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ARIZONA CORP COMMISSION  
DOCKET CONTROL

Docket #(s): W-01997A-12-0501

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Arizona Corporation Commission  
**DOCKETED**

JUL 8 2014

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Exhibit #: A1, S1-S6

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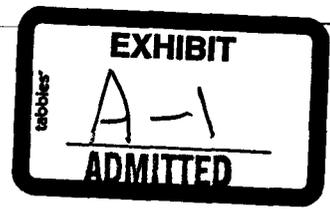
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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

BOB STUMP, Chairman  
GARY PIERCE  
BRENDA BURNS  
ROBERT BURNS  
SUSAN BITTER SMITH

IN THE MATTER OF THE APPLICATION OF  
ADAMAN MUTUAL WATER COMPANY  
FOR A RATE INCREASE

DOCKET NO. W-01997A-12-0501

REBUTTAL TESTIMONY  
OF  
RAY L. JONES  
ON BEHALF OF  
ADAMAN MUTUAL WATER COMPANY  
APRIL 1, 2014

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OF  
RAY L. JONES  
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ADAMAN MUTUAL WATER COMPANY  
APRIL 1, 2014**

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1     **EXECUTIVE SUMMARY**

2     Mr. Jones provides a brief procedural history and explains that Adaman and Staff had productive  
3     discussions regarding settlement. He explains that this Rebuttal Testimony is intended to  
4     document the current points of agreement between Staff and the Company and to address the  
5     minor remaining points of disagreement.

6     Mr. Jones testifies that Adaman and Staff have reached agreement on revenue requirement, rate  
7     base and income statement positions. Mr. Jones explains that Staff and the Company have  
8     agreed to a three-tier conservation oriented rate design and that there is agreement on fire  
9     sprinkler rates and miscellaneous charges. Mr. Jones indicates agreement with Staff  
10    recommendations regarding the timing of the Company's next rate case, compliance filings  
11    related to Well 1C and depreciation rates.

12    Mr. Jones testifies that Staff's recommendation regarding rate schedules to be used in Adaman's  
13    next rate case is unnecessary and that Staff's position regarding implementation of Best  
14    Management Practices is not consistent with the Commission's BMP policy and should be  
15    rejected.

16

1 I **INTRODUCTION**

2 Q. **PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND TELEPHONE**  
3 **NUMBER.**

4 A. My name is Ray L. Jones. My business address is 25213 N. 49<sup>th</sup> Dr., Phoenix, Arizona  
5 85083, and my business phone is (623) 341-4771.

6 Q. **WHAT IS YOUR PROFESSIONAL EXPERIENCE?**

7 A. I have an extensive background in the utility business. I began my working career with  
8 Citizens Utilities Company ("Citizens") in 1985 as a Staff Engineer for the Maricopa  
9 County water and wastewater division. I was employed at Citizens for 17 years,  
10 ascending to Vice President and General Manager for the Arizona water and wastewater  
11 operations. In 2002, American Water ("American") purchased the water and wastewater  
12 assets of Citizens and I joined American as the President of Arizona-American Company.  
13 I left American in 2004 and formed my own consulting firm, ARICOR Water Solutions,  
14 LC ("ARICOR"). ARICOR provides a wide range of engineering and regulatory support  
15 services to the private utility, municipal utility, and development sectors.

16 Q. **WHAT IS YOUR EDUCATIONAL EXPERIENCE?**

17 A. I received a Bachelor of Science in Civil Engineering in 1985 from the University of  
18 Kansas, and a Master of Business Administration in 1991 from Arizona State University.

19 Q. **DO YOU HOLD ANY PROFESSIONAL LICENSES?**

20 A. I am a Registered Professional Engineer in Arizona and California and a Grade 3  
21 Certified Operator in Arizona for all four water and wastewater classifications.

1 **Q. WHAT IS YOUR EXPERIENCE BEFORE THIS COMMISSION?**

2 A. In my time with Citizens and Arizona-American, I prepared or assisted in the preparation  
3 of multiple filings before the Arizona Corporation Commission ("Commission"),  
4 including rate applications and CC&N filings. As Principal of ARICOR, I have prepared  
5 several filings and assisted in the preparation of several more filings before the  
6 Commission, including rate applications, CC&N filings and complaint proceedings. I  
7 have also provided testimony in all of these cases before the Commission. A summary  
8 of my regulatory work experience is included in my resume attached as **Exhibit RLJ-**  
9 **RJ-1.**

10 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?**

11 A. I am testifying on behalf of Adaman Mutual Water Company ("Adaman" or  
12 "Company").

13 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

14 A. My testimony is intended to document the results of discussions held between Staff and  
15 the Company during the indefinite continuance of the procedural schedule in this case.  
16 The testimony explains that Staff and the Company were able to reach agreement on most  
17 issues, detailing the specific points of agreement between Staff and the Company. I also  
18 explain the two issues where Staff and the Company do not agree.

19 **II PROCEDURAL HISTORY**

20 **Q. WOULD YOU PROVIDE A BRIEF PROCEDURAL HISTORY OF THIS CASE?**

21 A. Commission Decision No. 72506 directed Adaman to file a rate case no later than  
22 December 31, 2012. On December 28, 2012, Adaman filed a rate application opening  
23 this case. In its application, Adaman requested that its rates and charges for general

1 water service remain unchanged<sup>1</sup>. Adaman also proposed changes to its service charges  
2 and its charges for meter and service line installation.

3  
4 On August 7, 2013, Staff filed Direct Testimony recommending that the Company's  
5 revenue requirement remain unchanged, but that the Company's rate design be changed  
6 to a three-tiered conservation oriented rate design. Staff also recommend various  
7 adjustments to rate base and expenses as well as changes to the company's service  
8 charges and its charges for meter and service line installation. In addition, Staff  
9 recommended that Adaman file a permanent rate application no later than May 31, 2016  
10 and adopt three Best Management Practices ("BMP") in the form of Commission  
11 approved tariffs.

12  
13 On August 30, 2013, Adaman requested an indefinite continuance of the procedural  
14 schedule to allow for discussions with Staff concerning a potential settlement for this  
15 case. Adaman and Staff have had productive discussion regarding the differences in  
16 positions and Adaman believes that the parties are now in agreement on nearly all issues.  
17 However, Staff has indicated that it does not wish to enter into a formal settlement  
18 agreement. Accordingly, Adaman is filing this Rebuttal Testimony to document the  
19 current points of agreement between Staff and the Company and to address the minor  
20 remaining points of disagreement.

---

<sup>1</sup> Adaman has a tariffed contract rate for bulk water sales to the City of Goodyear that is indexed to the Consumer Price Index. Adaman did not propose any change to this tariff which does allow rates for this single customer to increase annually.

1 **III POINTS OF AGREEMENT WITH STAFF**

2 **A REVENUE REQUIREMENT**

3 **Q. DO THE COMPANY AND STAFF AGREE ON ADAMAN'S REVENUE**  
4 **REQUIREMENT?**

5 A. Yes. Both the Company and Staff propose no change to Adaman's revenue requirement.  
6 The results in a revenue requirement equal to Adaman's test-year revenue of \$423,775.

7 **B RATE BASE**

8 **Q. WHAT IS THE COMPANY'S POSITION ON RATE BASE?**

9 A. The Company accepts Staff's proposed rate base adjustments and also accepts Staff's  
10 proposed adjusted rate base of \$304,022.

11 **C INCOME STATEMENT**

12 **Q. DOES THE COMPANY AGREE WITH STAFF'S PROPOSED INCOME**  
13 **ADJUSTMENTS?**

14 A. Yes. The Company accepts Staff's income adjustments and agrees with Staff's adjusted  
15 test year operating income of \$33,725.

16 **D RATE DESIGN & SERVICE CHARGES**

17 **Q. HAVE THE COMPANY AND STAFF REACHED AGREEMENT ON RATE**  
18 **DESIGN?**

19 A. Yes. Staff and the Company have worked together to craft a three-tier, conservation-  
20 oriented rate design that is acceptable to both the Company and Staff. This rate design  
21 leaves base charges unchanged for all meter sizes and replaces the \$2.00 per thousand  
22 commodity rate with a three-tier commodity rate. The commodity rate steps are \$1.80 for  
23 tier 1 (3,000 gallons and below) usage on 5/8" x 3/4" and 3/4" meters, \$1.90 for tier 2

1 usage (all meters), and \$2.04 for tier 3 usage (all meters), with the tier 2 and tier 3 break-  
2 over points varying by meter size.

3 **Q. IS THERE AGREEMENT CONCERNING FIRE SPRINKLER RATES?**

4 A. Yes. The Company accepts Staff's proposed fire sprinkler rate of two percent of the  
5 monthly minimum for comparable meter size, but not less than \$10.00 per month.

6 **Q. IS THERE AGREEMENT CONCERNING SERVICE LINE AND METER  
7 INSTALLATION CHARGES?**

8 A. Yes. Adaman accepts Staff's recommended service line and meter installation charges.

9 **Q. WHAT ABOUT MISCELLANEOUS SERVICES CHARGES?**

10 A. Again, Adaman will accept the charges recommended by Staff.

11 **Q. HAVE YOU PREPARED SCHEUDLES DOCUMENTING THE AGREED UPON  
12 RATE DESIGN AND CHARGES?**

13 A. Yes. Standard Rate Schedule H-3 is attached as part of Exhibit RLJ-RB-2 and shows the  
14 complete rate design and all other charges.

15 **Q. WHAT IS THE IMPACT OF THE NEW RATE DESIGN ON A TYPICAL  
16 CUSTOMER?**

17 A. A full set of standard H-4 rate schedules is attached as part of RLJ-RB-2, which shows  
18 the impact on typical customers by meter size at average, median, and varying usage  
19 levels. The schedules provided exclude the Wildlife World Zoo and the Mountain  
20 Shadow Dairy, both large industrial customers. These two large customers will see a  
21 combined 1.54% overall increase in rates while the remaining customers will see a 1.08%  
22 overall decrease in rates.



1 Adaman as a Class D utility. Adaman will file schedules in its next case in accordance  
2 with the applicable rule in place at the time of the filing.

3 Second, the Company does not agree with Staff's recommendation that the Company be  
4 required to file with Docket Control, as a compliance item in this docket, within 90 days  
5 of the effective date of this Decision, at least three BMPs in the form of tariffs that  
6 conform to the templates created by Staff for the Commission's review and  
7 consideration.

8 **Q. WHY DOES THE COMPANY OPPOSE STAFF'S BMP RECOMMENDATION?**

9 A. Staff's recommendation is duplicative and excessive, taking the Company beyond what is  
10 required by ADWR, the agency that regulates Adaman's use of groundwater. Adaman  
11 does not have a lost water problem and has a water conservation program as mandated by  
12 ADWR. Adaman is enrolled as a regulated Tier I municipal provider in the Arizona  
13 Department of Water Resources' ("ADWR") Modified Non Per Capita Conservation  
14 Program ("NPCCP"). As a part of the NPCCP, ADAMAN is required to have a public  
15 education program and to implement one (1) BMP in its service area. Adaman must file  
16 annual reports with ADWR on its water conservation efforts.

17 **Q. IS THE COMPANY'S POSITION CONSISTENT WITH RECENT**  
18 **COMMISSION DECISIONS?**

19 A. Yes it is. In Decision No. 73573, dated November 21, 2012, for Pima Utility Company,  
20 The Commission found as follows:

21 Pima is located in the Phoenix Active Management Area ("AMA"). The state's  
22 groundwater protection laws are already in place and enforced by ADWR. We do

1                   not find duplicative regulation to be in the public interest. We agree with Pima  
2                   and will not require the filing of BMPs.

3                   More recently, in Decision No. 74294, dated January 29, 2014, for New River Utility  
4                   Company, the Commission again rejected Staff's BMP recommendation, finding as  
5                   follows:

6                   New River is located in the Phoenix AMA. The state's groundwater protection  
7                   laws are already in place and enforced by ADWR. We do not find duplicative  
8                   regulation to be in the public interest. We agree with New River and will not  
9                   require the filing of BMPs.

10                  Lastly, in the Commission's last Open Meeting, the Commission again rejected Staff's  
11                  BMP recommendation in Decision No. 74339, dated March 19, 2014, stating succinctly,  
12                  "We will not require the Company to implement any BMPs at this time."

13                  Staff's recommendation is not consistent with the Commission's BMP policy and should  
14                  be rejected.

15       **Q.    DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

16       **A.    Yes.**

Adaman Mutual Water Company

Ray Jones Rebuttal Testimony

**Exhibit RLJ-RB-1**

# **ARICOR**

## **Water Solutions**

25213 N. 49th Drive  
Phoenix, AZ 85083

**Ray L. Jones P.E.**  
Principal

### **EXPERTISE**

Mr. Jones formed ARICOR Water Solutions in 2004. Through ARICOR Water Solutions, Mr. Jones offers a wide range of engineering and financial analysis services to the private and public sectors. Projects include development of regulatory strategies and preparing rate cases, including preparation of rate studies, cost of service studies, financial schedules and testimony for filings before the Arizona Corporation Commission. Services also include consultation on water and wastewater utility formation, management and operations, and valuation, including due diligence analysis, water resources strategy development and water rights valuation. ARICOR Water Solutions provides water, wastewater and water resource master planning, water and wastewater facilities design, and owner representation; including value engineering, program management and construction oversight. Lastly, ARICOR Water Solutions supports water solutions with contract operations and expert witness testimony and litigation support.

### **EMPLOYMENT HISTORY**

- 2002 to 2004      **Arizona-American Water Company**  
**President**  
Responsible for leadership of the Arizona business activities of Arizona-American Water Company. Key responsibilities include developing and evaluation new business opportunities, developing strategic plans, establishing effective government and community relations, insuring compliance with all regulatory requirements, and providing management and guidance to key operations and support personnel.
- 1998 to 2002      **Citizens Water Resources, Arizona Operations**  
**Vice President and General Manager**  
Responsible for leadership of the Arizona regulated and unregulated business activities of Citizens Water Resources. Key responsibilities included developing and evaluation new business opportunities, developing strategic plans, establishing effective government and community relations, insuring compliance with all regulatory requirements, and providing management and guidance to key operations and support personnel.
- 1990 to 1998      **Citizens Water Resources, Arizona Operations**  
**Engineering and Development Services Manager**  
Responsible for management of a diverse group of business growth related activities. Responsibilities include: marketing of operation and maintenance services (unregulated business growth), management of new development activity (regulated business growth), management of engineering functions (infrastructure planning and construction), management of water resources planning and compliance, management of growth-related regulatory functions (CC&N's and Franchises), and management of capital budgeting functions and capital accounting functions.
- 1985 to 1990      **Citizens Water Resources, Arizona Operations**  
**Civil Engineer**  
Responsible for the planning, coordination and supervision of capital expansion and major maintenance and rehabilitation projects as assigned. Responsible for development of capital program for Maricopa County Operations.

### **EDUCATION**

Arizona State University – Master of Business Administration (1991)  
University of Kansas – Bachelor of Science in Civil Engineering (1985)

**PROFESSIONAL CERTIFICATION**

Registered Professional Engineer – Civil Engineering – Arizona  
 Professional Engineer – Civil Engineering – California  
 Certified Operator – Wastewater Treatment, Wastewater Collection, Water Treatment, Water Distribution – Arizona

**PROFESSIONAL AFFILIATIONS**

- Director - Water Utilities Association of Arizona (1998 – 2004)
- Member - American Society of Professional Engineers
- Member - American Water Works Association
- Member - Arizona Water Pollution Control Association
- Member - Water Environment Federation

**CIVIC AND COMMUNITY INVOLVEMENT**

- Advisory Member - Water Resources Development Commission (2010 – 2012)
- Board of Directors – Greater Maricopa Foreign Trade Zone (2009 – Present)
- Chairman WESTMARC (2008)
- Director and Member of the Executive Committee- WESTMARC (1998 – 2010)
- Co-Chairman, WESTMARC Water Committee (2006 – 2007)
- Chairman-Elect WESTMARC (2007)
- Member – Corporate Contributions Committee, West Valley Fine Arts Council Diamond Ball (Chairman 2005)
- Member – Technical Advisory Committee – Governor’s Water Management Commission (2001)
- Board Member, Manager & Past Chairman – North Valley Little League Softball

**REGULATORY EXPERIENCE**

Testimony has been provided before the Arizona Corporation Commission in the dockets listed below. Unless otherwise indicated testimony was provided on behalf of the utility.

Filing Year	Utility(ies)	Filing Type(s)	Docket(s)
1992	Sun City West Utilities Company	CC&N Extension (Expansion of Sun City West)	U-2334-92-244
1993	Sun City Water Company Sun City Sewer Company	CC&N Extension (Addition of Coyote Lakes)	U-1656-93-060 U-2276-93-060
1993	Tubac Valley Water Co., Inc.	CC&N Extension (Various Subdivisions on western border)	U-1595-93-241
1993	Sun City West Utilities Company	CC&N Extension (Expansion of Sun City West)	U-2334-93-293
1995	Citizens Utilities Company Sun City Water Company Sun City Sewer Company Sun City West Utilities Company Tubac Valley Water Company	Ratemaking	E-1032-95-417 U-1656-95-417 U-2276-95-417 U-2334-95-417 U-1595-95-417
1996	City Water Company Sun City Sewer Company	CC&N Extension (Acquisition of Youngtown)	U-1656-96-282 U-2276-96-282
1996	Citizens Utilities Company	CC&N Extension and Deletion (Realignment of Surprise Bdry.)	E-1032-96-518
1998	Sun City Water Company Sun City West Utilities Company	CAP Water Plan and Accounting Order (Sun Cities CAP plan)	W-01656A-98-0577 SW-02334A-98-0577

Filing Year	Utility(ies)	Filing Type(s)	Docket(s)
2000	Citizens Water Resources Company of Arizona Citizens Water Services Company of Arizona	CC&N Extension and Accounting Order (Anthen Jacka Property and Phoenix Treatment Agreement)	SW-3455-00-1022 SW-3454-00-1022
2000	Citizens Communications Company Citizens Water Services Company of Arizona	CC&N Extension and Approval of Hook-Up Fee (Verrado)	W-0132B-00-1043 SW-0354A-00-1043
2002	Arizona-American Water Company	Ratemaking	WS-01303A-02-0867 WS-01303A-02-0868 WS-01303A-02-0869 WS-01303A-02-0870 WS-01303A-02-0908
2004	Arizona-American Water Company Rancho Cabrillo Water Company Rancho Cabrillo Sewer Company	CC&N Transfer	WS-01303A-04-0089 W-01303A-04-0089 SW-03898A-04-0089
2004	Johnson Utilities Company, LLC (Representing Pulte Home Corporation)	CC&N Extension	WS-02987A-04-0288
2005	Perkins Mountain Utility Company Perkins Mountain Water Company	New CC&N & Initial Rates	WS-20379A-05-0489 W-20380A-05-0490
2005	West End Water Company	CC&N Extension	W-01157A-05-706
2005	Arizona-American Water Company	Approvals Associated with Construction of Surface Water Treatment Facility	W-01303A-05-0718
2006	Arizona-American Water Company	Ratemaking	WS-01303A-06-0403
2008	Sunrise Water Company	Ratemaking	W-02069A-08-0406
2009	Baca Float Water Company	Ratemaking	WS-01678A-09-0376
2009	Aubrey Water Company	Lost Water Evaluation (Rate Case Compliance)	W-03476A-06-0425
2009	White Horse Ranch Owner's Assn.	Ratemaking	W-04161A-09-0471
2010	Litchfield Park Service Company	Ratemaking	W-01427A-09-0104
2010	Chino Meadows II Water Company	Ratemaking	W-02370A-10-0519
2011	Pima Utility Company	Ratemaking	W-021999A-11-0329 WS-02199A-11-0330
2011	Tusayan Water Development Association, Inc. (Representing the Town of Tusayan)	Ratemaking	W-02350A-10-0163
2012	Valley Utilities Water Company, Inc.	Ratemaking	W-01412A-12-0195

<b>Filing Year</b>	<b>Utility(ies)</b>	<b>Filing Type(s)</b>	<b>Docket(s)</b>
2012	Far West Water & Sewer, Inc.	Ratemaking	WS-03478A-12-0307
2012	Sahuarita Water Company, LLC	Amend Off-Site Facilities Hook-Up Fee	W-03718A-09-0359
2012	New River Utility Company	Ratemaking	W-01737A-12-0478
2013	Far West Water & Sewer, Inc.	New Off-Site Facilities Hook-Up Fees	WS-03478A-13-0200
2012	Adman Mutual Water Company	Ratemaking	W-01997A-12-0501
2013	Far West Water & Sewer, Inc.	CC&N Extension	WS-03478A-13-0250
2013	Lago Del Oro Water Company	Ratemaking	W-01944A-13-0215
2013	Lago Del Oro Water Company	Financing	W-01944A-13-0242

March 2014

Adaman Mutual Water Company

Ray Jones Rebuttal Testimony

**Exhibit RLJ-RB-2**



Line

No.

	Present	Proposed
	Rates	Rates
1 <b>Other Service Charges</b>		
2		
3 Establishment	\$ 12.50	\$ 12.50
4 Establishment (After Hours)	\$ 25.00	n/t
5 Reconnection (Delinquent)	\$ 12.50	\$ 12.50
6 After Hours Charge	n/t	\$ 25.00
7 Meter Test (If correct)	\$ 15.00	\$ 15.00
8 Deposit Requirement (Residential)	2 times the average bill	2 times the average bill
9 Deposit Requirement (Non-Residential Meter)	2-1/2 times the average bill	2-1/2 times the average bill
10 Deposit Interest	6% per year	6% per year
11 Re-Establishment (Within 12 Months)	Number of Months off system times the monthly minimum charge	Number of Months off system times the monthly minimum charge
12 NSF Check	\$ 10.00	\$ 12.00
13 Deferred Payment, Per Month	1.5%	1.5%
14 Meter Re-Read (If correct)	n/t	\$ 15.00
15 Late Charge per month	1.50%	1.50%
16		
17 In addition to the collection of regular rates, the utility will collect from its		
18 customers a proportionate share of any privilege, sales, use, and franchise tax,		
19 per Commission rule A.A.C. 14-2-409(D)(5).		
20		
21 All items billed at cost shall include labor, materials and parts, overheads and all applicable taxes.		
22		
23 n/t - no tariff		
24		

25 **Service Line and Meter Installation Charges**

	Present Rates			Proposed Rates		
	Srv. Line	Meter	Total	Srv. Line	Meter	Total
26						
27 5/8" x 3/4" Meter			\$ 350	\$ 445	\$ 155	\$ 600
28 3/4" Meter			\$ 375	\$ 445	\$ 255	\$ 700
29 1" Meter			\$ 425	\$ 495	\$ 315	\$ 810
30 1 1/2" Meter			\$ 665	\$ 550	\$ 525	\$ 1,075
31 2" Meter			\$ 1,080	\$ 830	\$ 1,045	\$ 1,875
32 3" Meter			\$ 1,460	\$ 1,045	\$ 1,670	\$ 2,715
33 4" Meter			\$ 1,995	\$ 1,490	\$ 2,670	\$ 4,160
34 6" Meter			\$ 4,450	\$ 2,210	\$ 5,025	\$ 7,235
35						

36 All advances and/or contributions are to include labor, materials and parts, overheads and all applicable taxes,  
 37 including gross-up taxes for Federal and State taxes, if applicable.

38

39 All items billed at cost shall include labor, materials and parts, overheads and all applicable taxes.

40

41 n/t - no tariff

42

Adaman Mutual Water  
 Test Year Ended June 30, 2012  
 Typical Bill Analysis

Exhibit: RU-RB-2  
 Schedule H-4 Adaman Rebuttal  
 Witness: Jones

Meter Size: 5/8" x 3/4" (Res/Comm)  
 Rate Code: R1

Line No.	Rate Schedules	Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
1	<b>Present Rates:</b>	-	\$ 10.00	\$ 10.00	\$ -	0.00%
2	Base Charge:	1,000	\$ 12.00	\$ 11.80	\$ (0.20)	-1.67%
3		2,000	\$ 14.00	\$ 13.60	\$ (0.40)	-2.86%
4		3,000	\$ 16.00	\$ 15.40	\$ (0.60)	-3.75%
5	Tier One Rate:	4,000	\$ 18.00	\$ 17.30	\$ (0.70)	-3.89%
6	Tier Two Rate:	5,000	\$ 20.00	\$ 19.20	\$ (0.80)	-4.00%
7	Tier Three Rate:	6,000	\$ 22.00	\$ 21.10	\$ (0.90)	-4.09%
8		7,000	\$ 24.00	\$ 23.00	\$ (1.00)	-4.17%
9	Tier One Breakover (M gal):	3	\$ 26.00	\$ 24.90	\$ (1.10)	-4.23%
10	Tier Two Breakover (M gal):	10	\$ 28.00	\$ 26.80	\$ (1.20)	-4.29%
11	Tier Three Breakover (M gal):	999,999	\$ 30.00	\$ 28.70	\$ (1.30)	-4.33%
12		12,000	\$ 34.00	\$ 32.78	\$ (1.22)	-3.59%
13		14,000	\$ 38.00	\$ 36.86	\$ (1.14)	-3.00%
14	<b>Proposed Rates:</b>	16,000	\$ 42.00	\$ 40.94	\$ (1.06)	-2.52%
15	Base Charge:	18,000	\$ 46.00	\$ 45.02	\$ (0.98)	-2.13%
16		20,000	\$ 50.00	\$ 49.10	\$ (0.90)	-1.80%
17		25,000	\$ 60.00	\$ 59.30	\$ (0.70)	-1.17%
18	Tier One Rate:	30,000	\$ 70.00	\$ 69.50	\$ (0.50)	-0.71%
19	Tier Two Rate:	35,000	\$ 80.00	\$ 79.70	\$ (0.30)	-0.37%
20	Tier Three Rate:	40,000	\$ 90.00	\$ 89.90	\$ (0.10)	-0.11%
21		45,000	\$ 100.00	\$ 100.10	\$ 0.10	0.10%
22	Tier One Breakover (M gal):	3	\$ 110.00	\$ 110.30	\$ 0.30	0.27%
23	Tier Two Breakover (M gal):	10	\$ 130.00	\$ 130.70	\$ 0.70	0.54%
24	Tier Three Breakover (M gal):	999,999	\$ 150.00	\$ 151.10	\$ 1.10	0.73%
25		80,000	\$ 170.00	\$ 171.50	\$ 1.50	0.88%
26		90,000	\$ 190.00	\$ 191.90	\$ 1.90	1.00%
27		100,000	\$ 210.00	\$ 212.30	\$ 2.30	1.10%
28						
29		Average Usage				
30		17,133	\$ 44.27	\$ 43.25	\$ (1.02)	-2.30%
31		Median Usage				
32		9,184	\$ 28.37	\$ 27.15	\$ (1.22)	-4.30%
33						
34						

Adaman Mutual Water  
 Test Year Ended June 30, 2012  
 Typical Bill Analysis

Exhibit: RLJ-RB-2  
 Schedule H-4 Adaman Rebuttal  
 Witness: Jones

Meter Size: 3/4" (Res/Comm)  
 Rate Code: R2

Line No.	Rate Schedules	Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
1	<b>Present Rates:</b>	-	\$ 12.50	\$ 12.50	-	0.00%
2	Base Charge:	1,000	\$ 14.50	\$ 14.30	(0.20)	-1.38%
3		2,000	\$ 16.50	\$ 16.10	(0.40)	-2.42%
4		3,000	\$ 18.50	\$ 17.90	(0.60)	-3.24%
5	Tier One Rate:	4,000	\$ 20.50	\$ 19.80	(0.70)	-3.41%
6	Tier Two Rate:	5,000	\$ 22.50	\$ 21.70	(0.80)	-3.56%
7	Tier Three Rate:	6,000	\$ 24.50	\$ 23.60	(0.90)	-3.67%
8		7,000	\$ 26.50	\$ 25.50	(1.00)	-3.77%
9	Tier One Breakover (M gal):	3	\$ 28.50	\$ 27.40	(1.10)	-3.86%
10	Tier Two Breakover (M gal):	10	\$ 30.50	\$ 29.30	(1.20)	-3.93%
11	Tier Three Breakover (M gal):	999,999	\$ 32.50	\$ 31.20	(1.30)	-4.00%
12		12,000	\$ 36.50	\$ 35.28	(1.22)	-3.34%
13		14,000	\$ 40.50	\$ 39.36	(1.14)	-2.81%
14	<b>Proposed Rates:</b>	16,000	\$ 44.50	\$ 43.44	(1.06)	-2.38%
15	Base Charge:	18,000	\$ 48.50	\$ 47.52	(0.98)	-2.02%
16		20,000	\$ 52.50	\$ 51.60	(0.90)	-1.71%
17		25,000	\$ 62.50	\$ 61.80	(0.70)	-1.12%
18	Tier One Rate:	30,000	\$ 72.50	\$ 72.00	(0.50)	-0.69%
19	Tier Two Rate:	35,000	\$ 82.50	\$ 82.20	(0.30)	-0.36%
20	Tier Three Rate:	40,000	\$ 92.50	\$ 92.40	(0.10)	-0.11%
21		45,000	\$ 102.50	\$ 102.60	0.10	0.10%
22	Tier One Breakover (M gal):	3	\$ 112.50	\$ 112.80	0.30	0.27%
23	Tier Two Breakover (M gal):	10	\$ 132.50	\$ 133.20	0.70	0.53%
24	Tier Three Breakover (M gal):	999,999	\$ 152.50	\$ 153.60	1.10	0.72%
25		80,000	\$ 172.50	\$ 174.00	1.50	0.87%
26		90,000	\$ 192.50	\$ 194.40	1.90	0.99%
27		100,000	\$ 212.50	\$ 214.80	2.30	1.08%
28						
29		Average Usage				
30		15,707	\$ 43.91	\$ 42.84	(1.07)	-2.44%
31		Median Usage				
32		7,273	\$ 27.05	\$ 26.02	(1.03)	-3.81%
33						
34						

Adaman Mutual Water  
 Test Year Ended June 30, 2012  
 Typical Bill Analysis

Exhibit: RLJ-RB-2  
 Schedule H-4 Adaman Rebuttal  
 Witness: Jones

Meter Size: 1" (Res/Comm)  
 Rate Code: R3

Line No.	Rate Schedules	Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
1	<b>Present Rates:</b>	-	\$ 16.00	\$ 16.00	\$ -	0.00%
2	Base Charge: \$ 16.00	1,000	\$ 18.00	\$ 17.80	\$ (0.20)	-1.11%
3		2,000	\$ 20.00	\$ 19.60	\$ (0.40)	-2.00%
4		3,000	\$ 22.00	\$ 21.40	\$ (0.60)	-2.73%
5	Tier One Rate: \$ 2.00	4,000	\$ 24.00	\$ 23.30	\$ (0.70)	-2.92%
6	Tier Two Rate: \$ 2.00	5,000	\$ 26.00	\$ 25.20	\$ (0.80)	-3.08%
7	Tier Three Rate: \$ 2.00	6,000	\$ 28.00	\$ 27.10	\$ (0.90)	-3.21%
8		7,000	\$ 30.00	\$ 29.00	\$ (1.00)	-3.33%
9	Tier One Breakover (M gal): 3	8,000	\$ 32.00	\$ 30.90	\$ (1.10)	-3.44%
10	Tier Two Breakover (M gal): 10	9,000	\$ 34.00	\$ 32.80	\$ (1.20)	-3.53%
11	Tier Three Breakover (M gal): 999,999	10,000	\$ 36.00	\$ 34.70	\$ (1.30)	-3.61%
12		15,000	\$ 46.00	\$ 44.90	\$ (1.10)	-2.39%
13		20,000	\$ 56.00	\$ 55.10	\$ (0.90)	-1.61%
14	<b>Proposed Rates:</b>	25,000	\$ 66.00	\$ 65.30	\$ (0.70)	-1.06%
15	Base Charge: \$ 16.00	30,000	\$ 76.00	\$ 75.50	\$ (0.50)	-0.66%
16		35,000	\$ 86.00	\$ 85.70	\$ (0.30)	-0.35%
17		40,000	\$ 96.00	\$ 95.90	\$ (0.10)	-0.10%
18	Tier One Rate: \$ 1.80	45,000	\$ 106.00	\$ 106.10	\$ 0.10	0.09%
19	Tier Two Rate: \$ 1.90	50,000	\$ 116.00	\$ 116.30	\$ 0.30	0.26%
20	Tier Three Rate: \$ 2.04	60,000	\$ 136.00	\$ 136.70	\$ 0.70	0.51%
21		75,000	\$ 166.00	\$ 167.30	\$ 1.30	0.78%
22	Tier One Breakover (M gal): 3	100,000	\$ 216.00	\$ 218.30	\$ 2.30	1.06%
23	Tier Two Breakover (M gal): 10	150,000	\$ 316.00	\$ 320.30	\$ 4.30	1.36%
24	Tier Three Breakover (M gal): 999,999	200,000	\$ 416.00	\$ 422.30	\$ 6.30	1.51%
25		250,000	\$ 516.00	\$ 524.30	\$ 8.30	1.61%
26		300,000	\$ 616.00	\$ 626.30	\$ 10.30	1.67%
27		350,000	\$ 716.00	\$ 728.30	\$ 12.30	1.72%
28						
29		Average Usage				
30		16,264	\$ 48.53	\$ 47.48	\$ (1.05)	-2.16%
31		Median Usage				
32		9,739	\$ 35.48	\$ 34.20	\$ (1.28)	-3.61%
33						
34						

Adaman Mutual Water  
 Test Year Ended June 30, 2012  
 Typical Bill Analysis

Exhibit: RLJ-RB-2  
 Schedule H-4 Adaman Rebuttal  
 Witness: Jones

Meter Size: 1-1/2" (Res/Comm)  
 Rate Code: R4

Line No.	Rate Schedules	Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase	
1	<b>Present Rates:</b>	-	\$ 25.00	\$ 25.00	\$ -	0.00%	
2	Base Charge:	\$ 25.00	1,000 \$ 27.00	\$ 26.90	\$ (0.10)	-0.37%	
3			2,000 \$ 29.00	\$ 28.80	\$ (0.20)	-0.69%	
4			3,000 \$ 31.00	\$ 30.70	\$ (0.30)	-0.97%	
5	Tier One Rate:	\$ 2.00	4,000 \$ 33.00	\$ 32.60	\$ (0.40)	-1.21%	
6	Tier Two Rate:	\$ 2.00	5,000 \$ 35.00	\$ 34.50	\$ (0.50)	-1.43%	
7	Tier Three Rate:	\$ 2.00	6,000 \$ 37.00	\$ 36.40	\$ (0.60)	-1.62%	
8			7,000 \$ 39.00	\$ 38.30	\$ (0.70)	-1.79%	
9	Tier One Breakover (M gal):	-	8,000 \$ 41.00	\$ 40.20	\$ (0.80)	-1.95%	
10	Tier Two Breakover (M gal):	23	9,000 \$ 43.00	\$ 42.10	\$ (0.90)	-2.09%	
11	Tier Three Breakover (M gal):	999,999	10,000 \$ 45.00	\$ 44.00	\$ (1.00)	-2.22%	
12			15,000 \$ 55.00	\$ 53.50	\$ (1.50)	-2.73%	
13			20,000 \$ 65.00	\$ 63.00	\$ (2.00)	-3.08%	
14	<b>Proposed Rates:</b>		25,000 \$ 75.00	\$ 72.78	\$ (2.22)	-2.96%	
15	Base Charge:	\$ 25.00	30,000 \$ 85.00	\$ 82.98	\$ (2.02)	-2.38%	
16			35,000 \$ 95.00	\$ 93.18	\$ (1.82)	-1.92%	
17			40,000 \$ 105.00	\$ 103.38	\$ (1.62)	-1.54%	
18	Tier One Rate:	\$ -	45,000 \$ 115.00	\$ 113.58	\$ (1.42)	-1.23%	
19	Tier Two Rate:	\$ 1.90	50,000 \$ 125.00	\$ 123.78	\$ (1.22)	-0.98%	
20	Tier Three Rate:	\$ 2.04	60,000 \$ 145.00	\$ 144.18	\$ (0.82)	-0.57%	
21			75,000 \$ 175.00	\$ 174.78	\$ (0.22)	-0.13%	
22	Tier One Breakover (M gal):	-	100,000 \$ 225.00	\$ 225.78	\$ 0.78	0.35%	
23	Tier Two Breakover (M gal):	23	150,000 \$ 325.00	\$ 327.78	\$ 2.78	0.86%	
24	Tier Three Breakover (M gal):	999,999	200,000 \$ 425.00	\$ 429.78	\$ 4.78	1.12%	
25			250,000 \$ 525.00	\$ 531.78	\$ 6.78	1.29%	
26			300,000 \$ 625.00	\$ 633.78	\$ 8.78	1.40%	
27			350,000 \$ 725.00	\$ 735.78	\$ 10.78	1.49%	
28							
29			Average Usage				
30			23,443 \$	71.89 \$	69.60 \$	(2.29)	-3.19%
31			Median Usage				
32			11,706 \$	48.41 \$	47.24 \$	(1.17)	-2.42%
33							
34							

Adaman Mutual Water  
 Test Year Ended June 30, 2012  
 Typical Bill Analysis

Exhibit: RJJ-RB-2  
 Schedule H-4 Adaman Rebuttal  
 Witness: Jones

Meter Size: 2" (Res/Comm)  
 Rate Code: R5

Line No.	Rate Schedules	Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
1	<b>Present Rates:</b>	-	\$ 35.00	\$ 35.00	\$ -	0.00%
2	Base Charge:	\$ 35.00	1,000 \$	37.00 \$	36.90 \$	(0.10) -0.27%
3			2,000 \$	39.00 \$	38.80 \$	(0.20) -0.51%
4			3,000 \$	41.00 \$	40.70 \$	(0.30) -0.73%
5	Tier One Rate:	\$ 2.00	4,000 \$	43.00 \$	42.60 \$	(0.40) -0.93%
6	Tier Two Rate:	\$ 2.00	5,000 \$	45.00 \$	44.50 \$	(0.50) -1.11%
7	Tier Three Rate:	\$ 2.00	6,000 \$	47.00 \$	46.40 \$	(0.60) -1.28%
8			7,000 \$	49.00 \$	48.30 \$	(0.70) -1.43%
9	Tier One Breakover (M gal):	-	8,000 \$	51.00 \$	50.20 \$	(0.80) -1.57%
10	Tier Two Breakover (M gal):	35	9,000 \$	53.00 \$	52.10 \$	(0.90) -1.70%
11	Tier Three Breakover (M gal):	999,999	10,000 \$	55.00 \$	54.00 \$	(1.00) -1.82%
12			15,000 \$	65.00 \$	63.50 \$	(1.50) -2.31%
13			20,000 \$	75.00 \$	73.00 \$	(2.00) -2.67%
14	<b>Proposed Rates:</b>		25,000 \$	85.00 \$	82.50 \$	(2.50) -2.94%
15	Base Charge:	\$ 35.00	30,000 \$	95.00 \$	92.00 \$	(3.00) -3.16%
16			35,000 \$	105.00 \$	101.50 \$	(3.50) -3.33%
17			40,000 \$	115.00 \$	111.70 \$	(3.30) -2.87%
18	Tier One Rate:	\$ -	45,000 \$	125.00 \$	121.90 \$	(3.10) -2.48%
19	Tier Two Rate:	\$ 1.90	50,000 \$	135.00 \$	132.10 \$	(2.90) -2.15%
20	Tier Three Rate:	\$ 2.04	60,000 \$	155.00 \$	152.50 \$	(2.50) -1.61%
21			75,000 \$	185.00 \$	183.10 \$	(1.90) -1.03%
22	Tier One Breakover (M gal):	-	100,000 \$	235.00 \$	234.10 \$	(0.90) -0.38%
23	Tier Two Breakover (M gal):	35	150,000 \$	335.00 \$	336.10 \$	1.10 0.33%
24	Tier Three Breakover (M gal):	999,999	200,000 \$	435.00 \$	438.10 \$	3.10 0.71%
25			250,000 \$	535.00 \$	540.10 \$	5.10 0.95%
26			300,000 \$	635.00 \$	642.10 \$	7.10 1.12%
27			350,000 \$	735.00 \$	744.10 \$	9.10 1.24%
28						
29			Average Usage			
30			78,369 \$	191.74 \$	189.97 \$	(1.77) -0.92%
31			Median Usage			
32			26,250 \$	87.50 \$	84.88 \$	(2.62) -2.99%
33						
34						

Adaman Mutual Water  
 Test Year Ended June 30, 2012  
 Typical Bill Analysis

Exhibit: RLJ-RB-2  
 Schedule H-4 Adaman Rebuttal  
 Witness: Jones

Meter Size: 3" (Res/Comm)  
 Rate Code: R6

Line No.	Rate Schedules	Usage	Present Bill	Proposed Bill	Dollar Increase	Percent Increase
1	<b>Present Rates:</b>	-	\$ 75.00	\$ 75.00	\$ -	0.00%
2	Base Charge: \$ 75.00	25,000	\$ 125.00	\$ 122.50	\$ (2.50)	-2.00%
3		50,000	\$ 175.00	\$ 170.00	\$ (5.00)	-2.86%
4		75,000	\$ 225.00	\$ 217.50	\$ (7.50)	-3.33%
5	Tier One Rate: \$ 2.00	100,000	\$ 275.00	\$ 266.40	\$ (8.60)	-3.13%
6	Tier Two Rate: \$ 2.00	150,000	\$ 375.00	\$ 368.40	\$ (6.60)	-1.76%
7	Tier Three Rate: \$ 2.00	200,000	\$ 475.00	\$ 470.40	\$ (4.60)	-0.97%
8		250,000	\$ 575.00	\$ 572.40	\$ (2.60)	-0.45%
9	Tier One Breakover (M gal): -	300,000	\$ 675.00	\$ 674.40	\$ (0.60)	-0.09%
10	Tier Two Breakover (M gal): 90	350,000	\$ 775.00	\$ 776.40	\$ 1.40	0.18%
11	Tier Three Breakover (M gal): 999,999	400,000	\$ 875.00	\$ 878.40	\$ 3.40	0.39%
12		450,000	\$ 975.00	\$ 980.40	\$ 5.40	0.55%
13		500,000	\$ 1,075.00	\$ 1,082.40	\$ 7.40	0.69%
14	<b>Proposed Rates:</b>	550,000	\$ 1,175.00	\$ 1,184.40	\$ 9.40	0.80%
15	Base Charge: \$ 75.00	600,000	\$ 1,275.00	\$ 1,286.40	\$ 11.40	0.89%
16		650,000	\$ 1,375.00	\$ 1,388.40	\$ 13.40	0.97%
17		700,000	\$ 1,475.00	\$ 1,490.40	\$ 15.40	1.04%
18	Tier One Rate: \$ -	750,000	\$ 1,575.00	\$ 1,592.40	\$ 17.40	1.10%
19	Tier Two Rate: \$ 1.90	800,000	\$ 1,675.00	\$ 1,694.40	\$ 19.40	1.16%
20	Tier Three Rate: \$ 2.04	850,000	\$ 1,775.00	\$ 1,796.40	\$ 21.40	1.21%
21		900,000	\$ 1,875.00	\$ 1,898.40	\$ 23.40	1.25%
22	Tier One Breakover (M gal): -	950,000	\$ 1,975.00	\$ 2,000.40	\$ 25.40	1.29%
23	Tier Two Breakover (M gal): 90	1,000,000	\$ 2,075.00	\$ 2,102.40	\$ 27.40	1.32%
24	Tier Three Breakover (M gal): 999,999	1,050,000	\$ 2,175.00	\$ 2,204.40	\$ 29.40	1.35%
25		1,100,000	\$ 2,275.00	\$ 2,306.40	\$ 31.40	1.38%
26		1,150,000	\$ 2,375.00	\$ 2,408.40	\$ 33.40	1.41%
27		1,200,000	\$ 2,475.00	\$ 2,510.40	\$ 35.40	1.43%
28						
29		Average Usage				
30		169,648	\$ 414.30	\$ 408.48	\$ (5.82)	-1.40%
31		Median Usage				
32		158,550	\$ 392.10	\$ 385.84	\$ (6.26)	-1.60%
33						
34						



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 ADAMAN MUTUAL WATER COMPANY )  
FOR APPROVAL OF A RATE INCREASE )  
\_\_\_\_\_ )

DOCKET NO. W-01997A-12-0501

DIRECT  
TESTIMONY  
OF  
KATRIN STUKOV  
UTILITIES ENGINEER  
ARIZONA CORPORATION COMMISSION  
UTILITIES DIVISION

AUGUST 7, 2013

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ENGINEERING REPORT .....	2

**EXHIBITS**

Engineering Report .....	Exhibit KS
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1 **INTRODUCTION**

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

3 A. My name is Katrin Stukov. My place of employment is the Arizona Corporation  
4 Commission ("Commission"), Utilities Division ("Staff"), 1200 West Washington Street,  
5 Phoenix, Arizona 85007. My job title is Utilities Engineer.

6  
7 **Q. How long have you been employed by the Commission?**

8 A. I have been employed by the Commission since June 2006.

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

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

15  
16 **Q. How many cases have you analyzed for the Utilities Division?**

17 A. I have analyzed over 80 cases covering various responsibilities for the Utilities Division.

18  
19 **Q. What is your educational background?**

20 A. I graduated from the Moscow University of Civil Engineering with a Bachelor of Science  
21 degree in Civil Engineering with a concentration in water and wastewater systems.

22  
23 **Q. Briefly describe your pertinent work experience.**

24 A. Prior to my employment with the Commission, I was a design review environmental  
25 engineer with the Arizona Department of Environmental Quality ("ADEQ") for twenty  
26 years. My responsibilities with ADEQ included review of projects for the construction of

1 water and wastewater facilities. Prior to that, I worked as a civil engineer in several  
2 engineering and consulting firms, including Bechtel, Inc. and Brown & Root, Inc., in  
3 Houston, Texas.  
4

5 **PURPOSE OF TESTIMONY**

6 **Q. Were you assigned to provide the Staff's engineering analysis and recommendations**  
7 **for this Adaman Mutual Water Company ("Adaman" or "Company") rate case**  
8 **proceeding?**

9 **A.** Yes. I reviewed the Company's application and responses to data requests, and I visited  
10 the water system. This testimony and its attachment present Staff's engineering  
11 evaluation.  
12

13 **ENGINEERING REPORT**

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

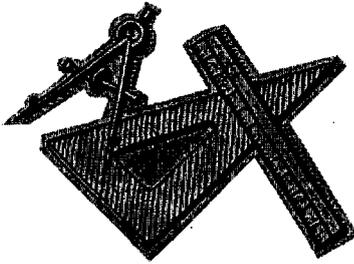
15 **A.** Exhibit KS presents Adaman's water system details and Staff's analysis and findings, and  
16 is attached to this Direct Testimony. Exhibit KS contains the following major topics: (1) a  
17 description and analysis of the water system, (2) water use, (3) growth, (4) compliance  
18 with the rules of ADEQ and the Arizona Department of Water Resources, (5) depreciation  
19 rates and (6) Staff's conclusions and recommendations.  
20

21 **Q. Please summarize Staff's engineering conclusions and recommendations.**

22 **A.** Such a summary is provided at the front of Exhibit KS.  
23

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

25 **A.** Yes, it does.



Engineering Report For  
Adaman Mutual Water Company  
Docket No. W-01997A-12-0501 (Rates)  
By Katrin Stukov  
Utilities Engineer  
May 1, 2013

## SUMMARY

### Conclusions

1. The Arizona Department of Environmental Quality ("ADEQ") or its formally delegated agent, the Maricopa County Environmental Services Department ("MCESD"), has reported that the Adaman Mutual Water Company's ("Adaman" or "Company") water system (PWS No. 07-001) is currently delivering water that meets water quality standards required by 40 C.F.R. 141 (National Primary Drinking Water Regulations) and Arizona Administrative Code, Title 18, Chapter 4.
2. The Company's water system has a water loss of 8.5 percent. This percentage is within the acceptable limit of 10 percent.
3. Based on the Company's water use data for the test year, Staff concludes that the Company's water system has adequate water supply, but lacks adequate storage capacity to serve the present customer base.
4. The Company's water system is located in the Phoenix Active Management Area ("AMA").
5. The Arizona Department of Water Resources ("ADWR") has determined that the Adaman water system is currently in compliance with ADWR requirements governing water providers and/or community water systems.
6. The Company has no outstanding Arizona Corporation Commission ("ACC") compliance issues.
7. The Company has an approved backflow prevention tariff.
8. The Company has an approved curtailment plan tariff.

## Recommendations

1. Staff recommends that the Company file with Docket Control as a compliance item in this docket by May 31, 2014, a copy of the ADEQ Approval of Construction for the new Well No. 1C.
2. Staff recommends that the Company be required to file with Docket Control, as a compliance item in this docket, within 90 days of the effective date of this Decision, at least three BMPs in the form of tariffs that conform to the templates created by Staff for the Commission's review and consideration. The templates created by Staff are available on the Commission's website at <http://www.azcc.gov/Divisions/Utilities/forms.asp>. The Company may request cost recovery of actual costs associated with the BMPs implemented in its next general rate application.
3. Staff recommends its annual water testing expense estimate of \$2,689 be used for this proceeding.
4. Staff recommends the depreciation rates delineated in Table B, on a going forward basis.
5. Staff recommends its service line and meter installation charges labeled "Staff's Recommendation" in Table C.

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## I. INTRODUCTION AND LOCATION OF COMPANY

On December 28, 2012, Adaman Mutual Water Company ("Adaman" or "Company") filed a rate application with the Arizona Corporation Commission ("ACC" or "Commission").

The Adaman water system is located in Litchfield Park, Maricopa County and provides potable water service to over 260 customers<sup>1</sup>.

A separate entity, the Adaman Irrigation District ("District"), shares its well with the Company<sup>2</sup> and provides non-potable irrigation water service to the same customer base.

Also, in March 2011 the Company started selling untreated water to the City of Goodyear ("Goodyear") via Well No. 1 and Well No. 2<sup>3</sup>, constructed and maintained by Goodyear per a Bulk Water Sales and Treatment Agreement between the Company and Goodyear ("Goodyear Sales Agreement") dated August 27, 2007.

The Company's certificated area covers approximately 4.4 square miles (approximately 2,834 acres). Figure 1 shows the location of Adaman within Maricopa County, Figures 2 and 3 delineate the Company's certificated area.

The Adaman plant facilities were visited on March 14, 2013, by Katrin Stukov, Staff Utilities Engineer, accompanied by the Company's representative, David Schofield.

---

<sup>1</sup> The Company reported 214 residential and 47 commercial customers during 2012 (with one customer, a farm, in a contiguous area).

<sup>2</sup> The Company and the District are sharing the District's Well #1B, per the Water Facilities Sharing Agreement dated August 21, 2002.

<sup>3</sup> These two Company wells are located in Adaman's certificated area, but are not connected to the Company's water system.

Figure 1

MARICOPA COUNTY

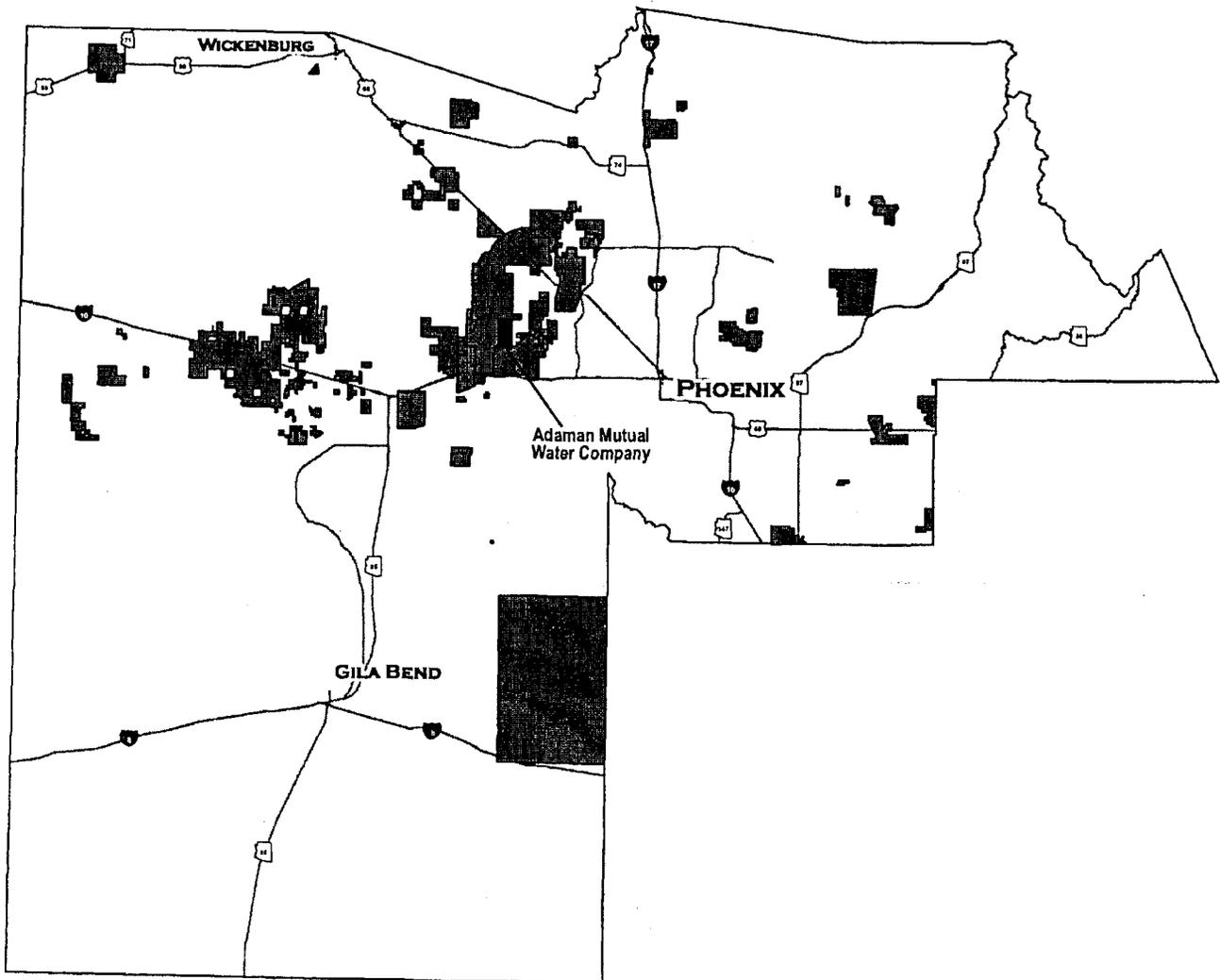
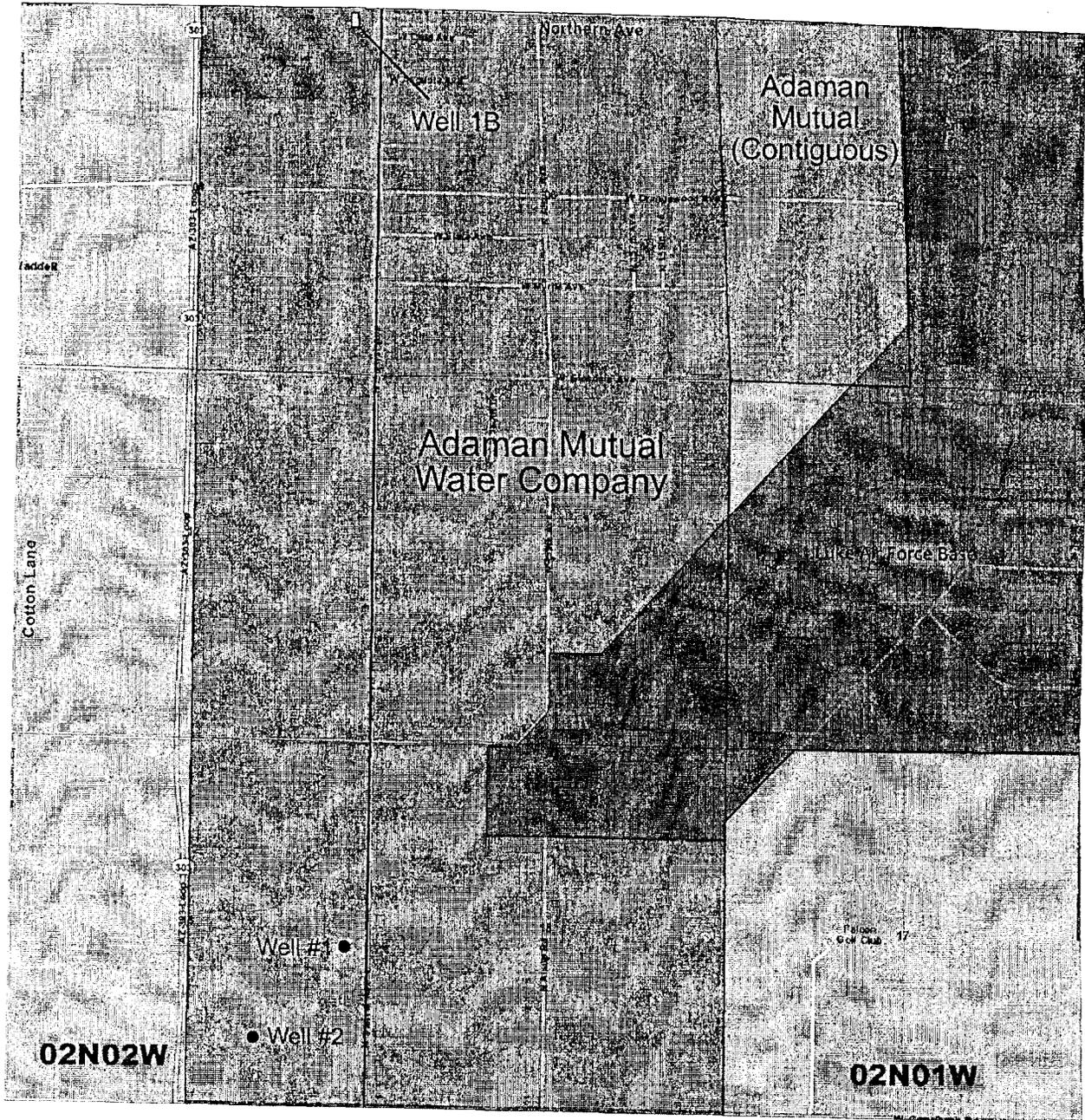




Figure 3

M A R I C O P A C O U N T Y



## II. WATER SYSTEM

### 1. Description of the Water System

In March 2011, Adaman stopped using its Well No. 6A and related components due to high Nitrate levels, and now relies on water purchased from the District's Well No. 1B.<sup>4</sup> The Company's arsenic removal system ("ARS"), constructed per the Goodyear Sales Agreement, provide arsenic treatment for the purchased water. The ARS treats only a portion of the well production. A bypass blending system is utilized to combine the non-treated portion of well water with treated water, resulting in a maximum production capacity of approximately 750 gallons per minute ("GPM").<sup>5</sup>

The current operation of the Adaman water system consists of one ARS, one storage tank, one pressure tank, three booster pumps and a distribution system serving approximately 260 service connections.

A water system schematic is shown in Figure 4 and a plant facilities summary<sup>6</sup> is tabulated below:

Well and Components  
(not in use)

Company Well ID	ADWR Well ID	Pump (HP)	Pump Yield (GPM)	Casing Depth (feet)	Casing Diameter (inches)	Meter Size (inches)	Year Drilled	Structures/ Components
6A	55-620807	100	none	1,089	14/12	6	1979	Sand separator Chlorine house Fence

Other Water Source  
(District Well)

District Well ID	ADWR Well ID	Meter Size (in inches)	Capacity (GPM)	Gallons Purchased
1B	55-588576	8	1,250	144,269,000

<sup>4</sup> The Company and the District are sharing the District's Well#1B, per the Water Facilities Sharing Agreement dated August 21, 2002.

<sup>5</sup> Per Company's responses to data requests

<sup>6</sup> Per Company's application, responses to data requests and site visit.

**Other Water Sources**  
(Wells are not connected to the Adaman system)<sup>7</sup>

Company Well ID	ADWR Well ID	Meter Size (in inches)	Capacity (GPM)	Gallons Sold to Goodyear
1	55-218274	10	1,500	383,057,402
2	55-218768	8	600	41,412,404

Storage Tanks		Pressure Tanks		Booster Pumps		Structures/ Components
Capacity (gallons)	Quantity	Capacity (gallons)	Quantity	Capacity (HP)	Quantity	
200,000	1	5,000	1	10	1	Power Generator
				15	1	Chain link Fence
				30	1	

**Arsenic Removal System**

Capacity (GPM)	Manufacturer	Date Placed in Service (AOC)	Structures
550	Severn Trent	January 9, 2009	Block Fence

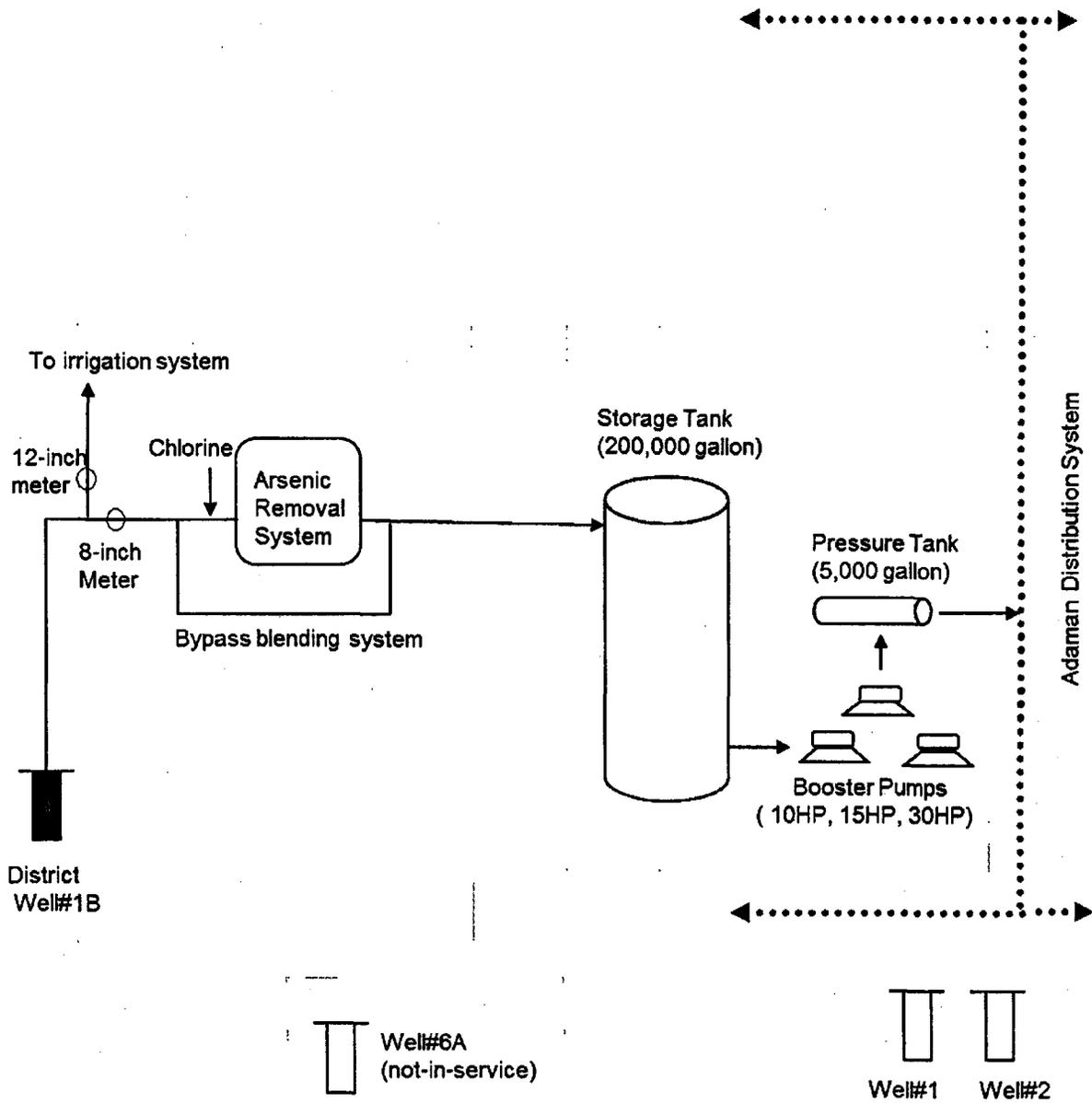
Other Treatment Equipment	Structures
Chlorination System	Chlorine House

**Distribution system**

Mains			Customer Meters		Fire Hydrants
Size (inches)	Material	Length (feet)	Size (inches)	Quantity	Quantity
4	ACP/PVC	34,920	5/8x3/4	25	3
6	PVC	10,365	3/4	37	
8	PVC	2,600	1	147	
12	PVC	160	1-1/2	31	
			2	15	
			Turbo 3	3	
			Turbo 4	1	
			Turbo 6	1	

<sup>7</sup> Wells are owned by the Company, but constructed and maintained by Goodyear and serve only Goodyear, per the Goodyear Sales Agreement.

Figure 4 Adaman Water System Schematic

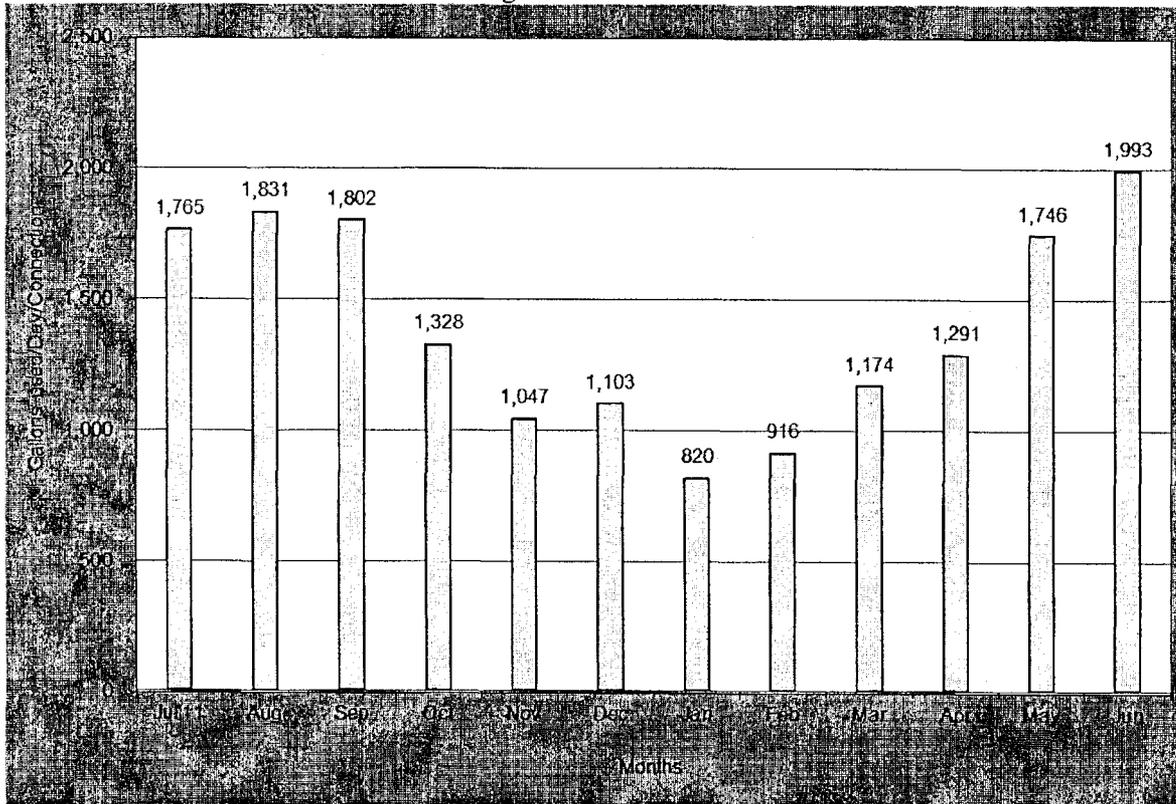


2. Water Use

Water Sold:

Figure 5 represents the water consumption data provided by the Company in its water use data sheet for the test year ending June 30, 2012. The Adaman customer consumption included a high monthly water use of 1,993 gallons per day (“GPD”) per connection in June, and the low water use was 820 GPD per connection in January. The average annual use was 1,401 GPD per connection.<sup>8</sup>

Figure 5 Water Use



Non-account Water:

Non-account water should be 10 percent or less, and never more than 15 percent. It is important to be able to reconcile the difference between water sold and the water produced by the source. A water balance will allow a company to identify water and revenue losses due to leakage, theft and flushing.

<sup>8</sup> Some of Adaman’s non-residential customers, such as farms, a commercial dairy and the World Wild Life Zoo, are high volume water users.

The Company reported 144,269,000 gallons purchased from the District and 132,067,000 gallons sold to its customers for the test year, resulting in a water loss of 8.5 percent. This percentage is within acceptable limit of 10 percent.

### 3. *System Analysis*

Based on the Company's water use data for the test year, Staff concludes that the Adaman system has adequate water supply to serve the present customer base and a reasonable level of growth. However, the storage capacity of 200,000 gallons is inadequate to serve the present customer base of 260 service connections. Based on the Company's water use data and the capacity analyses, a minimum of 600,000 gallons of storage is required on this system (with a single source) to meet seasonal peak demand<sup>9</sup>. As an alternative, multiple well sources (with a minimum total operating capacity of 750 GPM) could satisfy the storage capacity deficiency.

The Company is planning to utilize an additional well with estimated yield of 1,000 GPM. According to the Company, the District, in partnership with Adaman, is in the process of developing a new well (Well No. 1C) that both entities will share. Adaman intends to purchase water from the District Well No. 1C, as needed, or in the event that the District Well No. 1B is out of service. The existing ARS will be utilized to provide arsenic treatment.

Staff recommends that the Company file with Docket Control as a compliance item in this docket by May 31, 2014, a copy of the ADEQ Approval of Construction for the new Well No. 1C.

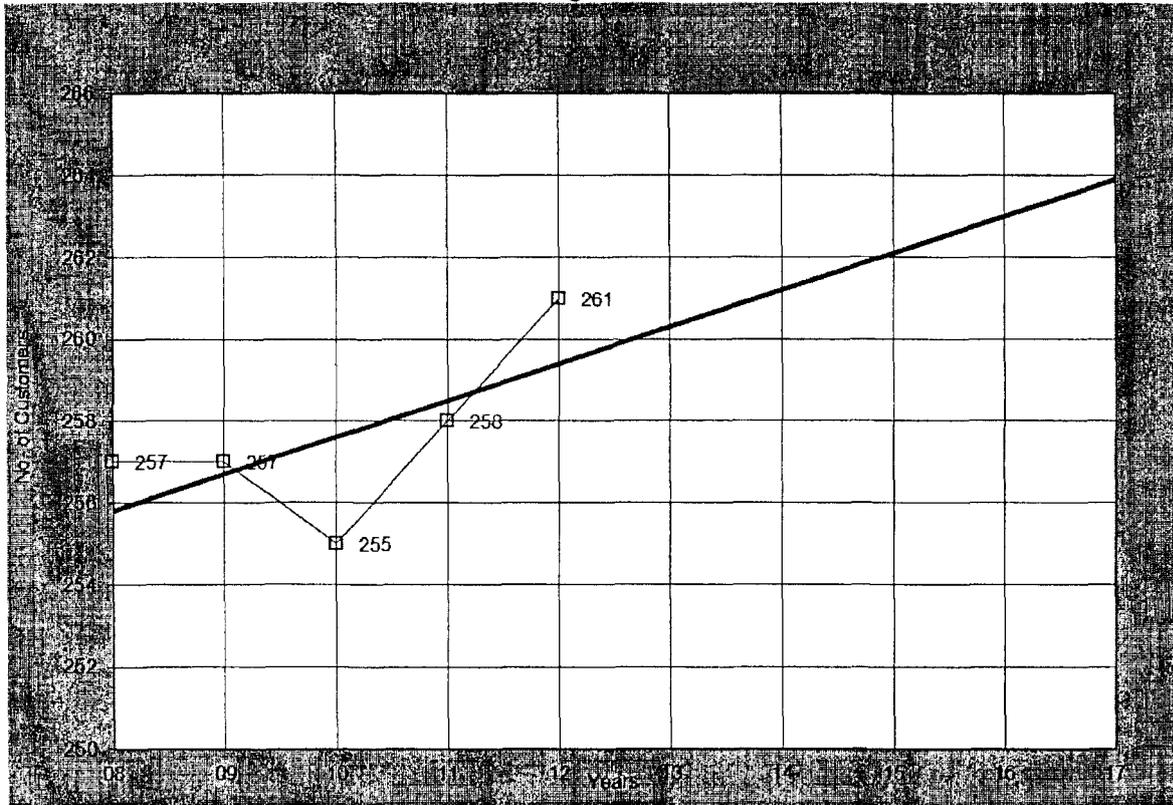
### 4. *Growth*

Based on customer data provided by the Company, it is projected that the Adaman system could have approximately 264 connections by 2017. Figure 6 depicts actual growth from 2008 to 2012 and projects an estimated growth in the service area for the next five years using linear regression analysis.

---

<sup>9</sup> Staff analysis of the system capacities does not include fire flow.

Figure 6



### III. ADEQ COMPLIANCE

#### *Compliance*

ADEQ or its formally delegated agent, the MCESD, has reported that the Company's water system (PWS No. 07-001) is currently delivering water that meets water quality standards required by 40 C.F.R. 14 (National Primary Drinking Water Regulations) and Arizona Administrative Code, Title 18, Chapter 4.<sup>10</sup>

#### *Water Testing Expense*

Participation in the ADEQ Monitoring Assistance Program ("MAP") is mandatory for water systems which serve less than 10,000 persons (approximately 3,300 service connections). Based on data provided by the Company, Staff's estimated average annual water testing expenses for the Company at \$2,689. Table A shows the cost details of Staff's annual monitoring expense estimate totaling \$2,689 with participation in the MAP.<sup>11</sup>

<sup>10</sup> Per MCESD Compliance Status Reports dated July 20, 2012.

<sup>11</sup> The ADEQ MAP invoice for the 2012 Calendar Year was \$952, rounded.

Staff recommends its annual water testing expense estimate of \$2,689 be used for this proceeding.

Table A. Water Testing Cost

Monitoring	Cost per Sample	No. of samples per year	Average Annual Cost
Total coliform – monthly	\$16	24	\$384
Nitrates-quarterly	\$60	4	\$240
Arsenic- quarterly	\$40	16	\$640
TTHM-annually	\$110	1	\$110
HAA5-annually	\$250	1	\$250
Lead & Copper – per 3 years	\$34	10/3-yrs	\$113
MAP – IOCs, SOCs, VOCs, Radiochemical, Nitrite, Asbestos- annual	MAP	MAP	\$952
Total			<b>\$2,689</b>

#### IV. ADWR COMPLIANCE

The Adaman system is located in the Phoenix AMA.

The ADWR has determined that the Adaman system is currently in compliance with ADWR requirements governing water providers and/or community water systems.<sup>12</sup>

#### V. ACC COMPLIANCE

A check with Utilities Division Compliance Section showed that there are currently no delinquent compliance items for the Company.<sup>13</sup>

#### VI. DEPRECIATION RATES

Staff has developed typical and customary depreciation rates within a range of anticipated equipment life. These rates are presented in Table B. Staff recommends that the Company adopt Staff's typical and customary depreciation rates in the accounts listed in Table B.

<sup>12</sup> Per ADWR Compliance status check dated January 9, 2013.

<sup>13</sup> Per ACC Compliance status check dated February 13, 2013.

**TABLE B  
DEPRECIATION RATE TABLE FOR WATER COMPANIES**

NARUC Account No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
304	Structures & Improvements	30	3.33
305	Collecting & Impounding Reservoirs	40	2.50
306	Lake, River, Canal Intakes	40	2.50
307	Wells & Springs	30	3.33
308	Infiltration Galleries	15	6.67
309	Raw Water Supply Mains	50	2.00
310	Power Generation Equipment	20	5.00
311	Pumping Equipment	8	12.5
320	Water Treatment Equipment		
320.1	Water Treatment Plants	30	3.33
320.2	Solution Chemical Feeders	5	20.0
330	Distribution Reservoirs & Standpipes		
330.1	Storage Tanks	45	2.22
330.2	Pressure Tanks	20	5.00
331	Transmission & Distribution Mains	50	2.00
333	Services	30	3.33
334	Meters	12	8.33
335	Hydrants	50	2.00
336	Backflow Prevention Devices	15	6.67
339	Other Plant & Misc Equipment	15	6.67
340	Office Furniture & Equipment	15	6.67
340.1	Computers & Software	5	20.00
341	Transportation Equipment	5	20.00
342	Stores Equipment	25	4.00
343	Tools, Shop & Garage Equipment	20	5.00
344	Laboratory Equipment	10	10.00
345	Power Operated Equipment	20	5.00
346	Communication Equipment	10	10.00
347	Miscellaneous Equipment	10	10.00
348	Other Tangible Plant	----	----

## NOTES:

1. These depreciation rates represent average expected rates. Water companies may experience different rates due to variations in construction, environment, or the physical and chemical characteristics of the water.
2. Account 348, Other Tangible Plant may vary from 5% to 50%. The depreciation rate would be set in accordance with the specific capital items in this account.

## VII. OTHER ISSUES

### 1. Service Line and Meter Installation Charges

Service line and meter charges are refundable advances. The Company has requested changes in its service line and meter installation charges and the requested charges are within Staff's customary range of 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.

Staff recommends its service line and meter installation charges labeled "Staff's Recommendation" in Table C.

Table C  
Service Line and Meter Installation Charges

Meter Size	Company Current Tariff <sup>14</sup>	Company Proposed Tariff	Staff's Recommendation		
			Service Line Charge	Meter Charge	Total Charge
5/8 x 3/4-inch	\$350	\$600	\$445	\$155	\$600
3/4-inch	\$375	\$700	\$455	\$255	\$700
1-inch	\$425	\$810	\$495	\$315	\$810
1-1/2-inch	\$665	\$1,075	\$550	\$525	\$1,075
2-inch	\$1,080	\$1,875	\$830	\$1,045	\$1,875
3-inch	\$1,460	\$2,715	\$1,045	\$1,670	\$2,715
4-inch	\$1,995	\$4,160	\$1,490	\$2,670	\$4,160
6-inch	\$4,450	\$7,235	\$2,210	\$5,025	\$7,235

### 2. Curtailment Plan Tariff

The Company has an approved curtailment plan tariff.

### 3. Backflow Prevention Tariff

The Company has an approved backflow prevention tariff.

### 4. Best Management Practices ("BMPs")

Staff recommends that the Company be required to file with Docket Control, as a compliance item in this docket, within 90 days of the effective date of this Decision, at least three

<sup>14</sup> Became effective on August 1, 1996

BMPs in the form of tariffs that conform to the templates created by Staff for the Commission's review and consideration. The templates created by Staff are available on the Commission's website at <http://www.azcc.gov/Divisions/Utilities/forms.asp>. The Company may request cost recovery of actual expenses associated with the BMPs implemented in its next general rate application.



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 ADAMAN MUTUAL WATER COMPANY )  
FOR APPROVAL OF A RATE INCREASE )  
\_\_\_\_\_ )

DOCKET NO. W-01997A-12-0501

SURREBUTTAL  
TESTIMONY  
OF  
KATRIN STUKOV  
UTILITIES ENGINEER  
ARIZONA CORPORATION COMMISSION  
UTILITIES DIVISION

MAY 30, 2014

### **Summary of Recommendations**

Staff recommends that the Adaman Mutual Water Company ("Adaman" or "Company") file with Docket Control as a compliance item in this docket, within 30 days of a decision in this case, a copy of the Arizona Department of Environmental Quality ("ADEQ") Approval of Construction ("AOC") for the new Well No. 1C and a copy of the ADEQ AOC for the waterline connecting the new Well No. 1C to Adaman potable water system.

Staff recommends that the Company be required to file with Docket Control, as a compliance item in this docket, within 90 days of the effective date of this Decision, at least three BMPs in the form of tariffs that conform to the templates created by Staff for the Commission's review and consideration. The templates created by Staff are available on the Commission's website at <http://www.azcc.gov/Divisions/Utilities/forms.asp>. The Company may request cost recovery of actual costs associated with the BMPs implemented in its next general rate application.

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1 **INTRODUCTION AND PURPOSE OF TESTIMONY**

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

3 A. My name is Katrin Stukov. My place of employment is the Arizona Corporation  
4 Commission ("Commission"), Utilities Division ("Staff"), 1200 West Washington Street,  
5 Phoenix, Arizona 85007. My job title is Utilities Engineer.

6  
7 **Q. Are you the same Katrin Stukov who submitted Direct Testimony on behalf of the**  
8 **Utilities Division?**

9 A. Yes.

10  
11 **Q. What was the purpose of that testimony?**

12 A. My Direct Testimony provided Staff's engineering evaluation of Adaman Mutual Water  
13 Company ("Adaman" or "Company") water system for this rate case proceeding.

14  
15 **Q. What is the purpose of your Surrebuttal Testimony?**

16 A. To provide Staff's responses to the Company's Rebuttal Testimony regarding Staff's  
17 Recommendations and confirm the current Recommendations that Staff is making as of this  
18 filing. Staff still recommends that the Company file with Docket Control as a compliance  
19 item in this docket by May 31, 2014, a copy of the Arizona Department of Environmental  
20 Quality ("ADEQ") Approval of Construction ("AOC") for the new Well No.1C.

21 Additionally, Staff continues to recommend that the Company be required to file with  
22 Docket Control, as a compliance item in this docket, within 90 days of the effective date of  
23 this Decision, at least three BMPs in the form of tariffs that conform to the templates created  
24 by Staff for the Commission's review and consideration. The templates created by Staff are

25 available on the Commission's website at  
26 <http://www.azcc.gov/Divisions/Utilities/forms.asp>. The Company may request cost

1 recovery of actual costs associated with the BMPs implemented in its next general rate  
2 application.

3  
4 **Q. Based on the rebuttal testimony of Ray L. Jones regarding Staff's recommendation**  
5 **that the Company file a copy of the ADEQ AOC for the new Well No.1C, does Staff**  
6 **make any changes to its recommendation?**

7 **A.** Yes. Staff recommends that the Company file with Docket Control as a compliance item in  
8 this docket, within 30 days of a decision in this case, a copy of the ADEQ AOC for the new  
9 Well No. 1C and a copy of the ADEQ AOC for the waterline connecting the new Well No.  
10 1C to Adaman potable water system.

11  
12 **Q. Based on the rebuttal testimony of Ray L. Jones regarding Staff's recommendation**  
13 **that the Company file three BMP tariffs, does Staff make any changes to its original**  
14 **recommendation?**

15 **A.** No. Staff's recommendation is based on Staff's understanding of current Commission policy  
16 regarding BMPs and is consistent with that policy. Therefore Staff continues to recommend  
17 that the Company be required to file three BMPs in the form of tariffs.

18  
19 **Q. Does Staff make any other changes to its engineering recommendations?**

20 **A.** No.

21  
22 **Q. Does this conclude your Surrebuttal Testimony?**

23 **A.** Yes, it does.



**BEFORE THE ARIZONA CORPORATION COMMISSION**

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

IN THE MATTER OF THE APPLICATION )  
OF ADAMAN MUTUAL WATER COMPANY )  
FOR APPROVAL OF A RATE INCREASE )  
\_\_\_\_\_ )

DOCKET NO. W-01997A-12-0501

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

AUGUST 7, 2013

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**EXECUTIVE SUMMARY**  
**ADAMAN MUTUAL WATER COMPANY**  
**DOCKET NO. W-01997A-12-0501**

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 Adaman Mutual Water Company (“Adaman” or “Company”) for this proceeding consisting of 0.0 percent debt and 100.0 percent equity.

Cost of Equity – Staff recommends that the Commission adopt a 9.1 percent return on equity (“ROE”) for the Company. Staff’s estimated ROE for the Company is based on the 8.5 percent average of its discounted cash flow method (“DCF”) and capital asset pricing model (“CAPM”) cost of equity methodology estimates for the sample companies of 8.5 percent for the DCF and 8.4 percent for the CAPM. Staff’s recommended ROE includes an upward economic assessment adjustment of 60 basis points.

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

Overall Rate of Return – Staff recommends that the Commission adopt a 9.1 percent overall rate of return.

The Company’s Application – Although it is a Class “C” regulated water utility, Adaman requested a waiver allowing it to file the short-form rate application generally applicable for Class “D” and “E” utilities, and Staff accepted the Company’s request. Consequently, the Company’s filing was not accompanied by cost of capital schedules (i.e., Schedules D.1 – D.4) indicating the proposed ROE.

1 **I. INTRODUCTION**

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

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

6

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

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

13

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

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

23

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

2 A. My testimony provides Staff's recommended capital structure, return on equity ("ROE")  
3 and overall rate of return ("ROR") for establishing the revenue requirement for Adaman  
4 Mutual Water Company's ("Adaman" or "Company") pending rate application.

5  
6 **Q. Please provide a brief description of Adaman.**

7 A. Adaman is a public service corporation providing potable water utility service to metered  
8 customers in parts of Maricopa County, Arizona, pursuant to certificates of convenience  
9 and necessity granted by the Commission. During the test year, Adaman provided service  
10 to 261 metered customers.

11

12 *Summary of Testimony and Recommendations*

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

14 A. Staff's cost of capital testimony is presented in eleven sections. Section I is this  
15 introduction. Section II discusses the concept of weighted average cost of capital  
16 ("WACC"). Section III presents the concept of capital structure and presents Staff's  
17 recommended capital structure for Adaman in this proceeding. Section IV presents Staff's  
18 cost of debt for Adaman. Section V discusses the concepts of ROE and risk. Section VI  
19 presents the methods employed by Staff to estimate Adaman's ROE. Section VII presents  
20 the findings of Staff's ROE analysis. Section VIII presents additional factors considered  
21 in developing the cost of equity estimate for Adaman. Section IX presents Staff's ROR  
22 recommendation. Finally, Section X presents Staff's conclusions.

23

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

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

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

2 A. Staff recommends a 9.1 percent overall ROR, as shown in Schedule JAC-1. Staff's ROR  
3 recommendation is based on cost of equity estimates for the sample companies of 8.5  
4 percent from the discounted cash flow ("DCF") method and 8.4 percent from the capital  
5 asset pricing model ("CAPM"). Staff recommends adoption of a 60 basis point upward  
6 Economic Assessment Adjustment, resulting in a 9.1 percent return on equity.

7

8 *Adaman's Proposed Overall Rate of Return*

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

11 A. The Company proposes a capital structure consisting of 100.0 percent equity and 0.0  
12 percent. However, because the Application is silent as to both the return on equity  
13 requested in this rate proceeding and the rate base proposed, the overall ROR proposed by  
14 the Company is indeterminable, as shown in Table 1 below.

15

16

**Table 1**

	<b>Weight</b>	<b>Cost</b>	<b>Weighted Cost</b>
Long-term Debt	0.0%	0.00%	0.00%
Common Equity	100.0%	N/A	<u>N/A</u>
<b>Cost of Capital/ROR</b>			<b>N/A</b>

17

18

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

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

21 A. The cost of capital is the opportunity cost of choosing one investment over others with  
22 equivalent risk. In other words, the cost of capital is the return that stakeholders expect

1 for investing their financial resources in a determined business venture over another  
2 business venture.

3  
4 **Q. What is the overall cost of capital?**

5 A. The overall cost of capital for a firm issuing a variety of securities (i.e., stock and  
6 indebtedness) represents an average of the various cost rates on all securities issued by the  
7 firm adjusted to reflect the relative weighting of each security within the firm's capital  
8 structure. Thus, for any given firm, the overall cost of capital is the firm's weighted  
9 average cost of capital ("WACC").

10  
11 **Q. How is the WACC calculated?**

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

14 Equation 1.

15  
16 
$$\text{WACC} = \sum_{i=1}^n W_i * r_i$$
  
17

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

20  
21 **Q. Can you provide an example demonstrating application of Equation 1?**

22 A. Yes. For this example, assume that an entity has a capital structure composed of 60  
23 percent debt and 40 percent equity. Also, assume that the embedded cost of debt is 6.0  
24 percent and the expected return on equity, i.e., the cost of equity, is 10.5 percent.  
25 Calculation of the WACC is as follows:  
26

1           WACC = (60% \* 6.0%) + (40% \* 10.5%)

2           WACC = 3.60% + 4.20%

3           WACC = 7.80%

4  
5           The weighted average cost of capital in this example is 7.80 percent. The entity in this  
6           example would need to be positioned to earn an overall rate of return of 7.80 percent to  
7           cover its cost of capital.

8  
9           **III. CAPITAL STRUCTURE**

10          *Background*

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

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

15  
16          **Q. How is the capital structure expressed?**

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

20  
21          As an example, the capital structure for an entity that is financed by \$20,000 of short-term  
22          debt, \$85,000 of long-term debt (including capital leases), \$15,000 of preferred stock and  
23          \$80,000 of common stock is shown in Table 2.

24

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.

*Adaman' Capital Structure*

**Q. What capital structure does the Company propose?**

A. Adaman proposes a capital structure of 0.0 percent debt and 100.0 percent common equity. The proposed capital structure reflects the Company's actual capital structure as of the June 30, 2012 test-year end date.

**Q. How does Adaman's 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 31, 2012. The average capital structure for the sample water utilities is comprised of approximately 51.2 percent debt and 48.8 percent equity.

1 *Staff's Capital Structure*

2 **Q. What is Staff's recommended capital structure for Adaman in this proceeding?**

3 A. Staff recommends a capital structure composed of 0.0 percent debt and 100.0 percent  
4 equity, and reflects the Company's actual capital as of the June 30, 2012 test-year end.

5  
6 **IV. COST OF DEBT**

7 **Q. What is the basis for the Company's proposed 0.0 percent cost of debt in this**  
8 **proceeding?**

9 A. As noted above, Adaman has no debt in its capital structure; therefore, the Company has a  
10 cost of debt of 0.0 percent.

11  
12 **Q. What cost of debt does Staff recommend?**

13 A. Staff recommends a cost of debt of 0.0 percent, as shown in Schedule JAC-1.  
14

15 **V. COST OF EQUITY**

16 *Background*

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

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

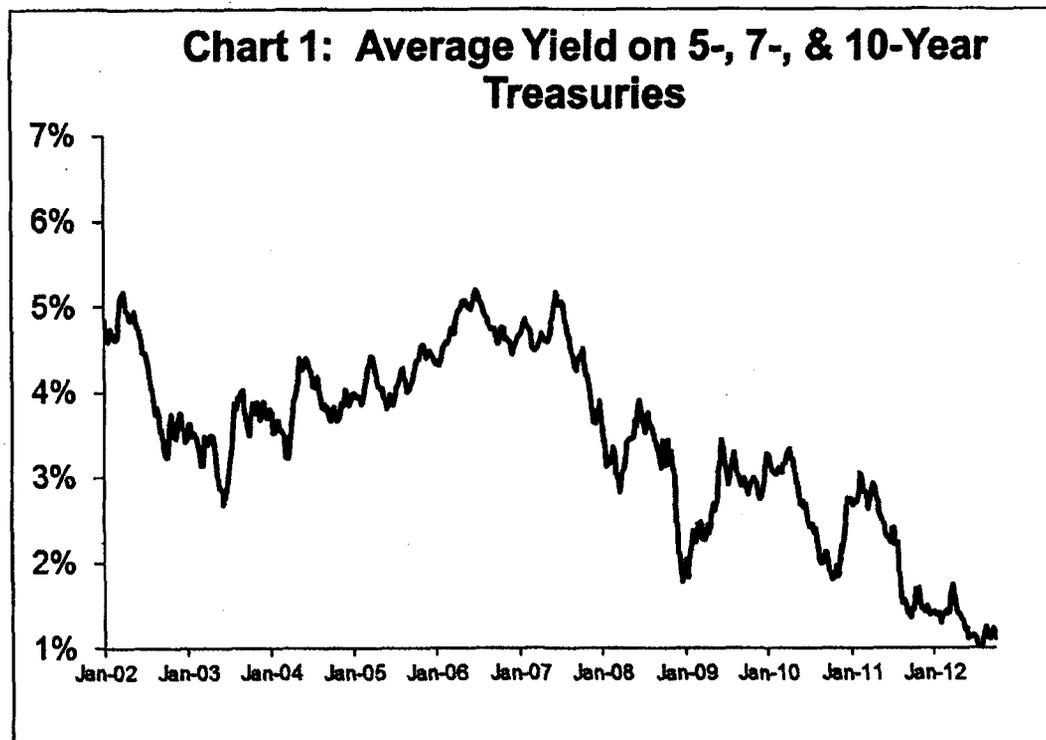
23  
24 **Q. Is there a correlation between interest rates and the cost of equity?**

25 A. Yes, there is a positive correlation between interest rates and the cost of equity, as the two  
26 tend to move in the same direction. This relationship is reflected in the CAPM formula.

1 The CAPM is a market-based model employed by Staff for estimating the cost of equity.  
2 The CAPM is further discussed in Section VI of this testimony.

3  
4 **Q. What has been the general trend of interest rates in recent years?**

5 **A.** A chronological chart of interest rates is a good tool to show interest rate history and  
6 identify trends. Chart 1 graphs intermediate U.S. treasury rates from January 4, 2002, to  
7 May 31, 2013.



22  
23 Chart 1 shows that intermediate-term interest rates trended downward from 2002 to mid-  
24 2003, trended upward through mid-2007, and have generally trended down since that time.

25

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

2 A. U.S. Treasury rates from January 1962- May 2013 are shown in Chart 2. The chart shows  
3 that interest rates trended upward through the mid-1980s and have trended downward over  
4 the last 25 years.



Source: Federal Reserve

19  
20  
21 Q. Do these trends suggest anything in terms of cost of equity?

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

24

25 Q. Do actual returns represent the cost of equity?

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

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

4 A. Yes. A comparison of betas, a component of the CAPM discussed in Section VI, for the  
5 water utility industry and the market provides insight into this relationship. In theory, the  
6 market has a beta value of 1.0, with stocks bearing greater risk (less risk) than the market  
7 having beta values higher than (lower than) 1.0, respectively. Furthermore, in accordance  
8 with the CAPM, the cost of equity capital moves in the same direction as beta. Therefore,  
9 because the average beta value (0.71)<sup>1</sup> for a water utility is less than 1.0, the required  
10 return on equity for a regulated water utility is below that of the market as a whole.

11  
12 *Risk*

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

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

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

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

---

<sup>1</sup> See Schedule JAC-7.

1 impact each security to the same degree. The degree to which a given security's return is  
2 affected by market fluctuations can be measured using Beta. Beta reflects the business  
3 risk and the financial risk of a security.

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

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

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

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

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

17 A. Yes.

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

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

24

1 **Q. How does Adaman's financial risk exposure compare to that of Staff's sample group**  
2 **of companies?**

3 A. Schedule JAC-4 shows the capital structures of Staff's six sample water companies as of  
4 December 30, 2012, and Adaman's actual capital structure as of the June 30, 2012 test-  
5 year end. As shown, the sample water utilities were capitalized with approximately 51.2  
6 percent debt and 48.8 percent equity, while Adaman's capital structure consists of 0.0  
7 percent debt and 100.0 percent equity. Thus, unlike Staff's sample companies, Adaman  
8 has no debt in its capital structure; therefore, the Company has no exposure to financial  
9 risk.

10  
11 **Q. Is firm-specific risk measured by beta?**

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

13  
14 **Q. Is the cost of equity affected by firm-specific risk?**

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

17  
18 **Q. Can investors expect additional returns for firm-specific risk?**

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

23

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

2 *Introduction*

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

4 A. No. Since Adaman is not a publicly-traded company, Staff is unable to directly estimate  
5 its cost of equity due to the lack of firm-specific market data. Instead, Staff estimated the  
6 Company's cost of equity indirectly, using a representative sample group of publicly  
7 traded water utilities as a proxy. Use of a sample is appropriate, as it reduces the sample  
8 error resulting from random fluctuations in the market at the time the information is  
9 gathered.

10  
11 **Q. What water utilities did Staff select for its proxy group of sample companies?**

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

16  
17 **Q. What models did Staff implement to estimate Adaman's cost of equity?**

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

20  
21 **Q. Please explain why Staff chose the DCF and CAPM models.**

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

25

1 *Discounted Cash Flow Model Analysis*

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

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

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

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

18  
19 *The Constant-Growth DCF*

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

21 A. The constant-growth DCF formula used in Staff's analysis is:  
22

Equation 2:

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

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

1  
2 Equation 2 assumes that the entity has a constant earnings retention rate and that its  
3 earnings are expected to grow at a constant rate. According to Equation 2, a stock with a  
4 current market price of \$10 per share, an expected annual dividend of \$0.45 per share and  
5 an expected dividend growth rate of 3.0 percent per year has a cost of equity to the entity  
6 of 7.5 percent reflected by the sum of the dividend yield ( $\$0.45/\$10 = 4.5$  percent) and the  
7 3.0 percent annual dividend growth rate.

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

11 A. Staff calculated the expected yield component of the DCF formula by dividing the  
12 expected annual dividend ( $D_1$ ) by the spot stock price ( $P_0$ ) after the close of market on  
13 July 10, 2013, as reported by *MSN Money*.

14  
15 **Q. Why did Staff use the July 10, 2013, spot price rather than a historical average stock**  
16 **price to calculate the dividend yield component of the DCF formula?**

17 A. The current, rather than historic, market price is used in order to be consistent with  
18 financial theory. In accordance with the Efficient Market Hypothesis, the current stock  
19 price is reflective of all available information relating to the stock, and as such reveals  
20 investors' expectations of future returns. Use of historical average stock prices illogically

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

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

6 A. The dividend growth component used by Staff is determined by the average of six  
7 different estimation methods, as shown in Schedule JAC-8. Staff calculated historical and  
8 projected growth estimates on dividend-per-share ("DPS"),<sup>2</sup> earnings-per-share ("EPS")<sup>3</sup>  
9 and sustainable growth bases.

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

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

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

18 A. Staff estimated historical DPS growth by calculating a compound annual DPS growth rate  
19 for each of its sample companies over the 10-year period, 2002-2012. As shown in  
20 Schedule JAC-5, the average historical DPS growth rate for the sample was 3.4 percent.

21  
22 **Q. How did Staff estimate projected DPS growth?**

23 A. Staff calculated an average of the projected DPS growth rates for the sample water utilities  
24 from *Value Line* through the period, 2016-2018. The average projected DPS growth rate  
25 is 5.2 percent, as shown in Schedule JAC-5.

---

<sup>2</sup> Derived from information provided by *Value Line*.

<sup>3</sup> Derived from information provided by *Value Line*.

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

2 A. Staff estimated historical EPS growth by calculating a compound annual EPS growth rate  
3 for each of its sample companies over the 10-year period, 2002-2012. As shown in  
4 Schedule JAC-5, the average historical EPS growth rate for the sample was 4.9 percent.

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

7 A. Staff calculated an average of the projected EPS growth rates for the sample water utilities  
8 from *Value Line* through the period, 2016-2018. The average projected EPS growth rate  
9 is 4.7 percent, as shown in Schedule JAC-5.

10

11 **Q. How does Staff calculate its historical and projected sustainable growth rates for the  
12 sample companies?**

13 A. Historical and projected sustainable growth rates are calculated by adding each sample  
14 company's respective retention growth rate ("*br*," or "*br* term") to its respective stock  
15 financing growth rate ("*vs*," or "*vs* term"), as shown in Schedule JAC-6.

16

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

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

22

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

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

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

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, 2002-2012. As shown in Schedule JAC-6, the historical average retention growth rate ( $br$ ) for the sample is 2.8 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, 2016-2018, from *Value Line*. As shown in Schedule JAC-6, the projected average retention growth rate ( $br$ ) for the sample companies is 3.8 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 2.2, notably higher than 1.0, as shown in Schedule JAC-7.

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

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

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

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

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

25 A. Yes.

26

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

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

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

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

Equation 4:

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

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

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

11

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

13 A. Variable  $v$  is calculated as follows:

Equation 5:

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

14

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

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

---

<sup>4</sup> Gordon, Myron J. *The Cost of Capital to a Public Utility*. MSU Public Utilities Studies, Michigan, 1974. pp 31-35.

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

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 stock financing growth rate ( $vs$ ) when the market-to-book ratio is equal to 1.0?**

**A. A market-to-book ratio of 1.0 indicates that investors expect an entity to earn a book/accounting return on their equity investment equal to the cost of equity. Thus, when the market-to-book ratio is equal to 1.0, Equation 5 shows that none of the proceeds raised from the sale of newly issued shares of common stock accrue to the benefit of existing**

1 shareholders, as the variable ( $v$ ) is equal to zero (0.0), which means that the  $vs$  term,  
2 likewise, is equal to zero (0.0). When stock financing growth is zero, dividend growth  
3 depends solely on the  $br$  term.  
4

5 **Q. What is the effect on the  $vs$  term when the market-to-book ratio is greater than 1.0?**

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

16 **Q. What stock financing growth rate ( $vs$ ) estimate did Staff calculate from its analysis of  
17 the sample water utilities?**

18 A. Staff estimated an average stock financing growth rate of 2.0 percent for the sample water  
19 utilities, as shown in Schedule JAC-6.  
20

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

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

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

4 A. No. As discussed above, when the market-to-book ratio is equal to 1.0, no portion of the  
5 funds raised from the sale of stock by the entity accrues to the benefit of existing  
6 shareholders because the *v* term is equal to zero; thus, the *vs* term is also equal to zero.  
7 When the market-to-book ratio equals 1.0, dividend growth depends solely on the *br* term.  
8 Staff's inclusion of the *vs* term assumes that the market-to-book ratio continues to exceed  
9 1.0, and that the sample water utilities will continue to issue and sell stock at prices above  
10 book value with the effect of benefitting existing shareholders.

11

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

13 A. Staff's estimated historical sustainable growth rate is 4.8 percent based on an analysis of  
14 earnings retention for the sample water companies. Staff's projected sustainable growth  
15 rate is 5.8 percent based on retention growth projected by *Value Line*. Schedule JAC-6  
16 presents Staff's estimates of the sustainable growth rate.

17

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

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

22

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

24 A. Staff's constant-growth DCF estimate is 7.7 percent, as shown in Schedule JAC-3.

25

1 *The Multi-Stage DCF*

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

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

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

10 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

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

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

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

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

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

7 A. Staff calculated the stage-2 growth rate using the arithmetic mean rate of growth in Gross  
8 Domestic Product ("GDP") from 1929 to 2012.<sup>5</sup> Using the GDP growth rate assumes that  
9 the water utility industry is expected to grow at the same rate as the overall economy.

10

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

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

13

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

15 A. Staff's multi-stage DCF estimate is 9.3 percent, as shown in Schedule JAC-3.

16

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

18 A. Staff's overall DCF estimate is 8.5 percent. Staff calculated the overall DCF estimate by  
19 averaging the constant growth DCF (7.7%) and multi-stage DCF (9.3%) estimates, as  
20 shown in Schedule JAC-3.

21

22 *Capital Asset Pricing Model*

23 Q. Please describe the CAPM.

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

---

<sup>5</sup> www.bea.doc.gov.

1 market rate of return. Under the CAPM, an investor requires the expected return of a  
2 security to equal the rate on a risk-free security plus a risk premium. The model also  
3 assumes that investors will sufficiently diversify their investments to eliminate any non-  
4 systematic or unique risk.<sup>6</sup> In 1990, Professors Harry Markowitz, William Sharpe, and  
5 Merton Miller earned the Nobel Prize in Economic Sciences for their contribution to the  
6 development of the CAPM.

7  
8 **Q. Did Staff use the same sample water utilities in its CAPM and DCF cost of equity**  
9 **estimation analyses?**

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

12  
13 **Q. What is the mathematical formula for the CAPM?**

14 **A.** The mathematical formula for the CAPM is:

15  
Equation 8:

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

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

16

---

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

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

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

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

8  
9 **Q. What does Staff use as surrogates to represent estimations of the risk-free rates of  
10 interest in its historical and current market risk premium CAPM methods?**

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

18  
19 **Q. What does beta measure?**

20 A. Beta is a measure of a security's price volatility, or systematic risk, relative to the market  
21 as a whole. Since systematic risk cannot be diversified away, it is the only risk that is  
22 relevant when estimating a security's required return. Using a baseline market beta of 1.0,  
23 a security having a beta value less than 1.0 will be less volatile (i.e., less risky) than the  
24 market. A security with a beta value greater than 1.0 will be more volatile (i.e., more  
25 risky) than the market.  
26

1 Q. How did Staff estimate Adaman's beta?

2 A. Staff used the average of the *Value Line* betas for the sample water utilities as a proxy for  
3 the Company's beta. Schedule JAC-7 shows the *Value Line* betas for each of the sample  
4 water utilities. The 0.71 average beta for the sample water utilities is Staff's estimated  
5 beta for Adaman. A security having a beta value of 0.71 is less volatile than the market as  
6 a whole, and thus requires a lower return on equity than does the overall market.

7  
8 Q. What is the market risk premium ( $R_m - R_f$ )?

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

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

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

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

18 A. Staff uses the intermediate-term government bond income returns published in the  
19 Ibbotson Associates' *Stocks, Bonds, Bills, and Inflation 2013 Yearbook* to calculate the  
20 historical market risk premium. Ibbotson Associates calculates the historical risk  
21 premium by averaging the historical arithmetic differences between the S&P 500 and the  
22 intermediate-term government bond income returns for the period 1926-2012. Staff's  
23 historical market risk premium estimate is 7.2 percent, as shown in Schedule JAC-3.

24

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

3 A. Staff solves Equation 8, shown above, to arrive at a market risk premium using a DCF-  
4 derived expected return (K) of 11.83 (2.1 + 9.73<sup>7</sup>) percent using the expected dividend  
5 yield (2.1 percent over the next twelve months) and the annual per share growth rate (9.73  
6 percent) that *Value Line* projects for all dividend-paying stocks under its review<sup>8</sup> along  
7 with the current long-term risk-free rate (30-year Treasury note at 3.68 percent) and the  
8 market's average beta of 1.0. Staff calculated the current market risk premium as 8.15  
9 percent,<sup>9</sup> as shown in Schedule JAC-3.

10

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

13 A. Staff's cost of equity estimates are 7.2 percent using the historical market risk premium  
14 CAPM and 9.5 percent using the current market risk premium CAPM.

15

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

17 A. Staff's overall CAPM cost of equity estimate is 8.4 percent which is the average of the  
18 historical market risk premium CAPM (7.2 percent) and the current market risk premium  
19 CAPM (9.5 percent) estimates, as shown in Schedule JAC-3.

20

---

<sup>7</sup> The three to five year price appreciation is 45%.  $1.45^{0.25} - 1 = 9.73\%$ .

<sup>8</sup> July 12, 2013 issue date.

<sup>9</sup>  $11.83\% = 3.68\% + (1)(8.15\%)$ .

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

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

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

6  
7  $k = 2.9\% + 4.8\%$

8  
9  $k = 7.7\%$

10  
11 Staff's constant-growth DCF estimate of the cost of equity for the sample water utilities is  
12 7.7 percent.

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

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

18  
19

<b>Company</b>	<b>Equity Cost Estimate (k)</b>
American States Water	8.8%
California Water	9.5%
Aqua America	8.5%
Connecticut Water	9.7%
Middlesex Water	10.0%
SJW Corp	<u>9.1%</u>
<b>Average</b>	<b>9.3%</b>

20  
21  
22  
23  
24  
25  
26  
27  
28  
29

1 Staff's multi-stage DCF estimate of the cost of equity for the sample water utilities is 9.3  
2 percent.

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

5 A. Staff's overall DCF estimate of the cost of equity for the sample utilities is 8.5 percent.  
6 Staff calculated an overall DCF cost of equity estimate by averaging Staff's constant  
7 growth DCF (7.7 percent) and Staff's multi-stage DCF (9.3 percent) estimates, as shown  
8 in Schedule JAC-3.

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

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

14  $k = 2.1\% + 0.71 * 7.2\%$

15  $k = 7.2\%$

16  
17 Staff's CAPM estimate (using the historical market risk premium) of the cost of equity for  
18 the sample water utilities is 7.2 percent.

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

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

24  $k = 3.7\% + 0.71 * 8.2\%$

25  $k = 9.5\%$   
26

1 Staff's CAPM estimate (using the current market risk premium) of the cost of equity to the  
2 sample water utilities is 9.5 percent.

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

5 **A.** Staff's overall CAPM estimate for the sample utilities is 8.4 percent. Staff's overall  
6 CAPM estimate is the average of the historical market risk premium CAPM (7.2 percent)  
7 and the current market risk premium CAPM (9.5 percent) estimates, as shown in Schedule  
8 JAC-3.

9  
10 **Q. Please summarize the results of Staff's cost of equity analysis for the sample utilities.**

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

12  
13 **Table 2**

<b>Method</b>	<b>Estimate</b>
Average DCF Estimate	8.5%
Average CAPM Estimate	8.4%
<b>Overall Average</b>	<b>8.5%</b>

14  
15 Staff's average estimate of the cost of equity to the sample water utilities is 8.5 percent.

16  
17 **VIII. FINAL COST OF EQUITY ESTIMATES FOR ADAMAN**

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

20 **A.** The average capital structure for the sample water utilities is composed of 48.8 percent  
21 equity and 51.2 percent debt, as shown in Schedule JAC-4. Adaman proposes a capital  
22 structure composed of 100.0 percent equity and 0.0 percent debt. In this case, because  
23 Adaman's capital structure is less leveraged than that of the average sample water utilities'

1 capital structure, its stockholders bear less financial risk than do equity shareholders of the  
2 sample water utilities.

3  
4 **Q. Does Adaman's reduced financial risk affect its cost of equity?**

5 A. Yes. As previously discussed, financial risk is a component of market risk and investors  
6 require compensation for market risk. Since Adaman's financial risk is less than that of  
7 the average sample water companies, its cost of equity is lower than that of the sample  
8 water companies.

9  
10 **Q. Is Staff recommending a downward financial risk adjustment to Adaman's cost of**  
11 **equity in recognition of the Company having less financial risk exposure than the**  
12 **sample water utilities?**

13 A. No. Because Adaman does not have access to the capital markets, Staff is not  
14 recommending a downward financial risk adjustment to the Company's cost of equity.

15  
16 **Q. Did Staff consider factors other than the results of its technical models in its cost of**  
17 **equity analysis?**

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

22  
23 **Q. What is Staff's ROE estimate for Adaman?**

24 A. Staff determined a COE estimate of 8.5 percent for Adaman based on cost of equity  
25 estimates for the sample companies of 8.5 percent for the DCF and 8.4 percent for the  
26 CAPM. Staff recommends adoption of a 60 basis point upward Economic Assessment

1 Adjustment resulting in a 9.1 percent Staff-recommended ROE, as shown in Schedule  
2 JAC-3.

3  
4 **IX. RATE OF RETURN RECOMMENDATION**

5 **Q. What overall rate of return did Staff determine for Adaman?**

6 **A.** Staff determined a 9.1 percent ROR for the Company, as shown in Schedule JAC-1 and  
7 the following table:

8  
9 **Table 3**

10

	<b>Weight</b>	<b>Cost</b>	<b>Weighted Cost</b>
Long-term Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	9.1%	<u>9.1%</u>
<b>Overall ROR</b>			<b><u>9.1%</u></b>

11  
12 **X. CONCLUSION**

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

14 **A.** Staff recommends that the Commission adopt a 9.1 percent overall rate of return for  
15 Adaman based on a capital structure composed of 0.0 percent debt and 100.0 percent  
16 equity, Staff's 8.5 percent cost of equity estimate, and Staff's 60 basis point (0.6 percent)  
17 upward economic assessment adjustment.

18  
19 **Q. Does this conclude your Direct Testimony?**

20 **A.** Yes, it does.

**Adaman Mutual Water Company Cost of Capital Calculation**  
**Capital Structure**  
**And Weighted Average Cost of Capital**  
**Staff Recommended and Company Proposed**

[A]	[B]	[C]	[D]
<u>Description</u>	<u>Weight (%)</u>	<u>Cost</u>	<u>Weighted Cost</u>
<b>Staff Recommended Structure</b>			
Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	9.1%	<u>9.1%</u>
Weighted Average Cost of Capital			<b>9.1%</b>
<b>Company Proposed Structures:</b>			
Debt	0.0%	0.00%	0.00%
Common Equity	100.0%	N/A	<u>N/A</u>
Weighted Average Cost of Capital			<b>N/A</b>

[D] : [B] x [C]

Supporting Schedules: JAC-3 and JAC-4.

Note: The Company's application does not include a proposed ROE or rate base; thus, a proposed RORWACC was indeterminable.

Intentionally left blank

Adaman Mutual Water Company Cost of Capital Calculation  
Final Cost of Equity Estimates  
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
<b>DCF Method</b>				
Constant Growth DCF Estimate		$\frac{D_1/P_0}{k}$	+	$\alpha^2$
Multi-Stage DCF Estimate		2.9%	+	4.8%
Average DCF Estimate			=	<u>8.5%</u>
<b>CAPM Method</b>				
Historical Market Risk Premium <sup>3</sup>	Rf	$\beta^5$	x	(Rp)
Current Market Risk Premium <sup>4</sup>	2.1%	0.71	x	7.2% <sup>6</sup>
Average CAPM Estimate	3.7%	0.71	x	8.2% <sup>7</sup>
			=	<u>9.5%</u>
			=	<u>8.4%</u>
				<u>8.5%</u>
				<u>0.6%</u>
				<u>9.1%</u>
				<u>0.0%</u>
				<u>9.1%</u>

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](http://www.ustreas.gov)

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

5 Value Line

6 Historical Market Risk Premium (Rp) calculated from Ibbotson Associates S&P 1957-2013 Yearbook data

7 Testimony

Adaman Mutual Water Company Cost of Capital Calculation  
Average Capital Structure of Sample Water Utilities

[A]	[B]	[C]	[D]
<u>Company</u>	<u>Debt</u>	<u>Common Equity</u>	<u>Total</u>
American States Water	43.3%	56.7%	100.0%
California Water	54.2%	45.8%	100.0%
Aqua America	55.2%	44.8%	100.0%
Connecticut Water	55.3%	44.7%	100.0%
Middlesex Water	43.1%	56.9%	100.0%
SJW Corp	<u>56.2%</u>	<u>43.8%</u>	<u>100.0%</u>
Average Sample Water Utilities	<b>51.2%</b>	<b>48.8%</b>	<b>100.0%</b>
Adaman Mutual Capital Structure	<b>0.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source:

Sample Water Companies from Value Line

Adaman Mutual 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 2012 DPS <sup>1</sup>	Dividends Per Share Projected DPS <sup>1</sup>	Earnings Per Share 2002 to 2012 EPS <sup>1,2</sup>	Earnings Per Share Projected EPS <sup>1</sup>
American States Water	3.9%	6.0%	7.7%	1.2%
California Water	1.2%	7.4%	5.0%	5.8%
Aqua America	7.7%	8.3%	7.3%	8.0%
Connecticut Water	1.7%	2.8%	3.2%	2.1%
Middlesex Water	1.6%	1.6%	2.1%	5.0%
SJW Corp	4.4%	4.9%	4.2%	6.3%
Average Sample Water Utilities	3.4%	5.2%	4.9%	4.7%

<sup>1</sup> Value Line

<sup>2</sup> Negative values are inconsistent with the DCF, accordingly, they are excluded from the average.

Adaman Mutual Water Company Cost of Capital Calculation  
Sustainable Growth  
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]
<u>Company</u>	Retention Growth 2002 to 2012 <u>br</u>	Retention Growth Projected <u>br</u>	Stock Financing Growth <u>vs</u>	Sustainable Growth 2002 to 2012 <u>br + vs</u>	Sustainable Growth Projected <u>br + vs</u>
American States Water	3.8%	5.6%	1.6%	5.4%	7.2%
California Water	2.4%	3.2%	1.5%	3.9%	4.7%
Aqua America	3.9%	4.4%	2.0%	5.9%	6.4%
Connecticut Water	2.0%	3.0%	3.7%	5.7%	6.7%
Middlesex Water	1.2%	2.8%	3.1%	4.4%	5.9%
SJW Corp	3.5%	3.8%	0.1%	3.6%	3.9%
Average Sample Water Utilities	2.8%	3.8%	2.0%	4.8%	5.8%

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

Adaman Mutual Water Company Cost of Capital Calculation  
 Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
<u>Company</u>	<u>Symbol</u>	<u>Spot Price</u> <u>7/10/2013</u>	<u>Book Value</u>	<u>Mkt To</u> <u>Book</u>	<u>Value Line</u> <u>Beta</u> <u><math>\beta</math></u>	<u>Raw</u> <u>Beta</u> <u><math>\beta_{raw}</math></u>
American States Water	AWR	56.24	23.41	2.4	0.70	0.52
California Water	CWT	20.42	11.56	1.8	0.65	0.45
Aqua America	WTR	32.55	9.86	3.3	0.60	0.37
Connecticut Water	CTWS	29.07	13.90	2.1	0.75	0.60
Middlesex Water	MSEX	20.96	11.93	1.8	0.70	0.52
SJW Corp	SJW	26.49	15.14	1.7	0.85	0.75
Average				2.2	0.71	0.53

[C]: Msn Money  
 [D]: Value Line  
 [E]: [C] / [D]  
 [F]: Value Line  
 [G]: (-0.35 + [F]) / 0.67

Adaman Mutual Water Company Cost of Capital Calculation  
Calculation of Expected Infinite Annual Growth in Dividends  
Sample Water Utilities

[A]	[B]
<u>Description</u>	g
DPS Growth - Historical <sup>1</sup>	3.4%
DPS Growth - Projected <sup>1</sup>	5.2%
EPS Growth - Historical <sup>1</sup>	4.9%
EPS Growth - Projected <sup>1</sup>	4.7%
Sustainable Growth - Historical <sup>2</sup>	4.8%
<u>Sustainable Growth - Projected<sup>2</sup></u>	<u>5.8%</u>
Average	4.8%

1 Schedule JAC-5

2 Schedule JAC-6

Adaman Mutual Water Company Cost of Capital Calculation  
 Multi-Stage DCF Estimates  
 Sample Water Utilities

[A] Company	[B] Current Mkt. Price (P <sub>0</sub> ) <sup>1</sup> 7/10/2013	[C] d <sub>1</sub>	[D] d <sub>2</sub>	[E] d <sub>3</sub>	[F] d <sub>4</sub>	[H] Stage 2 growth <sup>3</sup> (g <sub>n</sub> )	[I] Equity Cost Estimate (K) <sup>4</sup>
American States Water	56.2	1.36	1.42	1.49	1.56	6.5%	8.8%
California Water	20.4	0.66	0.69	0.72	0.75	6.5%	9.5%
Aqua America	32.6	0.70	0.73	0.76	0.80	6.5%	8.5%
Connecticut Water	29.1	0.98	1.03	1.07	1.13	6.5%	9.7%
Middlesex Water	21.0	0.76	0.80	0.84	0.88	6.5%	10.0%
SJW Corp	26.5	0.74	0.78	0.81	0.85	6.5%	9.1%

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

Average 9.3%

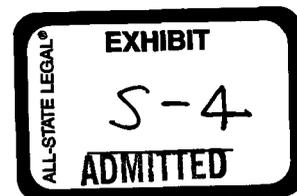
- Where : P<sub>0</sub> = current stock price  
 D<sub>t</sub> = dividends expected during stage 1  
 K = cost of equity  
 n = years of non - constant growth  
 D<sub>n</sub> = dividend expected in year n  
 g<sub>n</sub> = constant rate of growth expected after year n

1 [B] see Schedule JAC-7

2 Derived from Value Line Information

3 Average annual growth in GDP 1929 - 2012 in current dollars.

4 Internal Rate of Return of Projected Dividends



**BEFORE THE ARIZONA CORPORATION COMMISSION**

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

IN THE MATTER OF THE APPLICATION OF )  
ADAMAN MUTUAL WATER COMPANY FOR )  
APPROVAL OF A RATE INCREASE. )  
\_\_\_\_\_ )

DOCKET NO. W-01997A-12-0501

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

MAY 30, 2014

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**EXECUTIVE SUMMARY  
ADAMAN MUTUAL WATER COMPANY  
DOCKET NO. W-01997A-12-0501**

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

Capital Structure – Staff continues to recommend that the Commission adopt a capital structure for Adaman Mutual Water Company (“Adaman” or “Company”) for this proceeding consisting of 0.0 percent debt and 100.0 percent equity.

Cost of Equity – Staff continues to recommend that the Commission adopt a 9.1 percent return on equity (“ROE”) for the Company. Staff’s estimated ROE for the Company is based on the 8.5 percent average of its discounted cash flow method (“DCF”) and capital asset pricing model (“CAPM”) cost of equity methodology estimates for the sample companies of 8.5 percent for the DCF and 8.4 percent for the CAPM. Staff’s recommended ROE includes an upward economic assessment adjustment of 60 basis points.

Cost of Debt – Staff continues to recommend that the Commission adopt a 0.0 percent cost of debt for the Company, as Adaman has no debt in its capital structure.

Overall Rate of Return – Staff continues to recommend that the Commission adopt a 9.1 percent overall rate of return for the Company.

Staff Recommends:

A 9.1 percent overall cost of capital for the Company.

1     **I.     INTRODUCTION**

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

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

6

7     **Q.     Are you the same John A. Cassidy who filed direct testimony in this case?**

8     A.     Yes, I am.

9

10    **II.    PURPOSE OF SURREBUTTAL TESTIMONY**

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

12    A.     The purpose of my surrebuttal testimony is to provide a summary for the Administrative Law  
13            Judge regarding Adaman Mutual Water Company's ("Adaman" or "Company") cost of  
14            capital.

15

16    **Q.     Did Staff update its cost of capital analysis for purposes of its surrebuttal testimony in  
17            this docket?**

18    A.     No. Staff's surrebuttal cost of capital recommendations are identical to those recommended  
19            by Staff in direct testimony.

20

21    **Q.     Are there any unresolved cost of capital issues remaining between Staff and the  
22            Company in this docket?**

23    A.     No, not that I am aware of. Both parties agree on a capital structure consisting of 0.0 percent  
24            debt and 100.0 percent equity for the Company, and as evidenced by Mr. Jones' rebuttal

1 testimony,<sup>1</sup> the parties appear to agree on Staff's recommended 9.1 percent cost of equity and  
2 9.1 percent overall rate of return for Adaman.

3  
4 **Q. Does Mr. Jones' rebuttal testimony provide other evidence that the Company is in**  
5 **agreement with Staff's recommended 9.1 percent cost of equity and overall 9.1 percent**  
6 **rate of return?**

7 **A. Yes. In his rebuttal testimony, Mr. Jones acknowledges that (i) both the Company and Staff**  
8 **propose no change to Adaman's \$423,775 revenue requirement, (ii) the Company is in**  
9 **agreement with Staff's proposed adjusted rate base of \$304,022, and (iii) the Company agrees**  
10 **with Staff's adjusted test-year operating income of \$33,725.<sup>2</sup>**

11  
12 **III. STAFF RECOMMENDATIONS**

13 **Q. What are Staff's recommendations?**

14 **A. Staff recommends the following for Adaman's cost of capital:**

- 15 1. A capital structure of 0.0 percent debt and 100.0 percent equity.
- 16 2. A 0.0 percent cost of debt.
- 17 3. A 9.1 percent cost of equity (a figure which includes an upward 60 basis point (0.6  
18 percent) economic assessment adjustment).
- 19 4. A 9.1 percent overall rate of return.

20  
21 **Q. Did Staff include any schedules with its surrebuttal testimony?**

22 **A. No. Staff's direct testimony schedules are its final schedules.**

23  
24 **Q. Does this conclude your surrebuttal testimony?**

25 **A. Yes, it does.**

---

<sup>1</sup> See Jones Rebuttal Testimony, pp. 4-5, lines 19:2.

<sup>2</sup> See Jones Rebuttal Testimony, p. 4, lines 3-15.



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 )  
ADAMAN MUTUAL WATER COMPANY FOR )  
APPROVAL OF A RATE INCREASE. )  
\_\_\_\_\_ )

DOCKET NO. W-01997A-12-0501

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

AUGUST 7, 2013

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**EXECUTIVE SUMMARY**  
**ADAMAN MUTUAL WATER COMPANY**  
**DOCKET NO. W-01997A-12-0501**

Adaman Mutual Water Company ("Adaman" or "Company") is an Arizona public service corporation engaged in providing water utility services to approximately 260 customers in Litchfield Park, Maricopa County, Arizona. Adaman's current rates were approved in Decision No. 59739, dated July 17, 1996.

The Company proposes a \$1,122, or 0.26 percent revenue increase from \$423,775 to \$424,897. The increase would apply to the City of Goodyear only. The proposed revenue increase would produce an operating income of \$28,360 for a 10.14 percent rate of return on an original cost rate base ("OCRB") of \$279,726. The Company's proposed rates would have no effect on the typical residential 1-inch meter bill of \$36.43.

Staff's analysis shows that a 1.83 percent revenue decrease could be justified; however, Staff recommends no change in the Company's revenue requirement at this time. Staff recognizes that if the water quality of the new well meets compliance, then a revenue increase would more than likely be warranted once the cost of the new well is reflected in the rate base/revenue requirement. Staff's adjusted OCRB is \$304,022 as shown on Schedule CSB-1. Staff's recommended rates would decrease<sup>1</sup> the typical residential 1-inch meter monthly bill with a median usage of 10,214 gallons from \$36.43 to \$35.71, for a decrease of \$0.72 or 1.98 percent.

---

<sup>1</sup> Although Staff has recommended no change to the revenue requirement, Staff has recommended a change in the Company's rate design from a \$2.00 uniform rate to an inverted three-tiered commodity rate. This rate design change results in a decrease for a typical bill.

1 **INTRODUCTION**

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

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

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

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

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

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

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

25

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

2 A. I am presenting Staff's analysis and recommendations in the areas of rate base and  
3 operating revenues, expenses, and rate design regarding the Adaman Mutual Water  
4 Company ("Adaman" or "Company") application for a permanent rate increase. Staff  
5 witness, John Cassidy, is presenting Staff's cost of capital recommendations. His 9.1  
6 percent recommendation is shown on Schedule CSB-1, line 4. Staff witness, Katrin  
7 Stukov, is presenting Staff's engineering analysis and recommendations.

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

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

16  
17 **BACKGROUND**

18 **Q. Please provide a brief description of Adaman and the service it provides.**

19 A. Adaman is an Arizona public service corporation engaged in providing water utility  
20 services to approximately 260 customers in Litchfield Park, Maricopa County, Arizona.  
21 Adaman's current rates were approved in Decision No. 59739, dated July 17, 1996.

22  
23 **Q. What is the primary reason for Adaman's requested permanent rate increase?**

24 A. Adaman was ordered to file a rate case in Decision No. 72506, dated August 3, 2011.  
25

1 **CONSUMER SERVICE**

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

4 **A.** Staff reviewed the Commission's records and found that, for the years 2010 to 2013, there  
5 have been no complaints regarding this Company.  
6

7 **COMPLIANCE**

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

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

12 **SUMMARY OF PROPOSED REVENUES**

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

14 **A.** The Company proposes a \$1,122, or 0.26 percent revenue increase from \$423,775 to  
15 \$424,897. The increase would apply to the City of Goodyear only. The proposed revenue  
16 increase would produce an operating income of \$28,360 for a 10.14 percent rate of return  
17 on an original cost rate base ("OCRB") of \$279,726. The Company's proposed rates  
18 would have no effect on the typical residential 1-inch meter bill of \$36.43.  
19

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

21 **A.** Staff's analysis shows that a 1.83 percent revenue decrease could be justified; however,  
22 Staff recommends no change in the Company's revenue requirement at this time. Staff  
23 recognizes that if the water quality of the new well meets compliance, then a revenue  
24 increase would more than likely be warranted once the costs of the new well are reflected  
25 in the rate base/revenue requirement. Staff's adjusted OCRB is \$304,022 as shown on  
26 Schedule CSB-1. Staff's recommended rates would decrease the typical residential 1-inch

1 meter bill with a median usage of 10,214 gallons from \$36.43 to \$35.71, for a decrease of  
2 \$0.72 or 1.98 percent. Although Staff has recommended no change to the revenue  
3 requirement, Staff has recommended a change in the Company's rate design from a \$2.00  
4 uniform rate to an inverted three-tiered commodity rate. This rate design change results in  
5 a decrease for a typical bill.

6  
7 **Q. What test year did Adaman utilize in this filing?**

8 **A.** Adaman's test year is based on the twelve months ended June 30, 2012.

9  
10 **Q. Please summarize Staff's rate base and operating income adjustments for Adaman.**

11 **A.** My testimony discusses the following adjustments:

12  
13 **Rate Base Adjustments**

14 Organizational Costs – The adjustment increases plant in service by \$4,826. It reflects  
15 organizational costs that the Company expensed rather than capitalizing.

16  
17 Well No. 6 Retirement – The adjustment decreases plant in service by \$153,746. It  
18 reflects the cost of a well that has been taken out of service.

19  
20 Inadequately Supported Plant Costs – The adjustment decreases plant in service by  
21 \$28,208. It removes recorded plant costs that were not adequately supported by invoices  
22 or other types of source documentation.

23  
24 Accumulated Depreciation – This adjustment decreases accumulated depreciation by  
25 \$201,425 and reflects Staff's calculation of accumulated depreciation based on Staff's  
26 adjustments to plant.

1 **Operating Income Adjustments**

2 Water Revenue Reclassification – This adjustment has no net effect on operating revenue.  
3 It reclassifies \$90,372 of metered water sales revenue to the City of Goodyear from the  
4 Other Revenue account to the Sales for Resale account in accordance with the NARUC  
5 USoA. It also reclassifies \$1,522 in revenues derived from miscellaneous service charges  
6 from Metered Water Revenue to Other Revenue.

7  
8 Purchased Power Expense – This adjustment decreases purchased power expense by  
9 \$5,073 to remove costs for which the Company had no supporting invoices.

10  
11 Repairs and Maintenance Expense – The adjustment decreases repairs and maintenance  
12 expense by \$20,297. It reflects invoices provided in support of the repairs and  
13 maintenance expense but not reflected on the Company's income statement; normalizes  
14 the cost incurred for arsenic media replacement; and records the disposal cost of an  
15 abandoned well in accumulated depreciation rather than operating expense as prescribed  
16 by the NARUC USoA.

17  
18 Outside Services Expense – This adjustment decreases outside services expense by \$8,054  
19 to reflect the capitalization of costs incurred for changing the organization status of the  
20 Company from non-profit to for-profit and to normalize the City of Goodyear contract  
21 costs.

22  
23 Water Testing Expense – This adjustment increases water testing expenses by \$287 to  
24 reflect Staff's recommended annual water testing costs.

25

1           Rents Expense Reclassification – This adjustment decreases office supplies and expenses  
2           by \$8,400 and increases rents expense by \$8,400 to reflect the rents expense charged to  
3           Adaman by its affiliate.

4  
5           Rate Case Expense – This adjustment increases rate case expense by \$9,842 to reflect the  
6           normalization of rate case expense that the Company incurred for the filing of the instant  
7           rate case.

8  
9           Depreciation Expense – This adjustment decreases depreciation expense by \$4,696 to  
10          reflect Staff's calculation of depreciation expense using Staff's recommended depreciation  
11          rates and Staff's recommended plant and Contribution in Aid of Construction ("CIAC")  
12          balances.

13  
14          Property Tax Expense – This adjustment increases property tax expense by \$3,432 to  
15          reflect Staff's calculation of the Company's property tax expense.

16  
17          Income Tax Expense – This adjustment increases income tax expenses by \$8,923 to  
18          reflect the income tax obligation on Staff's adjusted test year taxable income.

19  
20       **RATE BASE**

21       *Fair Value Rate Base*

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

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

26

1 *Rate Base Summary*

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

4 A. Staff's adjustments to Adaman's rate base resulted in a net increase of \$24,296, from  
5 \$279,726 to \$304,022 due to various adjustments as discussed in Staff's testimony.

6

7 *Rate Base Adjustment No. 1— Organizational Costs*

8 **Q. Did the Company incur costs to change its corporate status from a non-profit to a C-**  
9 **corporation?**

10 A. Yes, the Company changed its corporate status from a non-profit to a C-corporation in  
11 order to sell water to the City of Goodyear, and incurred costs of \$4,826.

12

13 **Q. How did the Company treat these costs?**

14 A. The Company treated these costs as operating expenses and recorded them in the outside  
15 services account.

16

17 **Q. Is the Company's treatment of these costs as operating expenses appropriate?**

18 A. No. According to the NARUC USoA, these types of costs are plant costs and properly  
19 includable in Account No. 301, Organization. The NARUC USoA states:

20

21 This account shall include all fees paid to federal or state  
22 government for the privilege of incorporation and **expenditures**  
23 **incident to organizing the corporation**, partnership or other  
24 enterprise and putting it into readiness to do business. A sample of  
25 items to be included in this account are listed below.

26

27 1. Actual cost of obtaining certificates authorizing an  
28 enterprise to engage in the public utility business.

29

30

31

2. **Fees and expenses for incorporation.** (Emphasis added).

3. Fees and expenses for mergers or consolidations.

4. Office expenses incident to organizing the utility.
5. Stock and minute books and corporate seal.

1  
2  
3  
4 **Q. What is Staff's recommendation?**

5 A. Staff recommends increasing the organization account by \$4,826 as shown on Schedules  
6 CSB-4 and CSB-5.

7  
8 *Post-Test Year Plant*

9 **Q. Did Staff determine that the Company's storage capacity was inadequate?**

10 A. Yes. Staff's engineering witness, Katrin Stukov, stated that the Company's storage  
11 capacity was inadequate for test year customers:

12  
13 "the storage capacity of 200,000 gallons is inadequate to serve  
14 the present customer base of 260 service connections. Based on  
15 the Company's water use data and the capacity analyses, a  
16 minimum of 600,000 gallons of storage is required on this system  
17 (with a single source) to meet seasonal peak demand. As an  
18 alternative, multiple well sources (with a minimum total operating  
19 capacity of 750 GPM) could satisfy the storage capacity  
20 deficiency." (Emphasis added).

21  
22 **Q. Is the Company in the process of constructing a well that may help to resolve its  
23 storage capacity issues?**

24 A. Yes, the Company is in the process of constructing Well No. 1C.

25  
26 **Q. Is the water quality of Well No. 1C known?**

27 A. No, not at this point. The Company, in response to data request CSB 2.9, states that "The  
28 Adaman Mutual Water Company would like to develop the well as a primary or secondary  
29 source for the system. This will depend on further testing."  
30

1 **Q. If testing shows that the water quality of Well No. 1C is within compliance and the**  
2 **well is placed in service and the cost of the well is known, would Staff consider**  
3 **including Well No. 1C in rate base as post-test year plant?**

4 A. Yes. Because the plant is needed to serve test year customers, Staff would consider  
5 including the plant in rate base in this case if Well No. 1C is used and useful before the  
6 end of the hearing.

7  
8 *Rate Base Adjustment No. 2- Well No. 6A Retirement*

9 **Q. Did the Company take Well No. 6A out of service during the test year?**

10 A. Yes. Staff's engineering witness Katrin Stukov stated, "In March 2011, Adaman stopped  
11 using its Well No. 6A and related components due to high Nitrate levels and now relies on  
12 water purchased from the District's Well No. 1B."

13  
14 **Q. Is the Company in the process of abandoning Well No. 6A?**

15 A. Yes.

16  
17 **Q. What is the original cost of Well No. 6A?**

18 A. The original cost of the well is \$153,746 (CSB 2.8).

19  
20 **Q. Has the Company removed the cost of Well No. 6A from plant in service?**

21 A. No.

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

24 A. Staff recommends decreasing plant in service by \$153,746 as shown on Schedules CSB-4  
25 and CSB-6.

26

1 *Rate Base Adjustment No. 3 – Inadequately Supported Plant*

2 **Q. Are plant costs required to be supported?**

3 A. Yes. The Arizona Administrative Code R14-2-610 D.1 states, “Each utility shall keep  
4 general and auxiliary accounting records reflecting the cost of its properties . . . and all  
5 other accounting and statistical data necessary to give complete and authentic information  
6 as to its properties . . .” (emphasis added).

7  
8 **Q. During the audit, did Staff identify plant costs which Adaman could not adequately**  
9 **support?**

10 A. Yes. Adaman did not provide invoices to support \$28,208 in plant as shown on Schedule  
11 CSB-7. Source documents are essential records for verifying plant costs. In the absence  
12 of supporting documentation, the Company’s plant balances cannot be verified.

13  
14 **Q. Should the inadequately supported plant costs be removed from rate base?**

15 A. Yes. It is the Company’s responsibility to support its claimed costs. If unsupported costs  
16 are not removed, ratepayers are at risk of paying for non-existent or overstated costs.

17  
18 **Q. What is Staff’s recommendation?**

19 A. Staff recommends decreasing plant in service by \$28,208 as shown on Schedules CSB-4  
20 and CSB-7.

21  
22 *Rate Base Adjustment No. 4 – Accumulated Depreciation*

23 **Q. What did Adaman propose for Accumulated Depreciation?**

24 A. Adaman proposed \$723,244 for accumulated depreciation.  
25

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

2 A. Staff recalculated the accumulated depreciation balance using the plant in service balances  
3 that were adjusted by the removal of inadequately supported plant costs, the cost of a well  
4 that was taken out of service, and the well's related abandonment costs. Staff will discuss  
5 each separately.  
6

7 Accumulated Depreciation On Inadequately Supported Plant

8 **Q. Did Staff adjust accumulated depreciation for the plant that Staff removed due to**  
9 **inadequate support?**

10 A. Yes. This adjustment relates to "Rate Base Adjustment No. 1, Inadequately Supported  
11 Plant" and reflects the removal of accumulated depreciation associated with the plant.  
12 Staff calculated \$12,838 in accumulated depreciation that should be removed as shown on  
13 Schedule CSB-8.  
14

15 NARUC Accounting Treatment for Retired Well and Associated Abandonment Costs

16 **Q. What does the NARUC USoA for Class C Water Utilities state for account no. 108,**  
17 **Accumulated Depreciation and Amortization of Utility Plant In Service?**

18 A. It states:

19 This account shall be charged with:

20 (1) Original cost of depreciable plant retired.

21 (2) Cost of removal of plant retired.  
22

23 **Q. Did the Company remove the original cost and the associated abandonment costs**  
24 **from accumulated depreciation in accordance with the NARUC USoA?**

25 A. No.  
26

1 Q. What is the original cost of the well?

2 A. The original cost of the well is \$153,746 (CSB 2.8).

3

4 Q. What are the well abandonment costs?

5 A. The well abandonment costs are \$34,840. These costs were reclassified from "Operating  
6 Income Adjustment No. 3, Repairs and Maintenance."

7

8 Q. What is the total to be removed from accumulated depreciation due to the well  
9 retirement and associated abandonment costs?

10 A. The total is \$188,587 (\$153,746 + \$34,840).

11

12 Q. What is Staff's recommendation for the total for all adjustments to be removed from  
13 accumulated depreciation?

14 A. Staff recommends decreasing accumulated depreciation by \$201,425 as shown on  
15 Schedules CSB-4 and CSB-8.

16

17 **OPERATING INCOME**

18 *Operating Income Summary*

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

21 A. As shown on Schedules CSB-9 and CSB-10, Staff's analysis resulted in test year revenues  
22 of \$423,775, expenses of \$390,050 and operating income of \$33,725.

23

1 *Operating Income Adjustment No. 1 – Water Revenue Reclassification*

2 **Q. According to Decision No. 72506, how was Adaman to record the revenues and**  
3 **expenses of sales made to the city of Goodyear?**

4 A. According to Decision No. 72506, p.15, line 1, Adaman was to “defer all revenues and  
5 expenses associated with the Sales Agreement commencing with the initial sales through  
6 and until the date of issuance of a rate order that determines the appropriate rate-making  
7 treatment of such revenues and expenses . . .”

8  
9 **Q. Has Staff reviewed the deferrals?**

10 A. Yes.

11  
12 **Q. What is the appropriate rate-making treatment for the deferrals?**

13 A. The revenues and expenses should be treated as ordinary revenues and expenses and  
14 recorded in accordance to the NARUC USoA.

15  
16 **Q. In what account did the Company propose to include the revenues from the Sales**  
17 **Agreement?**

18 A. The Company has proposed that all revenues be included in the “Other Revenue” account.

19  
20 **Q. What are the components of the “Other Revenue” account?**

21 A. According to the Company’s response to data request CSB 3.11, the account includes  
22 \$92,374 from metered water sales to the City of Goodyear and \$11,084 in revenues  
23 derived from administrative fees paid in accordance to the Goodyear sales agreement.

24

1 **Q. Does Staff agree that the metered water sales should be included in the "Other**  
2 **Revenue" account?**

3 A. No, Staff does not.  
4

5 **Q. What is the appropriate account?**

6 A. The appropriate account is account no. 466, Sales for Resale. The NARUC USoA for  
7 Class C Utilities states, "This account shall include the net billing for water supplied  
8 (including stand-by service) to other water utilities or to public authorities for resale  
9 purposes."  
10

11 **Q. Did Staff identify any other amounts that should be reclassified?**

12 A. Yes. The Company included \$300 for service connection fees and \$1,252 for late fees in  
13 account no. 461, Metered Water Revenue. However, because these fees were not derived  
14 from metered water sales, they should not be included in the Metered Water Revenue  
15 account. Rather, the fees should be included in account no. 474, Other Revenue in  
16 accordance with the NARUC USoA.  
17

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

19 A. Staff's recommendation has no net effect on operating revenue. The net adjustment  
20 consists of (1) decreasing account no. 461, Metered Water Revenue by \$1,552 (2)  
21 decreasing account no. 460, Other Operating Revenues by \$90,822; and (3) increasing  
22 account no. 466, Sales for Resale by \$92,374. Staff's calculations are shown on Schedule  
23 CSB-11.  
24

1 *Operating Income Adjustment No. 2 – Purchased Power Expense*

2 **Q. What is the Company proposing for purchased power expense?**

3 A. The Company is proposing \$26,809 for purchased power expense.

4

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

6 A. Staff removed costs that were not supported by invoices.

7

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

9 A. Staff recommends decreasing purchase power expense by \$5,073 as shown on Schedules  
10 CSB-10 and CSB-12.

11

12 *Operating Income Adjustment No. 3 – Repair and Maintenance Expense*

13 **Q. What did the Company propose for Repair and Maintenance Expense?**

14 A. The Company proposed \$62,301 for repairs and maintenance expense.

15

16 **Q. What adjustments did Staff make?**

17 A. Staff decreased the repairs and maintenance account by a net \$20,297. Staff's adjustment  
18 reflects invoices provided in support of the repairs and maintenance expense but not  
19 reflected on the Company's income statement; normalizes the cost incurred for arsenic  
20 media replacement; and records the disposal cost of an abandoned well in accumulated  
21 depreciation rather than operating expense as prescribed by the NARUC USoA. Staff will  
22 discuss each separately.

23

1 Additional Expense Supported by Test Year Invoices

2 **Q. Did the Company provide invoices in support of the repairs and maintenance**  
3 **expense?**

4 A. Yes.

5  
6 **Q. What was the total amount of the invoices?**

7 A. The amount was \$110,312 for the invoices whose dates fell within the test year as shown  
8 on Schedule CSB-13, page 2.

9  
10 **Q. What is the amount of additional repairs and maintenance cost supported by test**  
11 **year invoices?**

12 A. The amount of additional repairs and maintenance cost supported by invoices whose dates  
13 fell within the test year is \$48,011 (\$110,312-\$62,301).

14  
15 Replacement Cost for the Company's Arsenic Media

16 **Q. Does the Company have arsenic treatment plant?**

17 A. Yes. According to the Company's application (p. 19), the arsenic treatment plant was  
18 placed in service in 2009.

19  
20 **Q. What is the replacement cost of the arsenic media?**

21 A. The Company provided an invoice showing that the replacement cost of the arsenic media  
22 was \$66,935.

23  
24 **Q. What is the expected useful life of the arsenic media?**

25 A. The expected useful life is two years (CSB 2.7).  
26

1 Q. What amount did Staff allow for media replacement?

2 A. Staff allowed \$33,468 (i.e., \$66,935 / 2 years).

3

4 Well Abandonment Costs

5 Q. Did the Company include well abandonment costs in the repairs and maintenance  
6 account?

7 A. Yes.

8

9 Q. What was the amount?

10 A. The amount was \$34,840.

11

12 Q. What adjustment did Staff make?

13 A. Staff removed the well abandonment costs and included them in accumulated depreciation  
14 as discussed in Rate Base Adjustment No. 4, "Accumulated Depreciation."

15

16 Q. What is Staff's recommendation?

17 A. Staff recommends decreasing repairs and maintenance expense by \$20,297 as shown on  
18 Schedules CSB-10 and CSB-13.

19

20 *Operating Income Adjustment No. 4 – Outside Services Expense*

21 Q. What did the Company propose for Outside Services Expense?

22 A. The Company proposed \$20,967 for outside services expense.

23

24 Q. What adjustment did Staff make?

25 A. Staff capitalized \$4,826 in costs incurred for changing the organization status of the  
26 Company from non-profit to for-profit. In addition, Staff removed \$3,228 in City of

1           Goodyear contract costs as a result of normalizing the cost using three years. Staff  
2           normalized the contract costs using three years as these costs are not expected to be  
3           incurred at the same level each year and to allow recovery of the total costs within the  
4           timeframe that Staff expects the Company to file another rate case.

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

7           A.    Staff recommends decreasing outside services expense by \$8,054 as shown on Schedules  
8           CSB-16 and CSB-20.

9  
10          *Operating Income Adjustment No. 5 – Water Testing Expense*

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

12          A.    The Company proposed \$2,402 for water testing expense.

13  
14          **Q.    What adjustment did Staff make?**

15          A.    Staff adjusted annual water testing costs to reflect Staff's recommended \$2,689 water  
16          testing expense as discussed in greater detail by Staff witness Katrin Stukov.

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

19          A.    Staff recommends increasing water testing expense by \$287 as shown on Schedules CSB-  
20          10 and CSB-15.

21  
22          *Operating Income Adjustment No. 6 – Rents Expense Reclassification*

23          **Q.    What did the Company propose for rents expense?**

24          A.    The Company proposed no rents expense.

25

1 **Q. What is the Company's rents expense?**

2 A. The Company's rents expense is \$700 per month or \$8,400 annually.

3

4 **Q. In what account did the Company include rents expense?**

5 A. The Company included the amount in the Office Supplies and Expense account.

6

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

8 A. Staff reclassified \$8,400 from the Office Supplies and Expense account to the Rents  
9 Expense account.

10

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

12 A. Staff's recommendation has no net effect on operating income. Staff recommends  
13 decreasing the Office Supplies and Expense account by \$8,400 and increasing the Rents  
14 Expense by the same amount, as shown on Schedules CSB-10 and CSB-16.

15

16 *Operating Income Adjustment No. 7 – Rate Case Expense*

17 **Q. What did the Company propose for rate case expense?**

18 A. The Company proposed no rate case expense.

19

20 **Q. What is the Company's actual and anticipated rate case expense related to the  
21 instant case?**

22 A. In response to data request CSB 2.14, the Company's actual and anticipated rate case  
23 expense related to the instant case is \$29,526.

24

1 **Q. When does Staff recommend that the Company file a permanent rate application?**

2 A. Staff recommends that the Company file a permanent rate application no later than May  
3 31, 2016 using a December 31, 2015 test year as discussed later in the "Tariff for City of  
4 Goodyear Bulk Water Sales" section of Staff's testimony.

5  
6 **Q. As a result of this recommendation, what adjustment did Staff make to rate case  
7 expense?**

8 A. Staff normalized the rate case expense using three years consistent with Staff's rate case  
9 filing recommendation.

10

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

12 A. Staff recommends increasing rate case expense by \$9,842, as shown on Schedules CSB-10  
13 and CSB-18.

14

15 *Operating Income Adjustment No. 8 – Depreciation Expense*

16 **Q. What is Adaman proposing for depreciation expense?**

17 A. Adaman is proposing depreciation expense of \$57,335.

18

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

20 A. Staff adjusted depreciation expense to reflect Staff's calculation of depreciation expense  
21 using Staff's recommended depreciation rates, plant balances, and CIAC balances. Staff's  
22 calculation is shown on Schedule CSB-18.

23

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

25 A. Staff recommends increasing depreciation expense by \$4,696, as shown on Schedules  
26 CSB-10 and CSB-18.

1 *Operating Income Adjustment No. 9 – Property Taxes*

2 **Q. What is Adaman proposing for property taxes?**

3 A. Adaman is proposing \$10,910 for property taxes.  
4

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

6 A. Yes. Staff's adjustment reflects Staff's calculation of the property tax expense using the  
7 modified Arizona Department of Revenue Methodology applied to Staff's recommended  
8 revenues, as shown on Schedule CSB-19.  
9

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

11 A. Staff recommends decreasing property tax expense by \$3,432 as shown on Schedules  
12 CSB-10 and CSB-19.  
13

14 *Operating Income Adjustment No. 10 – Income Taxes*

15 **Q. What is Adaman proposing for test year income tax expense?**

16 A. Adaman is proposing no test year income tax expense.  
17

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

19 A. Yes. Staff's adjustment reflects Staff's calculation of the income tax expense based upon  
20 Staff's adjusted test year taxable income.  
21

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

23 A. Staff recommends increasing income tax expense by \$8,923 as shown on Schedules CSB-  
24 10 and CSB-20.  
25

1 *Tariff for City of Goodyear Bulk Water Sales*

2 **Q. Has Staff reviewed the Company's tariff for bulk water sales to the City of**  
3 **Goodyear?**

4 A. Yes.

5  
6 **Q. When was the tariff approved?**

7 A. The tariff was approved in Decision No. 72506, dated August 3, 2011.

8  
9 **Q. Does the tariff allow the Company to make small increases to the contract rate**  
10 **without filing for a permanent rate increase?**

11 A. Yes, the tariff states, "The base commodity fee is payable monthly, and shall equal \$67  
12 per acre-foot as of August 27, 2007, *as adjusted on each subsequent January 1 in an*  
13 *amount equal to the percentage change in the Consumer Price Index . . .*" (Emphasis  
14 added).

15  
16 **Q. Does Staff have any concern regarding the automatic increase?**

17 A. Yes. Staff's concern is that the Company's revenue generated from sales to the City of  
18 Goodyear may become substantially large. This, in turn, may necessitate a rate reduction  
19 for Adaman's non-municipal customers.

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

22 A. Staff recommends that the Company be ordered to file a permanent rate application no  
23 later than May 31, 2016 using a December 31, 2015 test year.

24

1 **Q. Does Staff have any other recommendation concerning the 2016 filing?**

2 A. Yes. Staff recommends that the Company file the schedules prescribed by the Arizona  
3 Administrative Code R-14-2-103 for Class C utilities rather than file a short form  
4 application as it did in the instant case.  
5

6 **RATE DESIGN**

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

9 A. Yes. Schedule CSB-21 provides a summary of the present, Company proposed, and Staff  
10 recommended rates and service charges.  
11

12 **Q. Please summarize the present rate design.**

13 A. Customer class is distinguished by meter size. The monthly minimum charges vary by  
14 meter size and include no gallons. One commodity rate applies to all usage.  
15

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

17 A. Customer class is distinguished by meter size. The monthly minimum charges vary by  
18 meter size and include no gallons. One commodity rate applies to all usage. The  
19 Company's proposed rates would have no effect on the typical residential 1-inch meter bill  
20 of \$36.43, as shown on Schedule CSB-22.  
21

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

23 A. Customer class is distinguished by meter size. The monthly minimum charges vary by  
24 meter size and include no gallons. The commodity rates are based on an inverted three-  
25 tier rate design. Staff's analysis shows that a 1.83 percent revenue decrease could be  
26 justified; however, Staff recommends no change in the Company's revenue requirement at

1 this time. Staff recognizes that if the water quality of the new well meets compliance,  
2 then a revenue increase would more than likely be warranted once the costs of the new  
3 well are reflected in the rate base/revenue requirement. Staff's adjusted OCRB is  
4 \$304,022 as shown on Schedule CSB-1. Staff's recommended rates would decrease the  
5 typical residential 1-inch meter bill with a median usage of 10,214 gallons from \$36.43 to  
6 \$35.71, for a decrease of \$0.72 or 1.98 percent, as shown on Schedule CSB-22. Although  
7 Staff has recommended no change to the revenue requirement, Staff has recommended a  
8 change in the Company's rate design from a \$2.00 uniform rate to an inverted three-tiered  
9 commodity rate. This rate design change results in a decrease for the typical bill.

10  
11 **Q. Did the Company propose any changes to its Meter and Service Line Charges?**

12 **A.** Yes, and Staff recommends approval. Both the Company-proposed and the Staff-  
13 recommended changes are shown on Schedule CSB-21 and are discussed in greater detail  
14 in the testimony of Staff witness, Katrin Stukov.

15  
16 **SERVICE CHARGES**

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

18 **A.** Yes. The Company proposes to decrease the Deposit Interest (Per Month) from 6 percent  
19 to 0.75 percent; increase the Non-sufficient Funds ("NSF") Check charge from \$10 to  
20 \$35; discontinue the Establishment (After Hours) charge; and to add a Meter Re-Read  
21 charge of \$15.

22  
23 **Q. Does Staff agree with the Company-proposed Deposit Interest Charge?**

24 **A.** No, Staff does not. Staff recommends the Deposit Interest remain at 6 percent annually  
25 per Commission Rule R14-2-403(B)(3) in order to remain consistent with other utility  
26 companies and with current Commission practices.

1 **Q. Does Staff agree with the Company-proposed NSF Check Charge?**

2 **A.** No, as the Company provided documentation from its bank to support only a two dollar  
3 increase.

4

5 **Q. What is Staff's recommendation concerning the NSF Check Charge?**

6 **A.** Staff recommends that the NSF charge increase by two dollars, from \$10 to \$12.

7

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

9 **A.** Yes. The proposed \$15 charge is within the range of established charges.

10

11 **Q. Does Staff recommend the elimination of the \$25.00 Establishment (After Hours)  
12 Charge and to add a \$25 After Hours Charge?**

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

18

19 Moreover, Staff concludes that it is appropriate to apply an after-hours service charge in  
20 addition to the charge for any utility service provided after hours at the customer's request.  
21 For example, under Staff's proposal, a customer would be subject to a \$12.50  
22 Establishment fee if it is done during normal business hours, but would pay an additional  
23 \$25 after-hours fee if the customer requested that the establishment be done after normal  
24 business hours.

25

1 **FIRE SPRINKLER RATES**

2 **Q. What are the Company's present and proposed fire sprinkler rates?**

3 A. The Company's present and proposed fire sprinkler rates are one percent of the monthly  
4 minimum for comparable sized meters, but not less than \$5.00 per month.

5

6 **Q. What is Staff's recommended fire sprinkler rate?**

7 A. Staff's recommended fire sprinkler rate is two percent of the monthly minimum for  
8 comparable sized meters, but not less than \$10.00 per month. Staff's recommendation  
9 reflects the increase in cost of providing this service to customers

10

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

12 A. Yes, it does.

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION	[A] COMPANY ORIGINAL COST	[B] STAFF ORIGINAL COST	[C] STAFF RECOMMENDS
1	Adjusted Rate Base	\$ 279,726	\$ 304,022	\$ 304,022
2	Adjusted Operating Income (Loss)	\$ 27,482	\$ 33,725	\$ 33,725
3	Current Rate of Return (L2 / L1)	9.82%	11.09%	11.09%
4	Required Rate of Return	10.14%	9.10%	9.10%
5	Required Operating Income (L4 * L1)	\$ 28,360	\$ 27,666	\$ 33,725
6	Operating Income Deficiency/(Excess) (L5 - L2)	\$ 878	\$ (6,059)	\$ -
7	Gross Revenue Conversion Factor	1.27902	1.27902	1.27902
8	Increase (Decrease) In Gross Revenue (L7 * L6)	\$ 1,122	\$ (7,750)	\$ -
9	Adjusted Test Year Revenue	\$ 423,775	\$ 423,775	\$ 423,775
10	Proposed Annual Revenue (L8 + L9)	\$ 424,897	\$ 416,025	\$ 423,775
11	Required Increase/(Decrease in Revenue) (%) (L8/L9)	0.26%	-1.83%	0.00%

References:

Column [A]: Company's Application, Pages 15 and 19.  
Column [B]: Staff Schedules CSB-2, CSB-3, & CSB-9

**GROSS REVENUE CONVERSION FACTOR**

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
<u>Calculation of Gross Revenue Conversion Factor:</u>					
1	Revenue	100.0000%			
2	Uncollectible Factor (Line 11)	0.0000%			
3	Revenues (L1 - L2)	100.0000%			
4	Combined Federal and State Income Tax and Property Tax Rate (Line 23)	21.8149%			
5	Subtotal (L3 - L4)	78.1851%			
6	Revenue Conversion Factor (L1 / L5)	1.279015			
<u>Calculation of Uncollectible Factor:</u>					
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 17)	20.9228%			
9	One Minus Combined Income Tax Rate (L7 - L8)	79.0772%			
10	Uncollectible Rate	0.0000%			
11	Uncollectible Factor (L9 * L10)	0.0000%			
<u>Calculation of Effective Tax Rate:</u>					
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.9680%			
14	Federal Taxable Income (L12 - L13)	93.0320%			
15	Applicable Federal Income Tax Rate (Line 53)	15.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	13.9548%			
17	Combined Federal and State Income Tax Rate (L13 + L16)		20.9228%		
<u>Calculation of Effective Property Tax Factor</u>					
18	Unity	100.0000%			
19	Combined Federal and State Income Tax Rate (L17)	20.9228%			
20	One Minus Combined Income Tax Rate (L18-L19)	79.0772%			
21	Property Tax Factor	1.1281%			
22	Effective Property Tax Factor (L20*L21)		0.8921%		
23	Combined Federal and State Income Tax and Property Tax Rate (L17+L22)			21.8149%	
24	Required Operating Income	\$ 27,666			
25	Adjusted Test Year Operating Income (Loss)	33,725			
26	Required Increase in Operating Income (L24 - L25)		\$ (6,059)		
27	Income Taxes on Recommended Revenue (Col. [C], L52)	\$ 7,320			
28	Income Taxes on Test Year Revenue (Col. [A], L52)	8,923			
29	Required Increase in Revenue to Provide for Income Taxes (L27 - L28)		(1,603)		
30	Recommended Revenue Requirement	\$ 416,025			
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	\$ 14,254			
36	Property Tax on Test Year Revenue	14,342			
37	Increase in Property Tax Due to Increase in Revenue (L35-L36)		(87)		
38	Total Required Increase in Revenue (L26 + L29 + L34 + L37)		\$ (7,750)		
<u>Calculation of Income Tax:</u>					
39	Revenue	\$ 423,775	\$ (7,750)	\$ 416,025	
40	Operating Expenses Excluding Income Taxes	\$ 381,126	\$ (87)	\$ 381,039	
41	Synchronized Interest (L56)	\$ -	\$ -	\$ -	
42	Arizona Taxable Income (L39 - L40 - L41)	\$ 42,649	\$ -	\$ 34,986	
43	Arizona State Income Tax Rate	6.9680%		6.9680%	
44	Arizona Income Tax (L42 x L43)	\$ 2,972		\$ 2,438	
45	Federal Taxable Income (L42 - L44)	\$ 39,677		\$ 32,548	
46	Federal Tax on First Income Bracket (\$1 - \$50,000) @ 15%	\$ 5,952		\$ 4,882	
47	Federal Tax on Second Income Bracket (\$51,001 - \$75,000) @ 25%	\$ -		\$ -	
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	\$ 5,952		\$ 4,882	
52	Combined Federal and State Income Tax (L44 + L51)	\$ 8,923		\$ 7,320	
53	Applicable Federal Income Tax Rate [Col. [C], L51 - Col. [A], L51] / [Col. [C], L45 - Col. [A], L45]			15.0000%	
<u>Calculation of Interest Synchronization:</u>					
54	Rate Base	\$ 304,022			
55	Weighted Average Cost of Debt	0.0000%			
56	Synchronized Interest (L45 X L46)	\$ -			

**RATE BASE - ORIGINAL COST**

LINE NO.	(A)	(B)	(C)	
	COMPANY AS FILED	STAFF ADJUSTMENTS	ADJ NO. STAFF AS ADJUSTED	
1	Plant in Service	\$ 1,867,642	\$ (177,128) 1,2,3	\$ 1,690,514
2	Less: Accumulated Depreciation	723,244	(201,425) 4	521,819
3	Net Plant in Service	<u>\$ 1,144,398</u>	<u>\$ 24,296</u>	<u>\$ 1,168,694</u>
<u>LESS:</u>				
4	Advances in Aid of Construction (AIAC)	\$ 834,294	\$ -	\$ 834,294
5	Service Line and Meter Advances	\$ 15,848	\$ -	\$ 15,848
6	Contributions in Aid of Construction (CIAC)	\$ 27,816	\$ -	\$ 27,816
7	Less: Accumulated Amortization	15,791	-	15,791
8	Net CIAC	<u>\$ 12,025</u>	<u>-</u>	<u>\$ 12,025</u>
9	Total Advances and Contributions	\$ 862,167	\$ -	\$ 862,167
10	Customer Deposits	\$ 2,505	\$ -	\$ 2,505
11	Accumulated Deferred Income Taxes	\$ -	\$ -	\$ -
<u>ADD:</u>				
12	Cash Working Capital Allowance	\$ -	\$ -	\$ -
13	Materials and Supplies Inventories	\$ -	\$ -	\$ -
14	Prepayments	\$ -	\$ -	\$ -
15	<b>Total Rate Base</b>	<u>\$ 279,726</u>	<u>\$ 24,296</u>	<u>\$ 304,022</u>

References:

Column [A] Company's Application, Pages 14, 15, 22, 24, & 25.  
Column [B]: Schedule CSB-4  
Column [C]: Column [A] + Column [B]

SUMMARY OF RATE BASE ADJUSTMENTS

LINE NO.	PLANT IN SERVICE	[A]	[B]	[C]	[D]	[E]	[F]
		COMPANY AS FILED	Adj. No. 1	Adj. No. 2	Adj. No. 3	Adj. No. 4	STAFF AS ADJUSTED
			Organizational Costs Ref: Sch CSB-5	Well No. 6 Retirement Ref: Sch CSB-6	Inadequately Supported Plant Ref: Sch CSB-7	Accumulated Depreciation Ref: Sch CSB-8	
1	301 Organization	\$ 2,068	\$ 4,826	\$ -	\$ -	\$ -	\$ 6,894
2	303 Land and Land Rights	-	-	-	-	-	-
3	304 Structures and Improvements	10,053	-	-	-	-	10,053
4	305 Collecting and Impound Reservoirs	-	-	-	-	-	-
5	307 Wells and Springs	271,788	-	(153,746)	-	-	118,042
6	309 Supply Mains	-	-	-	-	-	-
7	311 Pumping Equipment	114,146	-	-	(865)	-	113,281
8	320.1 Water Treatment Plants	844,449	-	-	-	-	844,449
9	320.2 Water Treatment, Solution Chemical Feeders	1,105	-	-	-	-	1,105
10	330 Distribution Reservoirs and Standpipes	45,548	-	-	(5,308)	-	40,242
11	331 Transmission and Distribution Mains	490,343	-	-	(5,628)	-	484,715
12	333 Services	-	-	-	-	-	-
13	334 Meters and Meter Installations	73,348	-	-	(13,294)	-	60,054
14	335 Hydrants	2,541	-	-	(2,541)	-	-
15	336 Backflow Prevention Devices	965	-	-	(574)	-	391
16	339 Other Plant and Miscellaneous Equipment	2,853	-	-	-	-	2,853
17	340 Office Furniture and Equipment	4,688	-	-	-	-	4,688
18	340.1 Computers and Software	-	-	-	-	-	-
19	341 Transportation Equipment	-	-	-	-	-	-
20	343 Tools, Shop, and Garage Equipment	3,747	-	-	-	-	3,747
21	345 Power Operated Equipment	-	-	-	-	-	-
22	346 Communication Equipment	-	-	-	-	-	-
23	347 Miscellaneous Equipment	-	-	-	-	-	-
24	Rounding	-	-	-	-	-	-
25	Total Plant in Service	\$ 1,887,642	\$ 4,826	\$ (153,746)	\$ (28,208)	\$ -	\$ 1,690,514
26	Less: Accumulated Depreciation	\$ 723,244	\$ -	\$ -	\$ -	\$ (201,425)	\$ 521,819
27	Net Plant in Service	\$ 1,144,398	\$ 4,826	\$ (153,746)	\$ (28,208)	\$ 201,425	\$ 1,168,694
28							
29	<u>LESS:</u>						
30	Advances in Aid of Construction (AIAC)	\$ 834,294	\$ -	\$ -	\$ -	\$ -	\$ 834,294
31	Meter Deposits - Service Line & Meter Advances	\$ 15,848	-	-	-	-	\$ 15,848
32	Total AIAC	\$ 850,142	\$ -	\$ -	\$ -	\$ -	\$ 850,142
33							
34	Contributions in Aid of Construction (CIAC)	\$ 27,816	-	-	-	-	\$ 27,816
35	Less: Accumulated Amortization of CIAC	\$ 15,791	-	-	-	-	\$ 15,791
36	Net CIAC	\$ 12,025	\$ -	\$ -	\$ -	\$ -	\$ 12,025
37							
38	Total Advances and Net Contributions	\$ 862,167	\$ -	\$ -	\$ -	\$ -	\$ 862,167
39							
40	Customer Deposits	\$ 2,505	-	-	-	-	\$ 2,505
41	Accumulated Deferred Taxes	\$ -	-	-	-	-	\$ -
42							
43	<u>ADD:</u>						
44	Cash Working Capital Allowance	\$ -	-	-	-	-	\$ -
45	Materials and Supplies Inventories	\$ -	-	-	-	-	\$ -
46	Prepayments	\$ -	-	-	-	-	\$ -
47	Total Rate Base	\$ 279,726	\$ 4,826	\$ (153,746)	\$ (28,208)	\$ 201,425	\$ 304,022

RATE BASE ADJUSTMENT NO. 1 - ORGANIZATION COSTS

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Acct No. 301, Organization	\$ 2,068	\$ -	\$ 2,068
2	Reclassified from Outside Services	\$ -	\$ 4,826	\$ 4,826
3	Total	\$ 2,068	\$ 4,826	\$ 6,894

References:

- Column [A]: Company's Application, Page 14
- Column [B]: Testimony, CSB
- Column [C]: Column [A] + Column [B]

Adaman Mutual Water Company  
Docket No. W-01997A-12-0501  
Test Year Ended June 30, 2012

Schedule CSB-6

RATE BASE ADJUSTMENT NO. 2 - WELL NO. 6 RETIREMENT

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Acct No. 307, Wells and Springs	\$ 271,788	\$ -	\$ 271,788
2	Well No. 6A	\$ -	\$ (153,746)	\$ (153,746)
3	<b>Total Wells and Springs</b>	<b>\$ 271,788</b>	<b>\$ (153,746)</b>	<b>\$ 118,042</b>

References:

- Column [A]: Company's Application, Page 14
- Column [B]: Testimony, CSB
- Column [C]: Column [A] + Column [B]

**RATE BASE ADJUSTMENT NO. 3 - INADEQUATELY SUPPORTED PLANT COSTS**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		Per Company	Staff's Adjustment	Per Staff
1	Acct No. 311 - Pumping Equipment	\$ 114,146	\$ (865)	\$ 113,281
2	Acct No. 330.1 - Storage Tanks	45,548	(5,306)	40,242
3	Acct No. 331 - Transmission & Distribution Equipment	490,343	(5,628)	484,715
4	Acct No. 334 - Meters & Meter Installations	73,348	(13,294)	60,054
5	Acct No. 335 - Hydrants	2,541	(2,541)	-
6	Acct No. 336 - Backflow Prevention Devices	965	(574)	391
8	<b>Total</b>	<b>\$ 726,891</b>	<b>\$ (28,208)</b>	<b>\$ 698,683</b>

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Inadequately Supported Plant			
Year	Account No.	Plant Description	Amount
1995	311	Pumping Equipment	\$ 865
1997	330.1	Storage Tanks	\$ 5,306
2009	331	Transmission & Distrib Mains	\$ 5,628
1995	334	Meters & Meter Installations	\$ 495
1996	334	Meters & Meter Installations	\$ 943
1997	334	Meters & Meter Installations	\$ 817
1998	334	Meters & Meter Installations	\$ 285
1999	334	Meters & Meter Installations	\$ 378
2005	334	Meters & Meter Installations	\$ 553
2006	334	Meters & Meter Installations	\$ 761
2007	334	Meters & Meter Installations	\$ 1,758
2008	334	Meters & Meter Installations	\$ 6,445
2010	334	Meters & Meter Installations	\$ 859
			<b>\$ 13,294</b>
2000	335	Hydrants	\$ 1,497
2002	335	Hydrants	\$ 1,044
			<b>\$ 2,541</b>
1998	336	Backflow Prevention Devices	\$ 574

References:

- Column A: Company's Application, Pages 13 and 14
- Column B: Testimony, CSB
- Column C: Column [A] + Column [B]

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

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		Per Company	Staff's Adjustment	Per Staff
1	Accumulated Depreciation	\$ 723,244	\$ -	\$ 723,244
2	Accu Depr on Inadequatley Supported Plant	\$ -	\$ (12,838)	\$ (12,838)
3	Accu Depr on Well No. 6	\$ -	\$ (153,746)	\$ (153,746)
4	Accu Depr on Well Abandonment	\$ -	\$ (34,841)	\$ (34,841)
5		\$ 723,244	\$ (201,425)	\$ 521,819

Inadequately Supported Plant					Number of Years	Depreciation Rate*	Depreciation Expense
Year	Account No.	Plant Description	Amount				
10	1995	311	Pumping Equipment	\$ 865 x	17 x	5.0% =	\$ 735.3
11	1995	334	Meters & Meter Installations	\$ 495 x	17 x	5.0% =	\$ 420.8
12	1996	334	Meters & Meter Installations	\$ 943 x	16 x	5.0% =	\$ 754.4
13	1997	330.1	Storage Tanks	\$ 5,306 x	15 x	5.0% =	\$ 3,979.5
14	1997	334	Meters & Meter Installations	\$ 817 x	15 x	5.0% =	\$ 612.8
15	1998	334	Meters & Meter Installations	\$ 285 x	14 x	5.0% =	\$ 199.5
16	1998	336	Backflow Prevention Devices	\$ 574 x	14 x	5.0% =	\$ 401.8
17	1999	334	Meters & Meter Installations	\$ 378 x	13 x	5.0% =	\$ 245.9
18	2000	335	Hydrants	\$ 1,497 x	12 x	5.0% =	\$ 898.2
19	2002	335	Hydrants	\$ 1,044 x	10 x	5.0% =	\$ 522.0
20	2003	340.1	Office Furn & Equip, Computers	\$ 1,462 x	9 x	5.0% =	\$ 657.9
21	2005	334	Meters & Meter Installations	\$ 553 x	7 x	5.0% =	\$ 193.6
22	2006	340.1	Office Furn & Equip, Computers	\$ 1,098 x	6 x	5.0% =	\$ 329.4
23	2006	334	Meters & Meter Installations	\$ 761 x	6 x	5.0% =	\$ 228.3
24	2007	334	Meters & Meter Installations	\$ 1,758 x	5 x	5.0% =	\$ 439.5
25	2008	334	Meters & Meter Installations	\$ 6,445 x	4 x	5.0% =	\$ 1,289.0
26	2009	331	Transmission & Distrib Mains	\$ 5,628 x	3 x	5.0% =	\$ 844.2
27	2010	334	Meters & Meter Installations	\$ 859 x	2 x	5.0% =	\$ 85.9
28				\$ 30,768			\$ 12,837.8

\* Rate authorized in Decision No. 59739, dated July 17, 1996

References:

- Column A: Company's Application, Page 21
- Column B: Testimony, CSB
- Column C: Column [A] + Column [B]

**OPERATING INCOME - TEST YEAR AND STAFF RECOMMENDED**

Sales for Resale - City of Goodyear		[A]	[B]	[C]	[D]	[E]
Line No.	Acct. No.	COMPANY TEST YEAR AS FILED	STAFF TEST YEAR ADJUSTMENTS	STAFF TEST YEAR AS ADJUSTED	STAFF PROPOSED CHANGES	STAFF ADJUSTED
1		<u>REVENUES:</u>				
2	461	\$ 320,317	\$ (1,552)	1 \$ 318,765	\$ (7,750)	\$ 311,015
3	460	103,458	\$ (90,822)	1 12,636	-	12,636
4	466	-	\$ 92,374	1 92,374	-	92,374
5		<u>\$ 423,775</u>	<u>\$ -</u>	<u>\$ 423,775</u>	<u>\$ (7,750)</u>	<u>\$ 416,025</u>
6		<u>EXPENSES:</u>				
8	601	\$ 103,261	\$ -	\$ 103,261	\$ -	\$ 103,261
9	610	43,584	-	43,584	-	43,584
10	615	26,809	(5,073)	2 21,736	-	21,736
11	618	11,453	-	11,453	-	11,453
12	620	62,301	(20,297)	3 42,004	-	42,004
13	621	18,873	(8,400)	6 10,273	-	10,273
14	630	20,967	(8,054)	4 12,913	-	12,913
15	635	2,402	287	5 2,689	-	2,689
16	641	-	8,400	6 8,400	-	8,400
17	650	15,417	-	15,417	-	15,417
18	657	6,797	-	6,797	-	6,797
19	659	4,036	-	4,036	-	4,036
20	666	-	9,842	7 9,842	-	9,842
21	675	4,514	-	4,514	-	4,514
22	403	57,335	4,696	8 62,031	-	62,031
23	408	7,834	-	7,834	-	7,834
24	408	10,910	3,432	9 14,342	(87)	14,254
25	409	-	8,923	10 8,923	(1,603)	7,320
26		<u>396,293</u>	<u>(6,243)</u>	<u>390,050</u>	<u>(1,691)</u>	<u>388,359</u>
27						
28		<u>\$ 27,482</u>	<u>\$ 6,243</u>	<u>\$ 33,725</u>	<u>\$ (6,059)</u>	<u>\$ 27,666</u>

References:

- Column (A): Company's Application, Page 19
- Column (B): Schedule CSB-10
- Column (C): Column (A) + Column (B)
- Column (D): Schedules CSB-1 and CSB-2
- Column (E): Column (C) + Column (D)

Adaman Mutual Water Company  
 Docket No. W-01997A-12-0501  
 Test Year Ended June 30, 2012

**SUMMARY OF OPERATING INCOME ADJUSTMENTS - TEST YEAR**

Line No.	Acct. No.	DESCRIPTION	(A) COMPANY AS FILED	(B) ADJ #1 Water Revenue [Ref: Sch CSB-11] Ref: Sch CSB-11	(C) ADJ #2 Purchased Power Expense [Ref: Sch CSB-12] Ref: Sch CSB-12	(D) ADJ #3 Repairs & Maintenance Expense [Ref: Sch CSB-13] Ref: Sch CSB-13	(E) ADJ #4 Outside Services Expense [Ref: Sch CSB-14] Ref: Sch CSB-14	(F) ADJ #5 Water Testing Expense [Ref: Sch CSB-15] Ref: Sch CSB-15	(G) ADJ #6 Rents Expense [Ref: Sch CSB-16] Ref: Sch CSB-16	(H) ADJ #7 Rate Case Expense [Ref: Sch CSB-17] Ref: Sch CSB-17	(J) ADJ #8 Depreciation Expense [Ref: Sch CSB-18] Ref: Sch CSB-18	(K) ADJ #9 Property Taxes [Ref: Sch CSB-19] Ref: Sch CSB-19	(L) ADJ #10 Income Taxes [Ref: Sch CSB-20] Ref: Sch CSB-20	(M) STAFF ADJUSTED
1	461	Metered Water Revenue	\$ 320,317	\$ (1,952)										\$ 318,765
2	460	Other Operating Revenues	103,458	(90,822)										12,636
3	466	Sales for Resale - City of Goodyear		92,374										92,374
4		Total Revenues	\$ 423,775	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 423,775
5		<b>OPERATING EXPENSES:</b>												
7	601	Salaries and Wages	\$ 103,261											\$ 103,261
8	610	Purchased Water	43,584											43,584
9	615	Purchased Power	26,809		(5,073)									21,736
10	618	Chemicals	11,453											11,453
11	620	Repairs & Maint	62,301			(20,287)								42,014
12	621	Office Supplies & Expenses	18,673				(8,054)							10,619
13	630	Outside Services	20,967											20,967
14	635	Water Testing	2,402					287						2,689
15	641	Rents						8,400						8,400
16	650	Transportation Expenses	15,417											15,417
17	657	Insurance - General Liability	6,797											6,797
18	659	Insurance - Health and Life	4,036											4,036
19	666	Reg. Contin. Exp. - Rate Case								9,842				9,842
20	675	Miscellaneous Expense	4,514											4,514
21	403	Depreciation	57,335						4,696					62,031
22	408	Taxes Other Than Income	7,834											7,834
23	408	Property Taxes	10,910									3,432		14,342
24	408	Income Taxes												8,923
25	408	Operating Expenses	\$ 396,293	\$ -	\$ (5,073)	\$ (20,287)	\$ (8,054)	\$ 287	\$ -	\$ 9,842	\$ 4,696	\$ 3,432	\$ 8,923	\$ 390,050
26		Total Operating Expenses	\$ 396,293	\$ -	\$ (5,073)	\$ (20,287)	\$ (8,054)	\$ 287	\$ -	\$ 9,842	\$ 4,696	\$ 3,432	\$ 8,923	\$ 390,050
27		Operating Income (Loss)	\$ 27,482	\$ -	\$ 5,073	\$ 20,287	\$ 8,054	\$ (287)	\$ -	\$ (9,842)	\$ (4,696)	\$ (3,432)	\$ (8,923)	\$ 33,725

**OPERATING INCOME ADJUSTMENT NO. 1 - WATER REVENUE RECLASSIFICATION**

LINE NO.	DESCRIPTION	[A]	[B]	[C]	
		COMPANY AS FILED	STAFF ADJUSTMENTS (CSB 2.11)	STAFF AS ADJUSTED	
1	461- Metered Water Sales	\$ 320,317	\$ (1,552)	\$ 318,765	From Line 11
2	460- Other Operating Revenues	103,458	(90,822)	12,636	From Line 19
3	466- Sales for Resale, City of Goodyear	-	92,374	92,374	
4	<b>Total</b>	<b>\$ 423,775</b>	<b>\$ -</b>	<b>\$ 423,775</b>	

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Metered Water Revenue	
Service Connections	\$ (300)
Late Fees	\$ (1,252)
	\$ (1,552)

Other Operating Revenue	
City of Goodyear	\$ (92,374)
Service Connections	\$ 300
Late Fees	\$ 1,252
	\$ (90,822)

**References:**

- Column A: Company Income Statement, Page 19 of application
- Column B: Testimony, CSB; CSB 2.11
- Column C: Column [A] + Column [B]

Adaman Mutual Water Company  
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Schedule CSB-12

**OPERATING INCOME ADJUSTMENT NO. 2 - PURCHASED POWER EXPENSE**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	Purchased Power	\$ 26,809	\$ (5,073)	\$ 21,736

References:

- Column A: Company Income Statement, Page 19 of application
- Column B: Testimony, CSB; Data Request CSB 2.10
- Column C: Column [A] + Column [B]

**OPERATING INCOME ADJUSTMENT NO. 2 - REPAIRS AND MAINTENANCE EXPENSE**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Repairs and Maintenance Expense	\$ 62,301	\$ -	\$ 62,301
2	Additional Expense Supported by Invoices	\$ -	\$ 48,011	\$ 48,011
3	To Normalize Arsenic Media Replacement Costs	\$ -	\$ (33,468)	\$ (33,468)
4	To Remove Well Abandonment Costs	\$ -	\$ (34,840)	\$ (34,840)
5	Total	\$ 62,301	\$ (20,297)	\$ 42,004

From Sch CSB-13, P.2

<b>Normalized Arsenic Media Costs</b>	
CSB 2.7	
Actual Cost of Arsenic Media	\$ 66,935
Divided by	<u>2</u> Years
	\$ 33,468

References:

- Column A: Company Income Statement, Page 19 of application
- Column B: Testimony, CSB; Company Data Request Responses to CSB 2.7
- Column C: Column [A] + Column [B]

**OPERATING INCOME ADJUSTMENT NO. 2 - REPAIRS AND MAINTENANCE EXPENSE  
CONTINUED**

Page ID No.	Date	Vendor	Invoice No.	Amount
1	12/31/2011	Adaman I.W.D.D. No. 36	211	\$ 350.00
2	10/31/2011	Adaman I.W.D.D. No. 36	209	\$ 472.50
3	9/30/2011	Adaman I.W.D.D. No. 36	208	\$ 1,181.65
4	7/31/2011	Adaman I.W.D.D. No. 36	206	\$ 316.00
5	6/30/2011	Adaman I.W.D.D. No. 36	205	\$ 479.34
9	11/8/2011	Brown Evans Distributing	728467	\$ 1,230.85
11	9/21/2011	Chemical Feeding Tech.	31627	\$ 386.92
12	9/14/2011	Electric Services & Control Systems	7701	\$ 177.98
13	10/10/2011	Electric Services & Control Systems	7748	\$ 99.00
15	7/5/2011	Electric Services & Control Systems	7596	\$ 149.86
16	11/2/2011	Electric Services & Control Systems	7793	\$ 82.50
17	12/5/2011	Electric Services & Control Systems	7815	\$ 170.00
23	8/1/2011	Not Identified	126441	\$ 40.62
23	8/4/2011	Not Identified	126590	\$ 142.63
24	9/6/2011	Not Identified	127702	\$ 4.89
25	12/1/2011	Not Identified	130910	\$ 4.92
26	12/19/2011	HD Supply Waterworks	4194631	\$ 404.56
27	12/14/2011	HD Supply Waterworks	4147203	\$ 178.33
28	11/10/2011	HD Supply Waterworks	4001615	\$ 524.04
29	10/3/2011	HD Supply Waterworks	4001615	\$ 359.38
30	10/27/2011	Harrington Industrial Plastics	015G1792	\$ 74.60
31	11/17/2011	Hennesy Mechanical Sales	9223	\$ 66,935.00 Arsenic Media
32	9/28/2011	Power Plus	S00792-416990	\$ 394.63
33	9/2/2011	Power Plus	S00792-412590	\$ 566.88
34	8/22/2011	USA BlueBook	472290	\$ 372.42
35	6/16/2011	USA BlueBook	422997	\$ 372.46
37	8/31/2011	Weber Group, L.C.	2081-218	\$ 29,857.82 Well Abandonment
39	9/30/2011	Weber Group, L.C.	2081-218	\$ 4,982.57 Well Abandonment
				<u>\$ 110,312.35</u>

**OPERATING INCOME ADJUSTMENT NO. 4 - OUTSIDE SERVICES EXPENSE**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	2011 Actual Outside Services - Other Expense	\$ 20,967	\$ -	\$ 20,967
2	Costs Incurred to Change Corporation Status	-	(4,826)	(4,826)
3	Normalize City of Goodyear Contract Costs	-	(3,228)	(3,228)
4		<u>\$ 20,967</u>	<u>\$ (8,054)</u>	<u>\$ 12,913</u>
5				
6				
7				
8				
9				
10				Normalize City of Goodyear Contract Costs
11				\$ 4,794
12			Divided by 3	3
13			Normalized Costs	\$ 1,598
14				
15	City of Goodyear contract costs (Sch CSB-14, p.2)			\$ 4,826
16			Less: Amount Allowed	\$ 1,598
			Staff's Adjustment	\$ 3,228

References:

- Column A: Company Income Statement, Page 19 of application
- Column B: Testimony, CSB
- Column C: Column [A] + Column [B]

**OPERATING INCOME ADJUSTMENT NO. 4 - OUTSIDE SERVICES EXPENSE  
 CONTINUED**

Date	Vendor	Description	Invoice No.	Amount
7/11/2011	Ryley Carlock	Water Sales to City of Goodyear	202012	\$ 765.00
7/8/2011	Ryley Carlock	Water Sales to City of Goodyear	204025	\$ 765.00
4/6/2012	Ryley Carlock	Water Sales to City of Goodyear	213762	\$ 212.50
10/13/2011	Ryley Carlock	Water Sales to City of Goodyear	205956	\$ 212.50
10/13/2011	Ryley Carlock	Water Sales to City of Goodyear	205957	\$ 432.00
8/22/2011	Coo & Van Loo	Determination of Fee Schedules	32743	\$ 1,590.72
11/18/2011	Coo & Van Loo	Determination of Fee Schedules	33193	\$ 622.15
12/17/2011	Coo & Van Loo	Determination of Fee Schedules	33345	\$ 193.75
				<u>\$ 4,793.62</u>
8/5/2011	Ryley Carlock	Changing Corporation Status	203012	\$ 3,721.00
9/8/2011	Ryley Carlock	Changing Corporation Status	204026	\$ 547.50
11/16/2011	Ryley Carlock	Changing Corporation Status	207756	\$ 348.50
12/14/2011	Ryley Carlock	Changing Corporation Status	209004	\$ 209.00
				<u>\$ 4,826.00</u>
7/26/2011	Meese, LLP	Annual Accounting Services	18796	\$ 3,619.50
8/31/2011	Meese, LLP	Income Tax Preparation	18957	\$ 1,584.08
8/31/2011	Meese, LLP	Financial Statement Preparation	18954	\$ 4,383.20
6/7/2012	Meese, LLP	Financial Statement Preparation	20183	\$ 1,844.00
				<u>\$ 11,430.78</u>
			Invoice Totals	<u>\$ 21,050.40</u>

Adaman Mutual Water Company  
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Schedule CSB-15

**OPERATING INCOME ADJUSTMENT NO. 5 - WATER TESTING EXPENSE**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS (Col C - Col A)	STAFF AS ADJUSTED
1	Water Testing	\$ 2,402	\$ 287	\$ 2,689

References:

- Column A: Company Income Statement, Page 19 of application
- Column B: Testimony, CSB
- Column C: Column [A] + Column [B]

**OPERATING INCOME ADJUSTMENT NO. 4 - RENTS EXPENSE RECLASSIFICATION**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Rents Expense	\$ -	\$ -	\$ -
2	To Reclassify to Rents Expense	-	8,400	8,400
3	Total Rents Expense	-	8,400	8,400
4				
5	Office Supplies and Expenses	\$ 18,673	\$ -	\$ 18,673
6	To Reclassify to Rents Expense	-	(8,400)	(8,400)
7	Total Office Supplies and Expenses	18,673	(8,400)	10,273

References:

- Column A: Company Income Statement, Page 19 of application
- Column B: Testimony, CSB; Data Request CSB 2.3
- Column C: Column [A] + Column [B]

Adaman Mutual Water Company  
 Docket No. W-01997A-12-0501  
 Test Year Ended June 30, 2012

Schedule CSB-17

**OPERATING INCOME ADJUSTMENT NO. 7 - RATE CASE EXPENSE**

		[A]	[B]	[C]
LINE NO.	DESCRIPTION	COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Rate Case Expense	-	\$ 9,842	\$ 9,842
2				
3				
4			Rate Case Expense	
5				
6			\$ 29,526	
7		Divided by	3	
8			\$ 9,842	

References:

- Column A: Company Income Statement, Page 19 of application
- Column B: Testimony, CSB; Data Request CSB 2.14
- Column C: Column [A] + Column [B]

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	301 Organization	\$ 6,894	\$ 6,894	\$ -	0.00%	\$ -
2	303 Land and Land Rights	-	-	-	0.00%	-
3	304 Structures and Improvements	10,053	-	10,053	3.33%	335
4	305 Collecting and Impound Reservoirs	-	-	-	2.50%	-
5	307 Wells and Springs	118,042	-	118,042	3.33%	3,931
6	309 Supply Mains	-	-	-	2.00%	-
7	311 Pumping Equipment	113,281	-	113,281	12.50%	14,160
8	320.1 Water Treatment Equipment	844,449	-	844,449	3.33%	28,120
9	320.2 Water Treatment Plant, Solution Chemical Feeders	1,105	-	1,105	20.00%	221
10	330 Distribution Reservoirs and Standpipes	40,242	-	40,242	2.22%	893
11	331 Transmission and Distribution Mains	484,715	-	484,715	2.00%	9,694
12	333 Services	-	-	-	3.33%	-
13	334 Meters and Meter Installations	60,054	-	60,054	8.33%	5,002
14	335 Hydrants	-	-	-	2.00%	-
15	336 Backflow Prevention Devices	391	-	391	6.67%	26
16	339 Other Plant and Miscellaneous Equipment	2,853	-	2,853	6.67%	190
17	340 Office Furniture and Equipment	4,688	-	4,688	6.67%	313
18	340.1 Computers and Software	-	-	-	20.00%	-
19	341 Transportation Equipment	-	-	-	20.00%	-
20	343 Tools, Shop, and Garage Equipment	3,747	-	3,747	5.00%	187
21	345 Power Operated Equipment	-	-	-	5.00%	-
22	346 Communication Equipment	-	-	-	10.00%	-
23	347 Miscellaneous Equipment	-	-	-	10.00%	-
24						
25	Total Plant	\$ 1,690,514	\$ -	\$ 1,683,620		\$ 63,073

29	Composite Depreciation Rate (Depr Exp / Depreciable Plant):	3.75%
30	CIAC: \$	27,816
31	Amortization of CIAC (Line 29 x Line 30): \$	1,042
32		
33	Depreciation Expense Before Amortization of CIAC: \$	63,073
34	Less Amortization of CIAC: \$	1,042
35	Test Year Depreciation Expense - Staff: \$	62,031
36	Depreciation Expense - Company:	57,335
37	Staff's Total Adjustment: \$	4,696

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]

Adaman Mutual Water Company  
Docket No. W-01997A-12-0501  
Test Year Ended June 30, 2012

Schedule CSB-19

**OPERATING INCOME ADJUSTMENT NO. 9 - PROPERTY TAX EXPENSE**

LINE NO.	Property Tax Calculation	[A] STAFF AS ADJUSTED	[B] STAFF ADJUSTED TO DECREASE
1	Staff Adjusted Test Year Revenues	\$ 423,775	\$ 423,775
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	847,550	\$ 847,550
4	Staff Recommended Revenue, Per Schedule CSB-1	423,775	\$ 416,025
5	Subtotal (Line 3 + Line 4)	1,271,325	1,263,575
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	423,775	\$ 421,192
8	Department of Revenue Multiplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	847,550	\$ 842,383
10	Plus: 10% of CWIP -	-	-
11	Less: Net Book Value of Licensed Vehicles	-	\$ -
12	Full Cash Value (Line 9 + Line 10 - Line 11)	847,550	\$ 842,383
13	Assessment Ratio	21.0%	21.0%
14	Assessment Value (Line 12 * Line 13)	177,986	\$ 176,901
15	Composite Property Tax Rate	8.0578%	8.0578%
16	Staff Test Year Adjusted Property Tax (Line 14 * Line 15)	\$ 14,342	\$ -
17	Company Proposed Property Tax	10,910	
18	Staff Test Year Adjustment (Line 16-Line 17)	\$ 3,432	
19	Property Tax - Staff Recommended Revenue (Line 14 * Line 15)		\$ 14,254
20	Staff Test Year Adjusted Property Tax Expense (Line 16)		\$ 14,342
21	Increase in Property Tax Expense Due to Increase in Revenue Requirement		\$ (87)
22	Increase to Property Tax Expense		\$ (87)
23	Increase in Revenue Requirement		(7,750)
24	Increase to Property Tax per Dollar Increase in Revenue (Line 19/Line 20)		1.128090%

**OPERATING INCOME ADJUSTMENT NO. 10 - TEST YEAR INCOME TAXES**

LINE NO.	<u>DESCRIPTION</u>	(A)	(B)
	<u>Calculation of Income Tax:</u>		
		<u>Test Year</u>	
1	Revenue	\$ 423,775	
2	Less: Operating Expenses - Excluding Income Taxes	\$ 381,126	
3	Less: Synchronized Interest (L17)	\$ -	
4	Arizona Taxable Income (L1- L2 - L3)	\$ 42,649	
5	Arizona State Income Tax Rate	6.968%	
6	Arizona Income Tax (L4 x L5)		\$ 2,972
7	Federal Taxable Income (L4 - L6)	\$ 39,677	
8	Federal Tax on First Income Bracket (\$1 - \$50,000) @ 15%	\$ 5,952	
9	Federal Tax on Second Income Bracket (\$51,001 - \$75,000) @ 25%	\$ -	
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		\$ 5,952
14	Combined Federal and State Income Tax (L6 + L13)		<u>\$ 8,923</u>
	<u>Calculation of Interest Synchronization:</u>		
15	Rate Base	\$ 304,022	
16	Weighted Average Cost of Debt	0.00%	
17	Synchronized Interest (L16 x L17)	<u>\$ -</u>	
18		Income Tax - Per Staff \$ 8,923	
19		Income Tax - Per Company \$ -	
20		<u>Staff Adjustment \$ 8,923</u>	



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

6 Inch Meter - (Residential & Commercial)

First 303,000 gallons	N/A	N/A	2.0900
Over 303,000 gallons	N/A	N/A	2.7000

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

**Miscellaneous Charges**

Establishment	\$ 12.50	\$ 12.50	\$ 12.50
Establishment (After Hours)	25.00	25.00	Eliminate
Reconnection (Delinquent)	12.50	12.50	12.50
Meter Test (If Correct)	15.00	15.00	15.00
Deposit	*	*	*
Deposit Interest	*	0.75%	*
Reestablishment (Within 12 Months)	**	**	**
NSF Check	10.00	35.00	12.00
Deferred Payment, Per Month	***	***	***
Meter Re-read (If Correct)	NT	15.00	15.00
Late Payment Fee (Per Month)	***	***	***
After hours service charge (At the Customer's Request)	NT	NT	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

Fire Sprinklers

Note 1

Note 1

Note 2

Note 1 - Present and Proposed Rates are 1% of monthly minimum for comparable sized meters, but not less than \$5.00 per month

Note 2 - Staff's recommended monthly charges are 2% of the monthly minimum for an equivalent sized meter or \$10, whichever is greater, for all meter sizes.

NT = No Tariff

**Service and Meter Installation Charges**

	<b>Total Present Charge</b>	<b>Company Proposed Service Line Charge</b>	<b>Company Proposed Meter Installation Charge</b>	<b>Total Company Proposed Charge</b>
5/8 x 3/4 Inch	\$ 350	No Tariff	No Tariff	\$ 600
3/4 Inch	\$ 375	No Tariff	No Tariff	\$ 700
1 Inch	\$ 425	No Tariff	No Tariff	\$ 810
1 1/2 Inch	\$ 665	No Tariff	No Tariff	\$ 1,075
2 Inch	\$ 1,080	No Tariff	No Tariff	\$ 1,875
3 Inch	\$ 1,460	No Tariff	No Tariff	\$ 2,715
4 Inch	\$ 1,995	No Tariff	No Tariff	\$ 4,160
6 Inch	\$ 4,450	No Tariff	No Tariff	\$ 7,235

	<b>Total Present Charge</b>	<b>Staff Recommended Service Line Charge</b>	<b>Staff Recommended Meter Installation Charge</b>	<b>Total Staff Recommended Charge</b>
5/8 x 3/4 Inch	\$ 350	\$ 445	\$ 155	\$ 600
3/4 Inch	\$ 375	\$ 455	\$ 255	\$ 710
1 Inch	\$ 425	\$ 495	\$ 315	\$ 810
1 1/2 Inch	\$ 665	\$ 550	\$ 525	\$ 1,075
2 Inch	\$ 1,080	\$ 830	\$ 1,045	\$ 1,875
3 Inch	\$ 1,460	\$ 1,045	\$ 1,670	\$ 2,715
4 Inch	\$ 1,995	\$ 1,490	\$ 2,670	\$ 4,160
6 Inch	\$ 4,450	\$ 2,210	\$ 5,025	\$ 7,235

**Typical Bill Analysis**  
Residential 1-Inch Meter

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	19,986	\$ 55.97	\$ 55.97	\$ -	0.00%
Median Usage	10,214	\$ 36.43	\$ 36.43	\$ -	0.00%
<b>Staff Recommended</b>					
Average Usage	19,986	\$ 55.97	62.09	\$ 6.12	10.93%
Median Usage	10,214	36.43	35.71	\$ (0.72)	-1.98%

**Present & Proposed Rates (Without Taxes)**  
Residential 1-Inch Meter

Gallons Consumption	Present Rates	Company Proposed Rates	% Increase	Staff Recommended Rates	% Increase
-	\$ 16.00	\$ 16.00	0.00%	\$ 16.00	0.00%
1,000	18.00	18.00	0.00%	17.50	-2.78%
2,000	20.00	20.00	0.00%	19.00	-5.00%
3,000	22.00	22.00	0.00%	20.50	-6.82%
4,000	24.00	24.00	0.00%	22.59	-5.88%
5,000	26.00	26.00	0.00%	24.68	-5.08%
6,000	28.00	28.00	0.00%	26.77	-4.39%
7,000	30.00	30.00	0.00%	28.86	-3.80%
8,000	32.00	32.00	0.00%	30.95	-3.28%
9,000	34.00	34.00	0.00%	33.04	-2.82%
10,000	36.00	36.00	0.00%	35.13	-2.42%
20,000	56.00	56.00	0.00%	62.13	10.95%
25,000	66.00	66.00	0.00%	75.63	14.59%
50,000	116.00	116.00	0.00%	143.13	23.39%
75,000	166.00	166.00	0.00%	210.63	26.89%
100,000	216.00	216.00	0.00%	278.13	28.76%
125,000	266.00	266.00	0.00%	345.63	29.94%
150,000	316.00	316.00	0.00%	413.13	30.74%
175,000	366.00	366.00	0.00%	480.63	31.32%
200,000	416.00	416.00	0.00%	548.13	31.76%

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 )  
ADAMAN MUTUAL WATER COMPANY FOR )  
APPROVAL OF A RATE INCREASE. )  
\_\_\_\_\_ )

DOCKET NO. W-01997A-12-0501

SURREBUTTAL  
TESTIMONY  
OF  
CRYSTAL S. BROWN  
EXECUTIVE CONSULTANT III  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION

MAY 30, 2014

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**EXECUTIVE SUMMARY**  
**ADAMAN MUTUAL WATER COMPANY**  
**DOCKET NO. W-01997A-12-0501**

Staff's surrebuttal testimony responds to Adaman Mutual Water Company's ("Adaman") or "Company") rebuttal testimony regarding Staff's recommendation to require the Company file the schedules prescribed by the Arizona Administrative Code R-14-2-103 for Class C utilities rather than file a short form application as it did in the instant case.

The Company has indicated only two areas of disagreement with Staff. The first is with respect to a Staff recommendation that Adaman file its next rate case using the schedules prescribed for a Class C utility. Adaman's stated position is that it will file schedules appropriate to its classification based on the applicable rule in its next rate proceeding. The second area of disagreement is with regard to Best Management Practices ("BMP") and will be addressed in the surrebuttal Testimony of Katrin Stukov.

Staff Recommends that the Company be ordered to file a permanent rate case no later than May 31, 2016, using a test year ending December 31, 2016, and that such rate case contain schedules in accordance with the applicable rules in place at that time.

1     **INTRODUCTION**

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

3     A.     My name is Crystal S. Brown. I am an Executive Consultant III employed by the Arizona  
4           Corporation Commission ("Commission") in the Utilities Division ("Staff"). My business  
5           address is 1200 West Washington Street, Phoenix, Arizona 85007.

6  
7     **Q.     Are you the same Crystal S. Brown who filed direct testimony in this case?**

8     A.     Yes.  
9

10    **PURPOSE OF SURREBUTTAL TESTIMONY**

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

12    A.     The purpose of my surrebuttal testimony in this proceeding is to respond, on behalf of Staff,  
13           to the rebuttal testimony of Mr. Ray L. Jones, witness for Adaman Mutual Water Company  
14           ("Adaman" or "Company").  
15

16    **Q.     What issue will you address?**

17    A.     I will address the Company's response to Staff's recommendation concerning the schedules  
18           to be filed for its 2016 rate application.  
19

20    **Q.     Is Staff enclosing new schedules?**

21    A.     No. Since there are no changes, Staff's Direct schedules are the final schedules.  
22

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

25    A.     No. Rather, where I do not respond, I am continuing to rely on my direct testimony.  
26

1 **RECOMMENDED REVENUE**

2 **Q. What is Staff's recommended revenue.**

3 A. Staff recommends no change to the Company's test year revenue of \$423,775 as shown on  
4 Surrebuttal Schedules CSB-1 and CSB-9.

5  
6 **Q. How does Staff's recommended revenue compare to the recommended revenue in  
7 Staff's direct testimony?**

8 A. Staff's recommended revenue is the same as the recommendation made in its direct  
9 testimony.

10

11 **RATE BASE**

12 **Q. What is Staff's recommended rate base?**

13 A. Staff's recommended rate base is a \$304,022 as shown on Surrebuttal Schedules CSB-1 and  
14 CSB-3.

15

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

18 A. Staff's recommended rate base rate is the same as the recommendation made in its direct  
19 testimony.

20

21 **2016 FILING REQUIREMENT RECOMMENDATION**

22 **Q. What was Staff's recommendation in its direct testimony concerning the schedules to  
23 be filed for Adaman's 2016 rate application?**

24 A. The original recommendation was as follows:

25

26 Staff recommends that the Company file the schedules prescribed by  
27 the Arizona Administrative Code R-14-2-103 for Class C utilities  
28 rather than file a short form application as it did in the instant case.

1 Q. Did Staff review the Company's rebuttal testimony regarding Staff's 2016 filing  
2 requirements?

3 A. Yes. The Company noted that the Commission is currently considering changes to R14-2-  
4 103 that would reclassify Adaman as a Class D utility. As a Class D utility, Adaman would be  
5 eligible to file using the short-form application. Adaman proposes that it file schedules in its  
6 next rate case in accordance with the applicable rule in place at the time of the filing.  
7

8 Q. Does Staff agree?

9 A. Yes.  
10

11 Q. Does this conclude Staff's surrebuttal testimony?

12 A. Yes, it does.