503)	(393)	1,110				
								Tie to H-1	$ 558,323	$ 851,414	$ 293,091				

EXHIBIT
A-10
ADMITTED

Ray Water
Analysis of Current Revenue and Rates versus Staff's Recommendation
Based on Bill Count Revenue Amounts

Staff Proposed Metered Water Revenue	$ 707,799
Adjusted Test Year Metered Water Revenue	558,323
Staff Proposed Increase Amount	$ 149,476

	Test Year Monthly Minimum	Staff Proposed Monthly Minimum	Difference	% Change	Test Year Commodity	Staff Proposed Commodity	Difference	% Change	Total Test Year Revenue	Total Staff Proposed Revenue	Difference	% Change	Test Year Number of Customers	Staff Average Increase per Customer per Year	Staff Average Increase per Customer per Month
Residential															
5/8"	$ 194,434	$ 261,570	$ 67,136	34.53%	$ 211,681	$ 183,728	$ (27,953)	-13.21%	$ 406,115	$ 445,298	$ 39,183	9.65%	1,453	$ 26.96	$ 2.25
1"	4,680	4,800	120	2.56%	7,691	12,483	4,792	62.30%	12,371	17,283	4,912	39.70%	10	491.17	40.93
1.5"	1,488	1,488	-	0.00%	858	1,229	371	43.30%	2,346	2,717	371	15.83%	2	185.74	15.48
2"	6,710	6,710	-	0.00%	5,748	10,073	4,324	75.23%	12,458	16,783	4,324	34.71%	5	850.69	70.89
4"	5,940	5,940	-	0.00%	53,858	111,636	57,778	107.28%	59,798	117,576	57,778	96.62%	3	19,259.33	1,604.94
Total Residential	$ 213,252	$ 280,508	$ 67,256	31.54%	$ 279,837	$ 319,149	$ 39,312	14.05%	$ 493,089	$ 599,657	$ 106,568	21.61%	1,473		
Commercial															
5/8"	$ 1,371	$ 1,845	$ 474	34.53%	$ 9,481	$ 17,542	$ 8,061	85.02%	$ 10,853	$ 19,387	$ 8,535	78.64%	10	$ 832.65	$ 69.39
1"	8,619	8,840	221	2.56%	3,060	3,743	683	22.31%	11,679	12,583	904	7.74%	18	49.07	4.09
1.5"	744	744	-	0.00%	16	6	(9)	-60.48%	760	750	(9)	-1.23%	1	(9.38)	(0.78)
2"	6,490	6,490	-	0.00%	1,279	1,625	346	27.05%	7,769	8,115	346	4.45%	5	70.34	5.86
3"	1,500	1,500	-	0.00%	10,546	21,592	11,046	104.74%	12,046	23,092	11,046	91.70%	1	11,045.93	920.49
6"	3,960	3,960	-	0.00%	17,789	36,770	18,981	106.70%	21,749	40,730	18,981	87.27%	1	18,980.88	1,581.74
Total Commercial	$ 22,684	$ 23,379	$ 695	3.06%	$ 42,172	$ 81,279	$ 39,107	92.73%	$ 64,856	$ 104,658	$ 39,802	61.37%	37		
Hydrant	$ -	$ -	$ -	0.00%	$ 1,882	$ 3,933	$ 2,052	109.03%	$ 1,882	$ 3,933	$ 2,052	109.03%			
Totals	$ 235,936	$ 303,887	$ 67,951	28.80%	$ 323,890	$ 404,361	$ 80,471	24.85%	$ 559,826	$ 708,248	$ 148,422	26.51%	1,510		
							Bill Count Rounding		(1,503)	(449)	1,054				
							Tie to Staff Surrebuttal Schedule CSB-15, Line 1		$ 558,323	$ 707,799	$ 149,476				