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BEFORE THE ARIZONA CORPORATION CC

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IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT

Docket No. W-01303A-08-0227

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS MOHAVE WASTEWATER DISTRICT

Docket No. SW-01303A-08-0227

**Notice of Filing the  
Direct Testimony (Cost of Service and Rate Design)  
by  
Marshall Magruder**

This filing has been mailed to known and interested parties in the Service List.

Respectfully submitted on this 23<sup>rd</sup> day of January 2009

MARSHALL MAGRUDER

By Marshall Magruder

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Arizona Corporation Commission

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Direct Testimony (Cost of Service and Rate Design) by Marshall Magruder  
Docket Nos. W-01303A-08-0227 and SW-01303A-08-0227

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**DIRECT TESTIMONY**

**(Cost of Service and  
Rate Design)**

**by**

**MARSHALL MAGRUDER**

**23 January 2009**

**In**

**IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS AGUA FRIA WATER DISTRICT, HAVASU WATER DISTRICT, MOHAVE WATER DISTRICT, PARADISE VALLEY WATER DISTRICT, SUN CITY WEST WATER DISTRICT, AND TUBAC WATER DISTRICT**

**ACC Docket No. W-01303A-08-0227**

**And**

**IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON FOR UTILITY SERVICE BY ITS MOHAVE WASTEWATER DISTRICT**

**ACC Docket No. SW-01303A-08-0227**

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by Marshall Magruder**

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1 **Section 1 – BACKGROUND AND INTRODUCTION**

2  
3 1.1 **INTRODUCTION.** See Part I, page 5.

4 1.2 **PURPOSE OF TESTIMONY in Part I.** See Part I. page 7.

5 1.3 **PURPOSE OF TESTIMONY in Part II.**

6 **Q. What is the purpose of this Part II testimony?**

7 **A.** The purpose is to provide additional testimonial information about each of the four issues  
8 and to provide evidence and details for a proposed the Cost of Service and Rate Design for  
9 review by all parties. The four Issues in the Part I Testimony are included in Part II. The  
10 testimony in Part I is unchanged, unless specifically corrected or modified in this Part II  
11 Testimony.

12  
13 **Q. Have you received timely and complete results during the discovery process in the**  
14 **effective Rate Case Procedural Order?**

15 **A.** In general yes; however, some important data requests have not been satisfactorily  
16 answered and we have several issues involving arsenic measurements and remediation  
17 facilities that remain. We are trying to work this out without going to the Administrative Law  
18 Judge; however, that option may be necessary.

19  
20 **Q. Can you explain this further?**

21 **A.** Yes. It is important for the small Tubac Water District to remove the arsenic from its drinking  
22 water. In February 2008, a prior exception to delay implementation was overturned, thus  
23 eliminating the exception to delay implementation. We understand that an arsenic reading  
24 exceeded 35 ppb, triggered this action. As shown in Part I, our last two quarterly arsenic  
25 readings were 24 and 25 ppb. Through a data request by this party, additional  
26 measurements, standards, and other factors leading to up determination since 1970 were  
27 requested, along with background information concerning an arsenic treatment facility (ATF)  
28 in Tubac with service charges and volumetric rates, higher than any other AAWC ATF.  
29 Furthermore, background information about the much less expensive Point of Use (POU)  
30 arsenic removal process also has not been provided. Due to the significant ratepayer cost  
31 differential between the POU and ATF proposed by AAWC in 2005, detailed objective trade-  
32 study rationale for non-selection of the POU process have not been received.

33 The company has offered to provide the arsenic readings and other background information on 20  
34 February 2009, significantly exceeding the data request response requirements in this Rate

1 Case Procedural Order. Again, we are in discussion on this and upon receipt and analysis,  
2 this party may file supplemental testimony or in the Surrebuttal will be necessary.  
3

4 **Section 2 – ISSUES IN THIS TESTIMONY – see Part I, pages 8-14.**  
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1 PART II

2 Section 3 – Cost of Service and Rate Structure Testimony

3  
4 3.0 ORGANIZATION OF THIS TESTIMONY

5 Q. How is the testimony organized?

6 A. Section 3 contains the second pre-filed testimony and includes the proposed rate structure,  
7 cost of service, and miscellaneous charges and fees and is Part II of the Direct Testimony for  
8 Marshall Magruder. The issues raised in Part I continue in this testimony. The Table of Contents is  
9 inclusive for both parts, as indicated prior to page numbers. Only Part II is contained herein. Part III  
10 will be the Surrebuttal Testimony of Marshall Magruder.  
11

12 3.1 ISSUE NO. 1 – CONSERVATION AS A SIGNIFICANT DRIVER OF  
13 WATER VOLUMETRIC RATES

14  
15 Q. Do you still believe conservation is necessary for a fair and reasonable rate  
16 structure?

17 A. Absolutely, yes. In part I, Magruder Exhibit MM-2, another local water utility company rate  
18 structure is shown, with rates as high as \$20.00 per 1,000 gallons. There is limited water in our  
19 service area; however, as neighbors in the ADWR Santa Cruz Active Management Area (SCAMA).  
20 In the SCAMA, all are required to sustain its water resources and well depths, which are being  
21 maintained, the only AMA in Arizona. Every new hookup adds another permanent customer and  
22 creates more demand. The high residential consumption rates<sup>1</sup> averaging 11,797 gallons monthly  
23 per household show that, in the aggregate, AAWC consumers are not implementing water  
24 conservation processes. In response to Magruder Data Request 1-25, the Company reported  
25 residential and small commercial (5/8 & 3/4-inch) customers averaged 198.99 gallons per day or  
26 76.6% of the water consumed in this water district. This level of consumption is considerably higher  
27 than Tucson and others in the Santa Cruz River watershed.

28 Further, some residential bills exceed 200,000 gallons in one month. From the Test Year  
29 results, there are 11 residential bills (5/8 & 3/4-inch) for over 100,000 gallons. There are 119 bills for  
30 other high-water users exceeding 50,000 gallons in a month.  
31

32  
33 <sup>1</sup> In the test year, average monthly water consumption for residential customers (5/8 & 3/4-inch) were:  
34 Agua Fria 7,400 gallons Havasu 9,705 gallons  
35 Mohave 8,073 gallons Paradise Valley 20,493 gallons  
Sun City West 6,704 gallons Tubac 10,797 gallons

1 The proposed Magruder rate design has increased the volumetric charges to \$6.00 per 1000  
2 gallons, approximately 20% over that proposed by the Company (\$4.95) for all users consuming  
3 36,001 gallons or more in a month, for approximately 6.3% of the ratepayers.

4 At the other end of consumption scale, other than many "snowbirds" bills with no  
5 consumption in a month, the propose rate is \$1.50 per 1,000 gallons. This is approximately 20%  
6 lower than the present rate of \$1.89 per 1,000 gallons, and includes 34% of the test year residential  
7 customers.

8 Between these high and low rates, ideally a curve could be used; however a series of tiers  
9 are proposed to progressively, increase at \$0.50 per 1,000 gallons, from 4,001 gallons to 36,001  
10 gallons. The Test Year results were used to construct Exhibit MM-6 in Appendix B. In particular,  
11 Table MM-6-1 compares this Magruder Proposal to the Present and the Company Proposal for the  
12 most common residential schedule (F1M1A), comprising over 85% of the Tubac ratepayers, and the  
13 corresponding commercial schedule (F2M1A).

14  
15 **Q. Do you seem to be adding too many tiers, with ten instead of the three or six (Paradise  
16 Valley) used in the other water districts?**

17 **A.** As presently structured, the Company's rate structure has only two price-break points, at  
18 4,000 and 20,000 gallons per month. From Table MM-6-1 (Exhibit MM-6), we see that 34.3%  
19 of the customer's bills during the test year we for 4,000 gallons or less. When we look at  
20 consumptions at the Company's second tier break-point of 20,001 gallons, over 83.2% of the  
21 customers bills have been included the first two tiers. The Company's third tier only contains  
22 16.8% of the remaining customers, and these customers, the highest-water users.

23 The Company's three tier approach fails to provide any PRICE SIGNALS for almost  
24 60% of the ratepayers in its second tier. This rate structure defect, by exclusion of price  
25 signals to customers, needs correction since the purpose of this approach is water  
26 conservation. Price Signals need to be observed, to conserve water, the goal of this process.

27  
28 **Q. What is your proposed rate schedule for residential and small commercial?**

29 **A.** The table below provides the Magruder, the Present, and the Company's Proposed Rate  
30 Schedules in Table 3-1 below:

**Table 3-1. Present and Proposed Tubac Residential Rate Schedules**

Commodity Usage	Magruder's Proposed Rates	Company's Present Rates	Company's Proposed Rates
First 4,000 gallons	\$1.50	\$ 1.89	\$ 3.78
4,001 to 8,000 gallons	\$ 2.00	\$ 2.85	\$ 4.85
8,001 to 12,000 gallons	\$ 2.50	\$ 2.85	\$ 4.85
12,001 to 16,000 gallons	\$ 3.00	\$ 2.85	\$ 4.85
16,001 to 20,000 gallons	\$ 3.50	\$ 2.85	\$ 4.85
20,001 to 24,000 gallons	\$ 4.00	\$ 3.41	\$ 4.95
24,001 to 28,000 gallons	\$ 4.50	\$ 3.41	\$ 4.95
28,001 to 32,000 gallons	\$ 5.00	\$ 3.41	\$ 4.95
36,001 to 40,000 gallons	\$ 5.50	\$ 3.41	\$ 4.95
40,001 gallons and above	\$ 6.00	\$ 3.41	\$ 4.95

The rate schedule in Table 3-1 is to be used for the following rate categories for all test year 489 residential and 78 commercial customers and an annual growth of 10 residential customers per year:

**Table 3-2. Magruder's Proposed Tubac Rate Structure.**

Customer Type	Rate Category		Rates	Number of Customers
Residential	5/8 & 3/4-inch	F1M1A	Same at Table 3-1	461
	1-inch	F1M1B	Same as Table 3-1, capped at \$5.00	41
	2-inch	F1M1D	Same as Table 3-1, capped at \$5.00	3
	3-inch	F1M1E	Same as Table 3-1, capped at \$5.00	1
	Total Residential Customers			
Commercial	5/8 & 3/4-inch	F2M1A	Same as Table 3-1	47
	1-inch	F2M1B	Same as Table 3-1, capped at \$5.00	16
	1 1/2-inch	F2M1C	Same as Table 3-1, capped at \$5.00	2
	2-inch	F2M1D	Same as Table 3-1, capped at \$5.00	10
	3-inch	F2M1E	Same as Table 3-1, capped at \$5.00	4
Total Commercial Customers				78
Growth	5/8 & 3/4-inch	F1M1A	Same at Table 3-1	10
Total Customers				549

This schedule makes understanding one's bill easy, because all rates are in dollars and half-dollar amounts. The rate cap for all customers over 3/4-inch service is \$5.00 per 1000 gallons.

**Q. Why did you impose a rate cap for all customers with 1-inch or larger service?**

**A.** In general larger usage by the larger customers is less expensive for the Company to serve on a per gallon basis. This replaces the different tier limits in the present rate schedules.

**Q. What should the cost of service be for the Tubac Water District?**

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1 A. Just like water commodity usage rates, this water district already has the highest AAWC  
 2 service charges, and the Company's proposal increases this difference. This is one customer  
 3 cost that consolidation (see Magruder Issue 3) will make significant changes in Tubac.

4 There is also second cost of service charge included in this rate case planned for  
 5 Tubac to fund an arsenic treatment plant (see Magruder Issue 2) for a capital cost of about  
 6 \$2.5 million. Cost of service charge could increase from the present \$19.68 to Company's  
 7 proposed \$32.50, to which will be added the Company's proposed Arsenic Service Charge of  
 8 \$25.98, for a proposed service charge of \$68.48 per month. It is doubtful if any Cost of  
 9 Service exceeds \$68.48 in Arizona for residential customers. This proposed Cost of Service  
 10 is 347% higher than the present rate.

11 As shown in Magruder Exhibit MM-6, with the progressive tiers, the higher usage  
 12 rates of \$6.00 (or \$5.00) provide considerably more revenue for the Company than the  
 13 present revenue from water usage. This "extra" revenue is included in this rate structure to  
 14 cushion the anticipated impacts from customer conservation measures in providing  
 15 inadequate revenue for the Company. In general, it is proposed not to significantly increase  
 16 the Cost of Service, thus using a rounded off and an easy-to-understand Cost of Service is  
 17 proposed for all the rate categories shown in Table 3-3 below:

18  
 19 **Table 3-3. Magruder's Proposed Tubac Cost of Service.**

Customer Type	Rate Category		Present	Company Proposal	Magruder Proposal	Number of Customers
Residential	5/8 & 3/4-inch	F1M1A	\$ 19.68	\$32.50	\$25.00	461
	1-inch	F1M1B	\$ 29.63	\$ 48.93	\$50.00	41
	2-inch	F1M1D	\$97.49	\$ 161.00	\$100.00	3
	3-inch	F1M1E	\$115.65	\$ 190.99	\$150.00	1
	Total Residential Customers					
Commercial	5/8 & 3/4-inch	F2M1A	\$ 19.68	\$32.50	\$ 25.00	47
	1-inch	F2M1B	\$ 29.63	\$ 48.93	\$ 50.00	16
	1 1/2-inch	F2M1C	\$ 59.26	\$ 97.66	\$ 75.00	2
	2-inch	F2M1D	\$97.49	\$ 161.00	\$ 100.00	10
	3-inch	F2M1E	\$115.65	\$ 190.99	\$ 150.00	4
Total Commercial Customers						78
Growth	5/8 & 3/4-inch	F1M1A	Same at Residential F1M1A			10
Total Customers						549

30  
 31  
 32 **Q. How would a sample residential customer bill change look under your Proposal?**

33 **A.** Using an average customer with 11,797-gallon usage, this bill should have the following  
 34 AAWC charges shown in Table 3-4.  
 35

**Table 3-4. Sample Residential Customer Bill Comparing Company and Magruder Proposals.**

Billing Item	Present	Company Proposal			Magruder Proposal		
		Charge	Change			Change	
Cost of Service	\$19.68	\$32.50	+\$12.82	+ 62.8%	\$ 25.00	+\$ 5.32	+25.4%
Average Usage	\$ 49.46	\$85.44	+\$35.98	+72.7%	\$ 26.50	-\$22.96	-53.6%
Total Bill	\$ 69.14	\$117.94	+\$48.80	+ 70.6%	\$ 51.50	-\$17.64	-24.5%

Average Water Usage = 11,797 gallons

**Q. Am I reading this table correctly, that the average customer will see a rate decrease?**

**A.** At this point of water usage is where the benefits for lower water consumers crosses from rate reduction to significant rate increases in the third of the ten rate increasing tiers. Half of the water consumed is consumed by customers using less than 11,797 gallons, the other half more. As shown below, this is where the lower usage customers benefit by lower usage and the higher usage customers have increased costs for higher usage. The "price signals" benefits conservation at all level of consumption, with significantly higher costs at 76% at the upper end compared to a 31% decrease at the lower end of the consumption continuum.

<u>Magruder's Commodity Usage</u>	<u>AAWC Present</u>	<u>Magruder Proposed</u>	<u>Proposed Change</u>
First Tier – First 4,000 gallons	\$ 1.89	\$ 1.50	- 31% (1 – (1.50/1.89))
Second Tier – 4,001 to 8,000 gal	\$ 2.85	\$ 2.00	- 29% (1 – (2.00/2.85))
Third Tier – 8,001 to 12,000 gal	\$ 2.85	\$ 2.50	- 12% (1 – (2.50/2.85))
Fourth Tier – 12,001 to 16,000	\$ 2.85	\$ 3.00	+ 5% (1 – (3.00/2.85))
Fifth Tier – 16,001 to 20,000	\$ 2.85	\$ 3.50	+ 22% (1 – (3.50/2.85))
Sixth Tier – 20,001 to 24,000	\$ 3.41	\$ 4.00	+ 17% (1 – (4.00/3.41))
Seventh Tier – 24,001 to 28,000	\$ 3.41	\$ 4.50	+ 32% (1 – (4.50/3.41))
Eighth Tier – 28,001 to 32,000	\$ 3.41	\$ 5.00	+ 46% (1 – (5.00/3.41))
Ninth Tier – 32,001 to 36,000	\$ 3.41	\$ 5.50	+ 61% (1 – (5.50/3.41))
Tenth Tier – above 36,001 gallons	\$ 3.41	\$ 6.00	+ 76% (1 – (6.00/3.41))

**Q. Are you proposing any additional changes in customer costs?**

**A.** Yes. There are several miscellaneous customer costs that should be included in this rate case. See Table 3-5 below. In the Tubac Water District service area, which is completely within the Santa Cruz Active Management Area, new permits for drilling for private wells will not be issued by ADWR in the SCAMA, thus all new facilities that need water must obtain service from the Tubac Water District.

Thus, it is highly probably that some new water lines will be rather lengthy in the remaining rural areas, and should be purchased by the developer or the one requesting new water service. This party objects to having existing customers funding ANY developer's expenses, for which these new customers must fund, and not by today's ratepayers, for the actual cost. In this table, new Service Line and Meter Installation Charges must be borne by the new customer. The Company needs to consider this a just doing its business, and not give "favors" on this account to anyone.

Due to the rural nature of the Tubac Water District, Meter Test and Re-reading Meter (when correct) need to account for higher gasoline costs and distance, thus each of these two charges was increased. Also increased were the cost for a bounced check (NSF) to \$30.00, which is a more

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1 common fee used by many companies. The Late Fee charge is raised to a simple 3.0% per month  
 2 (36.0% APR). The Deferred Payment Financing fee to 1.5% per month (18.0% APR) that is half of the  
 3 Late Fee charge because to obtain deferred financing the ratepayer has committed to makeup unpaid  
 4 bills to the Company and with a lower Deferred Payment Financing fee this may be enough to ensure  
 5 the Company collects its proper fees and charges.

6 **Table 3-5. Miscellaneous Charges and Fees**

Miscellaneous Customer Cost	Company's		Magruder's Proposed Charge
	Present Charge	Proposed Charge	
Service Line Charge	Actual Cost	Actual Cost	Actual Cost
Meter Installation Charge	Actual Cost	Actual Cost	Actual Cost
Establish, Re-establish, Re-connect Fee (regular hours)	\$ 30.00	\$ 30.00	\$ 30.00
Establish, Re-establish, Re-connect Fee (off hours)	\$ 45.00	\$ 45.00	\$ 60.00
Water Meter Test (if correct)	\$ 10.00	\$ 10.00	\$ 20.00
Meter Re-read (if correct)	\$ 5.00	\$ 5.00	\$ 20.00
Non-Sufficient Funds Check Charge	\$ 10.00	\$ 10.00	\$ 30.00
Late Fee Charge	None	None	3.0% per month (36.0% APR)
Deferred Payment Finance Fee	None	None	1.5% per month (18.0% APR)
Residential Deposit	2 x average bill	2 x average bill	2 x average bill
Non-Residential Deposit	2 x average bill	2 x average bill	2 x average bill
Interest on Deposit	In accordance with ACC Rule 14-2-403(B)		

1                   **3.2 Issue No. 2 – Capital Expenses for Tubac Arsenic Treatment Facility**

2  
3 **Q. Do you have any additional concerns about Arsenic Treatment?**

4 **A.** Yes. As this party was filing the initial Testimony in this case, it became obvious that the  
5 Application did not contain rationale or adequate information to specify an Arsenic Treatment  
6 Facility for the Tubac Water District. When submitting that testimony, this additional  
7 background information was then requested from AAWC on 9 January 2009 via two data  
8 requests. As of submission of this Testimony on 23 January 2009, the best response from  
9 AAWC will be to provide its response on 20 February 2009.

10                   During a Tubac community briefing by senior AAWC personnel in December 2009,  
11 the proposed arsenic surcharge for rates and service charges were presented as follows:

12                   Arsenic Basic Cost of Service           \$25.98 per residential customer  
13                   Volumetric rate                           \$3.14 per 1,000 gallons

14                   For various monthly water usage, the following Table 3-6 illustrates impacts of the Arsenic  
15 charge on customer rates including both the Arsenic Cost of Service + volume usage charge.

16  
17                   **Table 3-6. Impact of Arsenic Charges on Residential Bills**

18

Monthly Usage	Present Bill	AAWC Proposed Rates + Arsenic Treatment Charges (new bill)
5,000 gallons	\$ 30.09	\$ 94.15
10,000 gallons	\$ 44.34	\$ 134.10
15,000 gallons	\$ 58.59	\$ 174.05
20,000 gallons	\$ 72.84	\$ 214.00

19  
20  
21  
22

23                   There is strong support in Tubac for an anticipated and much less costly Point of Use  
24 (POU) method of arsenic removal. The Company has yet to provide a Trade-off Study that  
25 compares POU versus a "central plant" for this service area. It is reported that 100  
26 residences already have POU reverse osmosis systems installed.

27                   The local Santa Cruz Valley Citizens Council and various Homeowners' Associations  
28 are reviewing and analyzing the ADEQ POU Program Guidance document. Additional  
29 Company analysis is necessary. So far, nothing appears to be beyond reason to meet these  
30 ADEQ program requirements in this service area; however, until a detailed, objective cost-  
31 benefit analysis or comprehensive trade off study has been reviewed, consideration of the  
32 first two, of the three ADEQ methods of arsenic remediation, (1) central plant, (2) POU, or  
33 (3) bottled water, remains open in this water district.  
34  
35

1                                   **3.3 Issue No. 3 – Consolidation of AAWC Water Districts**

2  
3 **Q. Do you still support consolidation of AAWC Water Districts?**

4 **A.** Yes. In addition, the Camelback Inn and Sanctuary's First Set of Data Request, included  
5 copies of some prior testimonies by AAWC witness, Mr. Paul Herbert, received late  
6 December 2008. In general, these testimonies support tiered rate structures and  
7 consolidation.

8  
9 **Q. What do you see as being "rates" to consider for consolidation?**

10 **A.** First, I feel that a complete consolidation is possible but will demand the closest oversight.  
11 Second, I understand the Administrative & General (A&G) overhead expenses have already  
12 been consolidated throughout the Company.

13 Third, specific areas that should be consolidated include:

- 14                   1. General & Administrative (completed)  
15                   2. Cost of Service and Volumetric Charges so that more tiers be deployed  
16                   3. Arsenic treatment costs  
17                   4. Taxes, including social security and Medicare  
18                   5. Service Line and Meter Installation Charge (to "actual cost")  
19                   6. Establish, Re-establish, and re-connect fees during regular and off hours  
20                   7. Water Meter Test, (if correct) and Re-read the Meter (that is good)  
21                   8. Non-Sufficient Funds to check charges and Late fees, Deferred Payment Finance  
22                   Charge, Residential and Non-Residential Deposit Interest on Deposits

23                   In addition, the Company's Rules and Regulations (R&Rs), submitted, as a part of  
24 this rate case, should also be consolidated. In respond to a Magruder Data Request, these  
25 R&Rs have not been translated into Spanish.

26 Fourth, this rate case must include consolidation in as many of these areas as possible. An  
27 example of consolidation impacts on smaller districts was presented earlier in Part I.

28                                   **3.4 Issue No. 4 – Removal of Pre-Hearing AAWC Witness Training Expenses**

29  
30 **Q. Have you found additional area that may impact the AAWC rate basis?**

31 **A.** Yes. However, these will be sent to AAWC, in the next data request, just after this  
32 testimony is submitted to the ACC.

33  
34 **Q. Does this complete your testimony?**

35 **A.** Yes.

1 **Appendix B**

2  
3 **Exhibit MM-6**

4 **MONTHLY USAGE (BILLS) DATA FOR PRESENT AND PROPOSED**  
5 **RESIDENTIAL RATES FOR TUBAC WATER DIVISION**

6 This Exhibit provides a summary of data used to determine and compare the proposed  
7 Magruder rate structure. This party proposes a multi-tier increasing and progressive tier-block  
8 structure designed to encourage water conservation with increasing rates, especially for residential  
9 customers (F1M1A, 5/8 & 3/4 inch) and commercial (F2M1A, 5/8 & 3/4 inch) rate categories. Table  
10 MM-6-1 shows the Magruder rate structure and the Company's present and proposed rate  
11 structures. The tier structures have different emphasis. The Magruder rate structure starts at its  
12 lowest tier at \$1.50 per 1,000 gallons that is \$0.39 below the same tier in the present Company's  
13 rates.

14 Table MM-6-1 provides the total revenue for three different rate structures, summarized as follows:

	Revenue	Change in \$	in %
AAWC Present Rate Structure	\$ 149,148.69	+ \$ 0	0%
AAWC Proposed Rate Structure	\$ 266,568.34	+ \$ 117,419	+ 79%
Magruder Proposed Rate Structure	\$ 215,191.50	+ \$ 65,043	+ 44%

17 For these two revenue classes (F1M1A and F2M1A), excluding growth, the Magruder rate structure  
18 provides 44% more revenue for AAWC, using the philosophy and nearly linear rate increases as  
19 customers use more water.

20 **1. Company's Present and Proposed Rate Structures.**

21 The Company's proposed rate structure is diametrically opposed to sending price signals to  
22 conserve water.

<u>Company's Commodity Usage</u>	<u>Present</u>	<u>Proposed</u>	<u>Proposed Change</u>
First Tier – First 4,000 gallons	\$ 1.89	\$ 3.78	200% (3.78/1.89)
Second Tier – Next 16,000 gallons	\$ 2.85	\$ 4.85	170% (4.85/2.85)
Third Tier – Over 20,000 gallons	\$ 3.41	\$ 4.95	145% (4.95/3.41)

- 27 a. The Company's proposed lowest tier is 2.66 times the present lowest tier rate ( $3.78 \div 1.89 =$   
28 2.66). When compared to the highest rate tier, the Company's highest tier is 1.42 ( $4.95 \div$   
29 3.41 = 1.42) times the present and same tier. This proposed decrease in emphasis does  
30 NOT encourage conservation as claimed by the Company, and it is obvious, this reduces  
31 sending a price signal.
- 32 b. There is only a \$0.10 change between tiers two and three, a minimal increase. This is NOT a  
33 price signal.
- 34 c. As shown in Table MM-6-1 below, the revenue based on these rates is as follows.

35 **2. Magruder's Proposed and Present Rate Structures.**

The Magruder's proposed rate structure provides reduced rates for the lowest consumers, and  
raises rates for the highest consumers.

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	AAWC Present	Magruder Proposed	Proposed Change
<b>Magruder's Commodity Usage</b>			
First Tier – First 4,000 gallons	\$ 1.89	\$ 1.50	- 31% (1 – (1.50/1.89))
Second Tier – 4,001 to 8,000 gal	\$ 2.85	\$ 2.00	- 29% (1 – (2.00/2.85))
Third Tier – 8,001 to 12,000 gal	\$ 2.85	\$ 2.50	- 12% (1 – (2.50/2.85))
Fourth Tier – 12,001 to 16,000	\$ 2.85	\$ 3.00	+ 5% (1 – (3.00/2.85))
Fifth Tier – 16,001 to 20,000	\$ 2.85	\$ 3.50	+ 22% (1 – (3.50/2.85))
Sixth Tier – 20,001 to 24,000	\$ 3.41	\$ 4.00	+ 17% (1 – (4.00/3.41))
Seventh Tier – 24,001 to 28,000	\$ 3.41	\$ 4.50	+ 32% (1 – (4.50/3.41))
Eight Tier – 28,001 to 32,000	\$ 3.41	\$ 5.00	+ 46% (1 – (5.00/3.41))
Ninth Tier – 32,001 to 36,000	\$ 3.41	\$ 5.50	+ 61% (1 – (5.50/3.41))
Tenth Tier – above 36,001 gallons	\$ 3.41	\$ 6.00	+ 76% (1 – (6.00/3.41))

**3. Magruder's Proposed Rate Structure and AAWC Rate Structure.**

When comparing the Magruder versus the proposed AAWC rates,

Magruder's Commodity Usage	Magruder Proposed	AAWC Proposed	Magruder Proposed Change
First Tier – First 4,000 gallons	\$ 1.50	\$ 3.78	- 152% (1 – (3.78/1.50))
Second Tier – 4,001 to 8,000 gal	\$ 2.00	\$ 4.85	- 143% (1 – (4.85/2.00))
Third Tier – 8,001 to 12,000 gal	\$ 2.50	\$ 4.85	- 94% (1 – (4.85/2.50))
Fourth Tier – 12,001 to 16,000	\$ 3.00	\$ 4.85	- 62% (1 – (4.85/3.00))
Fifth Tier – 16,001 to 20,000	\$ 3.50	\$ 4.85	- 39% (1 – (4.85/3.50))
Sixth Tier – 20,001 to 24,000	\$ 4.00	\$ 4.95	- 24% (1 – (4.95/4.00))
Seventh Tier – 24,001 to 28,000	\$ 4.50	\$ 4.95	- 10% (1 – (4.95/4.50))
Eight Tier – 28,001 to 32,000	\$ 5.00	\$ 4.95	+ 1% (1 – (4.95/5.00))
Ninth Tier – 32,001 to 36,000	\$ 5.50	\$ 4.95	+ 10% (1 – (4.95/5.50))
Tenth Tier – above 36,001 gallons	\$ 6.00	\$ 4.95	+ 19% (1 – (4.95/6.00))

Table MM-6-1, compares the Magruder, Present and Proposed Rates and the Company's Revenue for the progressive tiers.

**Table MM-6-1. Monthly Usage (bills) Data for Present and Proposed Rates For the Tubac Water Division in the Test Year (2007), Residential and Commercial Rate Categories. (5/8 & 3/4-inch F1M1A and F1M2A).**

Test Year Usage and Bills			Magruder Proposal		Company Present		Company PROPOSAL			
Usage (x 1000 gallons)	# of Bills	Total Usage	Proposed Magruder Rate	Proposed Magruder Revenue	Company Rate	PRESENT Company revenue	Proposed Rates	Proposed Company Revenue	Cum Bills (Σ)	Cum % of Bills
(a)	(b)	(c) = (a) x (b)	(d)	(e) = (c) x (d)	(e)	(f)=(c) x (e)	(g)	(h) = (c) x (g)	(i) = (a) + (a-1)	(j) = (i) / 5411
0	499	0	1.50	0.00	\$1.89	0.00	3.78	0	499	9.2%
1	361	361	1.50	\$ 541.60	\$1.89	\$ 682.29	3.78	\$1,364.58	860	15.9%
2	338	676	1.50	\$ 1,014.00	\$1.89	\$1,277.64	3.78	\$2,555.28	1198	22.1%
3	338	1,014	1.50	\$ 1,521.00	\$1.89	\$1,916.46	3.78	\$3,832.92	1536	28.4%
4	320	1,280	1.50	\$ 1,920.00	\$1.89	\$2,419.40	3.78	\$4,834.40	1856	34.3%
5	299	1,495	2.00	\$ 2,990.00	\$2.85	\$4,260.75	4.85	\$7,250.75	2155	39.8%
6	283	1,698	2.00	\$ 3,396.00	\$2.85	\$4,839.30	4.85	\$8,235.30	2438	45.1%
7	274	1,918	2.00	\$ 3,836.00	\$2.85	\$5,466.30	4.85	\$9,302.30	2712	50.1%
8	219	1,752	2.00	\$ 3,504.00	\$2.85	\$4,993.20	4.85	\$8,497.20	2931	54.2%
9	222	1,998	2.50	\$ 4,995.00	\$2.85	\$5,694.30	4.85	\$9,690.30	3153	58.3%
10	177	1,770	2.50	\$ 4,425.00	\$2.85	\$5,044.50	4.85	\$8,584.50	3330	63.5%
11	173	1,903	2.50	\$ 4,757.50	\$2.85	\$5,423.55	4.85	\$9,229.55	3503	64.7%

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1 **Table MM-6-1. Monthly Usage (bills) Data for Present and Proposed Rates**  
 2 **For the Tubac Water Division in the Test Year (2007), Residential and Commercial Rate Categories.**  
 3 **(5/8 & 3/4-inch F1M1A and F1M2A).**

Test Year Usage and Bills			Magruder Proposal		Company Present		Company PROPOSAL			
Usage (x 1000 gallons)	# of Bills	Total Usage	Proposed Magruder Rate	Proposed Magruder Revenue	Company Rate	PRESENT Company revenue	Proposed Rates	Proposed Company Revenue	Cum Bills (Σ)	Cum % of Bills
12	138	1,656	2.50	\$ 4,140.00	\$2.85	\$4,719.60	4.85	\$8,031.60	3641	67.3%
13	150	1,950	3.00	\$ 5,850.00	\$2.85	\$5,557.50	4.85	\$9,457.50	3791	70.1%
14	134	1,876	3.00	\$ 5,628.00	\$2.85	\$5,346.60	4.85	\$9,098.60	3925	72.5%
15	107	1,605	3.00	\$ 4,815.00	\$2.85	\$4,574.25	4.85	\$7,784.25	4032	74.5%
16	115	1,840	3.00	\$ 5,520.00	\$2.85	\$5,244.00	4.85	\$8,924.00	4147	76.6%
17	108	1,836	3.50	\$ 6,426.00	\$2.85	\$5,232.60	4.85	\$8,904.60	4255	78.6%
18	82	1,476	3.50	\$ 5,166.00	\$2.85	\$4,206.60	4.85	\$7,158.60	4337	80.1%
19	88	1,672	3.50	\$ 5,852.00	\$2.85	\$4,765.20	4.85	\$8,109.20	4425	81.8%
20	77	1,540	3.50	\$ 5,390.00	\$2.85	\$4,389.00	4.85	\$7,624.30	4502	83.2%
21	74	1,554	4.00	\$ 6,216.00	\$3.41	\$5,299.14	4.95	\$7,692.30	4576	84.6%
22	57	1,254	4.00	\$ 5,016.00	\$3.41	\$4,276.14	4.95	\$6,207.30	4633	85.6%
23	50	1,150	4.00	\$ 4,600.00	\$3.41	\$3,921.50	4.95	\$5,692.50	4683	86.5%
24	53	1,272	4.00	\$ 5,088.00	\$3.41	\$4,337.52	4.95	\$6,296.40	4736	87.5%
25	59	1,475	4.50	\$ 6,637.50	\$3.41	\$5,029.75	4.95	\$7,301.25	4795	88.6%
26	35	910	4.50	\$ 4,095.00	\$3.41	\$3,103.10	4.95	\$4,504.50	4830	89.3%
27	51	1,377	4.50	\$ 6,196.50	\$3.41	\$4,695.57	4.95	\$6,816.15	4881	90.2%
28	39	1,092	4.50	\$ 4,914.00	\$3.41	\$3,723.72	4.95	\$5,405.40	4920	91.0%
29	30	870	5.00	\$ 4,350.00	\$3.41	\$2,966.70	4.95	\$4,315.20	4950	91.5%
30	29	870	5.00	\$ 4,350.00	\$3.41	\$2,966.70	4.95	\$4,315.20	4979	92.0%
31	24	744	5.00	\$ 3,720.00	\$3.41	\$2,537.04	4.95	\$3,682.80	5003	92.5%
32	26	832	5.00	\$ 4,160.00	\$3.41	\$2,837.12	4.95	\$4,118.40	5029	92.9%
33	21	693	5.50	\$ 3,811.50	\$3.41	\$2,363.13	4.95	\$3,430.35	5050	93.3%
34	25	850	5.50	\$ 4,675.00	\$3.41	\$2,898.50	4.95	\$4,207.50	5075	93.8%
35	22	770	5.50	\$ 4,235.00	\$3.41	\$2,625.70	4.95	\$3,811.50	5097	94.2%
36	27	972	5.50	\$ 5,346.00	\$3.41	\$3,314.52	4.95	\$4,811.40	5124	94.7%
37	13	481	6.00	\$ 2,886.00	\$3.41	\$1,640.21	4.95	\$2,380.95	5127	94.8%
38	23	874	6.00	\$ 5,244.00	\$3.41	\$2,980.34	4.95	\$4,326.30	5160	95.4%
39	18	702	6.00	\$ 4,212.00	\$3.41	\$2,393.82	4.95	\$3,474.90	5178	95.7%
40	18	720	6.00	\$ 4,320.00	\$3.41	\$2,455.20	4.95	\$3,542.40	5196	96.0%
41	19	779	6.00	\$ 4,674.00	\$3.41	\$2,656.39	4.95	\$3,856.05	5215	96.3%
42	7	294	6.00	\$ 1,764.00	\$3.41	\$1,002.54	4.95	\$1,455.30	5222	96.5%
43	11	473	6.00	\$ 2,838.00	\$3.41	\$1,612.93	4.95	\$2,341.35	5233	96.7%
44	7	308	6.00	\$ 1,848.00	\$3.41	\$1,050.28	4.95	\$1,524.60	5240	96.8%
45	10	450	6.00	\$ 2,700.00	\$3.41	\$1,534.50	4.95	\$2,227.50	5250	97.0%
46	9	414	6.00	\$ 2,484.00	\$3.41	\$1,411.74	4.95	\$2,049.30	5259	97.2%
47	13	611	6.00	\$ 3,666.00	\$3.41	\$2,083.51	4.95	\$3,024.45	5272	97.4%
48	5	240	6.00	\$ 1,440.00	\$3.41	\$818.40	4.95	\$1,188.00	5277	97.5%
49	7	343	6.00	\$ 2,058.00	\$3.41	\$1,169.63	4.95	\$1,697.85	5284	97.7%
50	7	350	6.00	\$ 2,100.00	\$3.41	\$1,193.50	4.95	\$1,732.50	5291	97.8%
51	8	406	6.00	\$ 2,436.00	\$3.41	\$1,384.46	4.95	\$2,009.70	5299	97.9%
52	7	364	6.00	\$ 2,184.00	\$3.41	\$1,241.24	4.95	\$1,801.80	5306	98.1%
53	6	318	6.00	\$ 1,908.00	\$3.41	\$1,084.38	4.95	\$1,574.10	5312	98.2%
54	6	324	6.00	\$ 1,944.00	\$3.41	\$1,104.84	4.95	\$1,603.80	5318	98.3%
55	6	330	6.00	\$ 1,980.00	\$3.41	\$1,125.30	4.95	\$1,633.50	5324	98.4%
56	9	504	6.00	\$ 3,024.00	\$3.41	\$1,718.64	4.95	\$2,494.80	5333	98.6%
57	5	285	6.00	\$ 1,710.00	\$3.41	\$971.85	4.95	\$1,410.75	5338	98.7%
58	2	116	6.00	\$ 696.00	\$3.41	\$395.56	4.95	\$574.20	5340	98.7%
59	4	236	6.00	\$ 1,416.00	\$3.41	\$804.76	4.95	\$1,168.20	5344	98.7%

Direct Testimony (Cost of Service and Rate Design) by Marshall Magruder

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1 **Table MM-6-1. Monthly Usage (bills) Data for Present and Proposed Rates**  
 2 **For the Tubac Water Division in the Test Year (2007), Residential and Commercial Rate Categories.**  
 3 **(5/8 & 3/4-inch F1M1A and F1M2A).**

Test Year Usage and Bills			Magruder Proposal		Company Present		Company PROPOSAL			
Usage (x 1000 gallons)	# of Bills	Total Usage	Proposed Magruder Rate	Proposed Magruder Revenue	Company Rate	PRESENT Company revenue	Proposed Rates	Proposed Company Revenue	Cum Bills (Σ)	Cum % of Bills
60	3	180	6.00	\$ 1,080.00	\$3.41	\$613.80	4.95	\$891.00	5347	98.8%
61	8	488	6.00	\$ 2,928.00	\$3.41	\$1,664.08	4.95	\$2,415.16	5355	99.0%
62	1	62	6.00	\$ 372.00	\$3.41	\$211.65	4.95	\$306.90	5356	99.0%
63	2	126	6.00	\$ 756.00	\$3.41	\$429.66	4.95	\$623.71	5358	99.0%
64	2	128	6.00	\$ 768.00	\$3.41	\$436.48	4.95	\$633.60	5360	99.1%
65	1	65	6.00	\$ 390.00	\$3.41	\$221.65	4.95	\$321.75	5361	99.1%
66	2	132	6.00	\$ 792.00	\$3.41	\$450.12	4.95	\$653.40	5363	99.1%
67	3	201	6.00	\$ 1,206.00	\$3.41	\$685.41	4.95	\$994.95	5366	99.2%
68	3	204	6.00	\$ 1,224.00	\$3.41	\$695.64	4.95	\$1,009.80	5369	99.2%
69	2	138	6.00	\$ 828.00	\$3.41	\$470.58	4.95	\$683.10	5371	99.3%
70	3	210	6.00	\$ 1,260.00	\$3.41	\$716.10	4.95	\$1,039.80	5374	99.3%
71	1	71	6.00	\$ 426.00	\$3.41	\$242.11	4.95	\$351.45	5375	99.3%
72	3	216	6.00	\$ 1,296.00	\$3.41	\$736.56	4.95	\$1,069.20	5378	99.4%
73	1	73	6.00	\$ 438.00	\$3.41	\$248.93	4.95	\$361.35	5379	99.4%
74	3	222	6.00	\$1,322.00	\$3.41	\$757.02	4.95	\$1,098.80	5382	99.5%
75	1	75	6.00	\$ 450.00	\$3.41	\$255.75	4.95	\$371.25	5383	99.5%
76	2	152	6.00	\$ 912.00	\$3.41	\$518.32	4.95	\$752.40	5385	99.5%
77	2	154	6.00	\$ 924.00	\$3.41	\$525.14	4.95	\$762.30	5387	99.6%
78	1	78	6.00	\$ 468.00	\$3.41	\$265.98	4.95	\$383.76	5388	99.6%
80	1	80	6.00	\$ 480.00	\$3.41	\$272.80	4.95	\$396.00	5389	99.6%
81	2	162	6.00	\$ 972.00	\$3.41	\$552.42	4.95	\$801.90	5391	99.7%
82	2	164	6.00	\$ 984.00	\$3.41	\$559.24	4.95	\$811.80	5393	99.7%
83	2	166	6.00	\$ 996.00	\$3.41	\$566.06	4.95	\$821.70	5395	99.7%
84	1	84	6.00	\$ 504.00	\$3.41	\$286.44	4.95	\$415.80	5396	99.7%
86	1	86	6.00	\$ 516.00	\$3.41	\$293.26	4.95	\$524.60	5397	99.7%
87	2	174	6.00	\$ 1,044.00	\$3.41	\$593.26	4.95	\$861.30	5399	99.7%
97	1	97	6.00	\$ 582.00	\$3.41	\$330.77	4.95	\$480.15	5400	99.7%
103	2	206	6.00	\$1,236.00	\$3.41	\$702.46	4.95	\$1,019.70	5402	99.8%
106	1	106	6.00	\$ 636.00	\$3.41	\$361.46	4.95	\$524.70	5403	99.8%
110	1	110	6.00	\$ 660.00	\$3.41	\$375.10	4.95	\$544.70	5404	99.8%
113	1	113	6.00	\$ 678.00	\$3.41	\$385.33	4.95	\$559.35	5405	99.8%
133	1	133	6.00	\$ 798.00	\$3.41	\$453.53	4.95	\$658.35	5406	99.9%
140	1	140	6.00	\$ 840.00	\$3.41	\$477.50	4.95	\$693.00	5407	99.9%
162	1	162	6.00	\$ 972.00	\$3.41	\$552.42	4.95	\$801.90	5408	99.9%
191	1	191	6.00	\$ 1,146.00	\$3.41	\$651.31	4.95	\$945.45	5409	99.9%
221	1	221	6.00	\$ 1,326.00	\$3.41	\$753.61	4.95	\$1,093.95	5410	99.9%
232	1	232	6.00	\$ 1,392.00	\$3.41	\$791.12	4.95	\$1,148.40	5411	100%
	5411	46,004		\$186,952.50		\$149,148.69		\$266,568.34		

30 Data in this table was from the AAWC Application, Schedule H, for columns (a), (b), (c), (e), (g), (i).  
 31 Column (d) is the Magruder proposed rate structure. Column (e) from multiplying (c) x (d); Column (f) from  
 32 multiplying (c) x (e); Column (h) from multiplying (c) x (g) and Column (j) by dividing the number of bills for  
 33 the usage in Column (i) divided by the total bills (5,411) in the Test Year, to determine the cumulative  
 34 percentage.  
 35