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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 CHAPARRAL CITY WATER)
COMPANY FOR A DETERMINATION OF)
THE CURRENT FAIR VALUE OF ITS)
UTILITY PLANT AND PROPERTY AND)
FOR INCREASE IN ITS RATES AND)
CHARGES BASED THEREON)

DOCKET NO. W-02113A-13-0118

NOTICE OF ERRATA

Through this filing, Chaparral City Water Company ("CCWC") re-files the Direct Testimony of Jake Lenderking and Thomas J. Bourassa, as CCWC has learned that it inadvertently omitted certain pages in the copies of this testimony. CCWC also notes that certain diagrams/maps in the exhibits in the Direct Testimony of Ian C. Crooks were not fully copied due to their size and are available upon request.

RESPECTFULLY SUBMITTED this 2nd day of May, 2013.

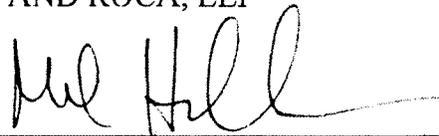
Arizona Corporation Commission

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MAY 2 2013

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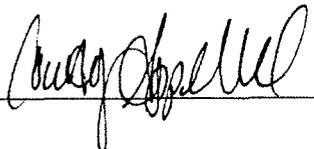
The Arizona Corporation Commission
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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

IN THE MATTER OF THE APPLICATION OF
CHAPARRAL CITY WATER COMPANY FOR A
DETERMINATION OF THE CURRENT FAIR
VALUE OF ITS UTILITY PLANT AND
PROPERTY AND FOR INCREASE IN ITS
RATES AND CHARGES BASED THEREON

DOCKET NO. W-02113A-13-0118

**DIRECT TESTIMONY
OF
JAKE LENDERKING
ON BEHALF OF
CHAPARRAL CITY WATER COMPANY
APRIL 26, 2013**

**DIRECT TESTIMONY
OF
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APRIL 26, 2013**

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1 **EXECUTIVE SUMMARY**

2
3 Jake Lenderking testifies:

4
5 CCWC is requesting inclusion in rates of the previously deferred CAP M&I Charges and the on-
6 going payments that CCWC makes to the Central Arizona Water Conservation District
7 ("CAWCD") for its use of Central Arizona Project ("CAP") water. The inclusion of these
8 amounts in rates supports the policy of the State of Arizona for the use of renewable resources
9 and sends a clear signal to other Commission-regulated water utilities that good water
10 management is important to the Commission.

11
12 The Company is proposing a Sustainable Water Surcharge ("SWS") to recover the cost of water
13 purchased from CAP and charges related to water storage with the Replenishment District and/or
14 credits for water storage with MWD GSF. The SWS allows for the exact recovery of this known
15 and essential expense. Since the surcharge matches the expense, ratepayers will also more
16 quickly realize any decreases in the CAP water price that may occur.

17
18 CCWC is seeking approval of a pro forma adjustment relating to conservation program expenses.

1 **I INTRODUCTION AND QUALIFICATIONS**

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

4 A. My name is Jake Lenderking. My business address is 2355 W Pinnacle Peak Rd., Suite
5 300, Phoenix, Arizona 85027, and my business phone is (623) 445 - 2410.

6 **Q. IN WHAT CAPACITY AND BY WHOM ARE YOU EMPLOYED?**

7 A. I am employed by EPCOR Water (USA) Inc. ("EWUS") as the Water Resources
8 Manager.

9 **Q. PLEASE DESCRIBE YOUR PRIMARY JOB RESPONSIBILITIES.**

10 A. I am responsible for all water resource activities in Arizona and New Mexico including
11 Arizona Department of Water Resources ("ADWR") annual reports, water resource
12 planning, water resource allocation, permitting, water acquisition, and attending and
13 participating in regional water policy forums. I also oversee all EWUS water
14 conservation activities in Arizona and New Mexico.

15 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND**
16 **EDUCATION.**

17 A. I am working towards my Masters of Business Administration at the Thunderbird School
18 of Global Management. Previously I received a Bachelor of Science degree from
19 Arizona State University in Environmental Resource Management with a concentration
20 in Watershed Ecology. I joined EWUS (then Arizona-American) in 2007. Before
21 joining EWUS, I was employed by the City of Phoenix in its Water Conservation office,
22 where I worked on the City's demand management plan. I also oversaw the
23 implementation of the City's retrofit and audit program, where we visited single-family
24 homes, performed water audits, and replaced older inefficient plumbing fixtures with new

1 efficient ones. Before I joined the City of Phoenix, I was employed by ADWR as part of
2 its Phoenix Active Management Area (“AMA”) section. At the time I left ADWR, I was
3 responsible for the regulation and permitting of all recharge activities in the Phoenix
4 AMA.

5 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

6 A. Yes.

7 **II PURPOSE OF TESTIMONY**

8 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?**

9 A. Please see the executive summary of my direct testimony.

10 **III DEFERRED CAP EXPENSE RECOVERY**

11 **Q. WHAT IS CHAPARRAL CITY WATER COMPANY (“CCWC”) PROPOSING IN
12 REGARDS TO ITS CAP ALLOCATION?**

13 A. CCWC is requesting inclusion in rates of the previously deferred CAP M&I Charges and
14 the on-going payments that CCWC makes to the Central Arizona Water Conservation
15 District (“CAWCD”) for its use of Central Arizona Project (“CAP”) water. Company
16 witness Ms. Sheryl L. Hubbard is sponsoring Schedule C-2 Adjustment SLH-19- Adjust
17 Depreciation and Amortization, which includes CCWC’s request to begin amortizing the
18 CAP M&I charges that were deferred as a result of the Arizona Corporation
19 Commission’s (“Commission”) Decision No. 71308 issued October 21, 2009. Company
20 witness Ms. Sandra L. Murrey is sponsoring Schedule C-2 Adjustment SM-10-
21 Annualize Purchased Water to reflect the inclusion of the ongoing purchased water
22 expenses for CCWC’s purchased water expenses.

1 **Q. CCWC HAS NOT RECOVERED IN RATES ALL OF THE COSTS THAT IT**
2 **PAYS TO CAWCD FOR CAP WATER PURCHASED TO PROVIDE TO ITS**
3 **CUSTOMERS. PLEASE EXPLAIN.**

4 A. No, it has not. In my testimony, I will begin by providing information on CAWCD and
5 CAP Water pricing. Then, I will explain how much CCWC pays, what portion is a
6 recovered cost and the portion which is not recovered in rates.

7 **Q. PLEASE PROCEED.**

8 A. CAWCD is a state entity with a 15 member publicly-elected board. It oversees the
9 pumping and delivery of approximately 1.5 million acre feet ("maf") of CAP water each
10 year, more than half of the state's allocation of 2.8 maf. CACWD pumps CAP Water
11 approximately 2,000 feet up in elevation gain along its 336 mile canal. It spans from a
12 point on the Colorado River near Lake Havasu to just south of Tucson.

13 **Q. HOW IS CAP WATER PRICED?**

14 A. CAP Water has many different pricing structures and can become quite complicated. For
15 simplicity, I will describe the pricing that is relevant to utilities such as CCWC. These
16 utilities, including CCWC, pay two components, one is called the Capital Charge and the
17 other is the Water Delivery Rate for Municipal and Industrial subcontractors ("Water
18 Delivery Charge"). CACWD categorizes CCWC in the Municipal and Industrial
19 subcontractors group.

20 The Capital Charge is a per acre foot charge assessed on CCWC's entire allocation,
21 regardless if the water provider, CCWC in our case, is taking water or not. For CCWC,
22 this charge is assessed on the entire 8,909 acre foot allocation each year. CCWC must
23 pay the entire Capital Charge each year to retain the allocation.

1 The second component of CAP water pricing is the Water Delivery Charge, the charge
2 paid for all water ordered each year. In this component, CCWC only pays for the water
3 which it orders. The current rate schedule which was approved by the CAWCD Board on
4 June 7, 2012 is attached in Exhibit JL-1.

5 **Q. WHICH COST COMPONENT OF CAP WATER THAT CCWC PAYS HAS NOT**
6 **BEEN ALLOWED FOR RECOVERY IN RATES?**

7 A. It is a portion of the Capital Charge that CCWC has not previously received cost recovery
8 for.

9 **Q. CAN YOU PROVIDE MORE DETAIL?**

10 A. Yes, CCWC originally had an allocation of 6,978 acre feet. In 2007, CCWC received an
11 additional allocation of 1,931 acre feet, based on a recommendation by the Arizona
12 Department of Water Resources ("ADWR") and contracted for by CAWCD and the
13 United States Department of the Interior, Bureau of Reclamation. Of the 1,931 acre foot
14 additional allocation, only half of the related Capital Charge has been allowed to-date for
15 recovery by CCWC. The other half has been deferred per Commission authorization as
16 described by CCWC witness Ms. Sheryl L. Hubbard.

17 **Q. ARE YOU STATING THAT CCWC PAYS A PER ACRE FOOT CAPITAL**
18 **CHARGE ON THE ENTIRE 8,909 ACRE FOOT ALLOCATION, WHILE IT HAS**
19 **BEEN ONLY ALLOWED TO RECOVER COSTS ASSOCIATED WITH**
20 **APPROXIMATELY 7,945 ACRE FEET PER YER?**

21 A. Essentially, yes. Of the 1,931 acre foot additional allocation, the Commission has only
22 included cost recovery on 965 acre feet in rates. The cost associated with the remaining
23 965.5 acre feet, \$78,205.50, has been deferred. CCWC is now seeking recovery of these

1 deferred costs. In her testimony, Ms. Sheryl L. Hubbard describes how CCWC proposes
2 to recover these costs.

3 **Q. YOU MENTIONED PREVIOUSLY THAT THESE COSTS ARE CHARGED BY**
4 **ANOTHER STATE AGENCY AND HAD MENTIONED THE UNITED STATES**
5 **DEPARTMENT OF THE INTERIOR, BUREAU OF RECLAMATION AND**
6 **ADWR. CAN YOU PLEASE EXPLAIN HOW THESE AGENCIES ARE**
7 **RELATED?**

8 **A.** Yes, ADWR, the state agency responsible for overseeing the state's water laws makes
9 certain decisions regarding water allocations from time to time. In the case of the 1,931
10 acre foot additional allocation, in 1999, ADWR recommended to the Secretary of the
11 Interior that CCWC receive this additional allocation. Then, the United States
12 Department of the Interior, Bureau of Reclamation and CAWCD entered into a contract
13 with CCWC for the water. Under this contract, CCWC pays the Capital Charge for the
14 full allocation of 8,909 acre feet, each year.

15 **Q. IT SEEMS LIKE THERE WAS A LOT OF GOVERNMENT EFFORT THAT**
16 **WENT INTO THE ADDITIONAL ALLOCATION. CAN YOU DESCRIBE THE**
17 **PROCESS A BIT FURTHER?**

18 **A.** Yes, in 1994, ADWR began the process to make a recommendation on reallocating
19 unused Municipal and Industrial CAP water. In 1999, this process resulted in a
20 recommendation from ADWR to the Secretary of the Interior for specific allocations to
21 specific entities; ADWR recommended that 65,647 acre feet of CAP water be allocated to
22 20 different entities. In 2004, these allocations became a part of the Arizona Water
23 Settlement Act, a federal law regarding, among other things, the reallocation. In 2006,
24 per the Arizona Water Settlement Act, the Department of the Interior published notice in
25 the Federal Register regarding the allocations. Finally, in 2007, the CAP subcontract was

1 completed between CCWC the United States Department of the Interior, Bureau of
2 Reclamation and CAWCD.

3 **Q. OF THE 20 ENTITIES MENTIONED, HOW MANY OF THEM ACCEPTED**
4 **AND PAID FOR THEIR ADDITIONAL ALLOCATION?**

5 A. Of the 20 entities, 18 have accepted and paid for their respective additional allocations.
6 The Town of Superior did not accept its allocation and it instead went to Arizona Water
7 Company. Also, Valley Utilities Water Company has since let its allocation go.

8 **Q. COULD CCWC RECEIVE THE ALLOCATION AT A LATER DATE?**

9 A. No, CCWC had to act on the allocation when it did. This was a one-time opportunity to
10 receive this water allocation. Additionally, you can see, it took substantial lead time to
11 receive this allocation.

12 **Q. WILL THERE BE ANOTHER OPORTUNITY TO RECEIVE A SIMILAR**
13 **WATER SUPPLY?**

14 A. No, the Municipal and Industrial pool of CAP water is fully allocated.

15 **Q. WAS IT GOOD WATER MANAGEMENT, WHEN IN 2007, CCWC**
16 **CONTRACTED FOR THE ADDITIONAL WATER?**

17 A. Yes. At the time, it was expected that the water demands of CCWC were going to grow
18 and that CCWC would need more water. Current details also point to the fact that
19 contracting for the 1,931 acre feet was a good water management decision. With all CAP
20 Municipal and Industrial supplies presently completely contracted for, there are no more
21 opportunities to obtain additional supply. In recognition of these facts, in Decision No.
22 71308, the Commission determined that CCWC acted prudently in purchasing the
23 additional CAP allocation and that the CAP allocation would benefit all of the
24 Company's customers.

1 **Q. CAN CCWC MAKE PAYMENTS TO CAWCD FOR ONLY PART OF THE 1,931**
2 **ACRE FEET ADDITIONAL ALLOCATION?**

3 A. No, in fact all of the water, the 6,978 acre feet and the 1,931 acre feet are all under one
4 contract. CCWC must pay the Capital Charge for all 8,909 acre feet each year in order to
5 not be in breach of its contract.

6 **Q. IN DECISION NO. 71308, DIDN'T THE COMMISSION DETERMINE THAT**
7 **FIFTY PERCENT OF THE M&I COSTS SHOULD BE DEFERRED BECAUSE**
8 **NOT ALL OF THE CAP ALLOCATION WAS USED AND USEFUL?**

9 A. Yes, the Commission did make that determination. CCWC, under prior ownership, also
10 agreed to that deferral as part of the prior rate case.

11 **Q. WHY SHOULD THE COMMISSION NOW ALLOW FOR RECOVERY OF**
12 **THESE HISTORICAL AND ONGOING EXPENSES?**

13 A. As outlined above, there are good reasons the Commission should allow for full recovery
14 of these historic costs. First, it is the policy of the State of Arizona to use renewable
15 water supplies such as CAP water. It is a renewable resource; it is obvious that this water
16 is clearly intended for CCWC's use as recommended by ADWR. Second, CCWC is
17 paying for all of the allocation each year, so that CCWC can retain and use this
18 allocation; it cannot just take or pay for part of it. Lastly, allowing for complete recovery
19 of CAP water expense sends a clear signal to other Commission-regulated water utilities
20 that good water management is important to the Commission.

21 **Q. IF CCWC USES MORE GROUNDWATER, WILL IT STILL USE THE CAP**
22 **WATER?**

1 A. Yes. Mr. Ian C. Crooks and Mr. Jeffrey W. Stuck explain in detail the sound reasons for
2 the use of groundwater by CCWC. Although CCWC plans on using some groundwater;
3 it will still require CAP Water.

4 **Q. WHY WILL THE USE OF GROUDWATER NOT REDUCE THE AMOUNT OF**
5 **CAP WATER?**

6 A. CCWC must use renewable resources, replenish the aquifer for the use of any
7 groundwater, or pay the Central Arizona Groundwater Replenishment District
8 (“Replenishment District”) to do so. Put another way, CCWC must put back into the
9 aquifer whatever it takes out in any given year.

10 **Q. WHY RECHARGE CAP WATER, WHEN YOU CAN SIMPLY PAY THE**
11 **REPLENISHMENT DISTRICT?**

12 A. On a per acre foot basis, paying the Replenishment District to replenish pumped
13 groundwater is much more expensive than CCWC using its own CAP water to replenish
14 the aquifer or use it in a storage and recovery plan. Table 1 shows the per acre foot
15 pricing for CAP water and replenishment as published by CAWCD and the
16 Replenishment District, respectively, and the difference between the two.

17 Table 1 CAP Water Storage and Replenishment Costs Per Acre Foot¹

Year	2013	2014	2015	2016	2017	2018
CAP Water Capital Charge	15	16	17	18	18	18
CAP Water Delivery Charge	129	138	149	155	159	160
CAP Water Storage Fee²	8	8	9	9	10	10
CAP Total	152	162	175	182	187	188
Replenishment District Charge	437	492	559	628	628	633
Difference³	285	330	384	446	441	445

¹ Based on the 2013 – 2018 rate schedule which was approved by the CAWCD board on June 7, 2012.

² The CAP Water Storage Fee is the cost associated with storing CAP water at a CAWCD-owned recharge facility. CCWC can also store water at the Maricopa Water District Groundwater Savings Facility (“MWD GSF”) at a rate of \$ (16) per acre foot.

³ If water is stored at MWD GSF the difference would increase by \$24 per acre foot.

1

2 As can be seen from the above table there is a large price difference. The use of
3 CCWC's CAP water when pumping groundwater is a responsible cost savings measure.

4 **Q. ARE THE RECHARGE COSTS CAPTURED IN THE TEST YEAR?**

5

6 A. Some recharge costs have been captured in the test year, however not all of them. Today,
7 we have a better understanding of the future costs. CCWC is planning on pumping
8 groundwater in the amount of 917 acre feet a year, which will be equal to the annual
9 amount stored. It appears that we will be able to store at the MWD GSF at a rate of \$
10 (16) per acre foot. As set forth in the testimony of Sandra L. Murrey, CCWC is
11 proposing an adjustment (ADJ SM-10) that includes a reduction to the test year
12 purchased water expense of \$14,672 to reflect this water storage.

13

14 **IV SUSTAINABLE WATER SURCHARGE**

15 **Q. IS CCWC PROPOSING A MECHANISM TO RECOVER FUTURE INCREASES**
16 **IN EXPENSES ASSOCIATED WITH CAP WATER?**

17 A. Yes. CCWC is proposing a Sustainable Water Surcharge ("SWS").

18 **Q. IS THIS SURCHARGE SIMILAR TO OTHER CAP SURCHARGES WHICH**
19 **THE COMMISSION HAS HISTORICALLY APPROVED?**

20 A. Yes. With the SWS, CCWC is looking to recover future expense increases related to
21 CAP water. This would include water purchased from CAP and charges related to water
22 storage with the Replenishment District and/or credits for water storage with MWD GSF.

1 **Q. WHY PROPOSE A SURCHARGE WHEN CCWC'S REQUEST HEREIN**
2 **INCLUDES ALL ADJUSTED TEST YEAR CAP WATER EXPENSES?**

3 A. Each year CAWCD raises the price for CAP water and those increases are significant,
4 known and measurable.

5 **Q. PLEASE EXPLAIN WHAT YOU MEAN BY ANNUAL CAP WATER PRICE**
6 **INCREASES.**

7 A. Each year, CAWCD raises it rates for CAP water to cover its expenses. This annual
8 increase is quite large. Tables 2 and 3 display the historical and most recent projected
9 cost increases, respectively, as published by CAWCD with year over year percentage
10 increases.

11 Table 2 Historical CAP Prices in Dollars Per Acre Foot

Year	2009	2010	2011	2012	2013
Capital Charge	18	15	15	15	15
Water Delivery Charge	108	118	122	122	129
Total	126	133	137	137	144
Percent Change		6%	3%	0%	5%

12
13 Table 3 Projected CAP Prices in Dollars Per Acre Foot

Year	2014	2015	2016	2017	2018
Capital Charge	16	17	18	18	18
Water Delivery Charge	138	149	155	159	160
Total	154	166	173	177	178
Percent Change	7%	8%	4%	2%	1%

14
15 **Q. WHEN THE SUSTAINABLE WATER SURCHARGE IS IMPLEMENTED, HOW**
16 **WILL RATEPAYERS BE PROTECTED?**

1 A. CCWC will maintain complete records of invoices for purchased water expense and can
2 submit that information for the Commission's review. Also, the Commission will
3 monitor and review the annual filings which CCWC provides to adjust the SWS each
4 year. If the Commission chooses to do so, it can suspend changes and process the matter
5 as preferred if the costs appear unreasonable or questionable. And lastly, the Sustainable
6 Water Surcharge mechanism will always be subject to continued authorization in
7 CCWC's future general rate cases.

8 **Q. PLEASE EXPLAIN HOW THE SWS WOULD PROCEED.**

9 A. To request a surcharge for increases/decreases in purchased water costs, CCWC would
10 prepare a tariff filing that would include a calculation of the annual purchase water costs
11 and the projected annual purchased water costs for the following year. The tariff filing
12 would also contain the prior year's water deliveries and appropriately calculate the per
13 thousand gallons rate that should be assigned based on the actual historical costs. The
14 surcharge would also include the prior year's balance, positive or negative. CCWC
15 proposes that the first SWS tariff filing would be based on the adjusted 2012 test year
16 purchased water expense and water deliveries of 1,784,344 gallons in the 2012 test year.
17 The SWS would not be assessed a per thousand gallon rate until approximately one year
18 after new rates are implemented after a decision in this case. In subsequent years, a tariff
19 filing would be due to the Commission approximately on the anniversary of the SWS'
20 implementation.

21 **Q. IN TOTAL, HOW MUCH HAS CCWC NOT RECOVERED DUE TO**
22 **INCREASED CAP EXPENSE SINCE 2010?**

23 A. CCWC was only allowed to recover \$811,350 in purchased water expense in the previous
24 rate decision while expenses have risen significantly each year. Table 4 below displays

1 CCWC's 2010, 2011, and 2012 purchased water expense along with the allowed recovery
2 and the difference.

3 Table 4 Historical Purchased Water Expense and Associated Losses

Year	2010	2011	2012
Allowed	811,350.00	811,350.00	811,350.00
Paid Out	897,006.50	949,660.50	989,361.50
Difference	(85,656.50)	(138,310.50)	(178,011.50)

4
5 As can be seen from the above table, CCWC under recovered \$401,978.50 over these
6 three years alone, representing a 22% increase over allowed expense in 2012. Without
7 the SWS, CCWC will not have a reasonable opportunity to earn its authorized return.

8 **Q. HOW DOES THIS EXPENSE INCREASE COMPARE WITH OTHER EXPENSE**
9 **INCREASES THAT CCWC EXPERIENCES?**

10 A. CAP water is a large component of operations and maintenance ("O&M") expense. In
11 the last rate case, the allowed \$811,350 purchased water expense represented 18.5 % of
12 the allowed O&M expense of \$4,395,652. In this case, the test year CAP expense is
13 \$1,065,953, which represents 19.8% of the test year O&M expense of \$5,395,520. CAP
14 water has increased 31.4% while O&M expenses have only increased by 22.7%.

15 **Q. WHY DO YOU INCLUDE CHARGES RELATED TO WATER STORAGE**
16 **AND/OR THE REPLENISHMENT DISTRICT IN THE SWS?**

17 A. Water storage, water replenishment and CAP water are all inter-related and are managed
18 together. For example, CCWC has begun using the CAP allocation to completely offset
19 and reduce the Replenishment district charges to zero.

1 **Q. HOW DOES THIS SUSTAINABLE WATER SURCHARGE BENEFIT THE**
2 **CUSTOMERS?**

3 A. Use of a Sustainable Water Surcharge allows for the exact recovery of this known and
4 essential expense and when faced with CAP water price increases, it will allow for a
5 healthier utility. Since the surcharge matches the expense, ratepayers will also more
6 quickly realize any decreases in the CAP water price that may occur. Also, should
7 CCWC purchase less water due to less water consumption, the ratepayers will benefit.
8 The Sustainable Water Surcharge will also allow for the proper water policy to continue
9 to be implemented.

10 **Q. WHAT WILL HAPPEN IF THE COMMISSION DOES NOT APPROVE THIS**
11 **SURCHARGE?**

12 A. CCWC will continue to under recover on the purchase of CAP water, and it will have to
13 come to the Commission for rate increases more often. Table 5 shows the potential
14 losses on purchased water expense that CCWC will face.

15 Table 5 Projected Future Losses Associated with CAP Water

Year	2014	2015	2016	2017	2018
Test Year Expense	1,065,953	1,065,953	1,065,953	1,065,953	1,065,953
Projected Actual Expense ⁴	1,065,953	1,165,550	1,215,625	1,243,069	1,249,930
Unrecovered Amount	0	(99,597)	(149,672)	(177,116)	(183,977)

16
17 **Q. IS IT POSSIBLE THAT CAP WATER COSTS WILL INCREASE BY MORE**
18 **THAN PROJECTED?**

⁴ Projected Actual Expense is calculated using 6,861 acre feet (revised 2013 water order submitted to CAWCD on 04/03/2013 to reduce the water order by 4.3% for meter mis-calibration as discussed in Mr. Jeffrey W. Stuck's testimony) each year and the Capital Charge and Water Delivery Charge for each year obtained from the 2013 – 2018 rate schedule which was approved by the CAWCD board on June 7, 2012.

1 A. Yes. It is quite possible.

2 **Q. WHY WOULD THAT OCCUR?**

3 A. CAWCD has been faced with rapidly increasing costs and shortfalls in revenue and has
4 begun to deplete its reserves. In the month of March 2013, CAWCD held a special Board
5 meeting to go over in great detail their cost increases, revenue shortfalls, and options to
6 remedy the situation. Raising the 2014 rate above the already published rate is one clear
7 and likely option for the Board to use to address the issue. However, it will not
8 completely remedy the problem as the issue is quite large. Another option which
9 CAWCD Board members and staff have discussed is reconciliation, a practice whereby
10 CAWCD reconciles its costs at the end of the year and adjusts its per acre foot price for
11 the water which was already purchased.

12 **Q. ARE THERE OTHER ISSUES CAWCD FACES WHICH MAY CAUSE RAPID**
13 **COST INCREASES?**

14 A. Yes. CAWCD obtains virtually all of its electricity from the Navajo Generating Station
15 ("NGS") located in Northern Arizona. As the Commission is likely aware, NGS is faced
16 with an EPA rulemaking that would cause its owners to have to make substantial changes
17 or retrofits. In fact, these changes are so substantial that the NGS owners have discussed
18 the possible closure of the plant rather than making the costly changes. If NGS is closed,
19 CAWCD will have to purchase more expensive electricity. If the changes are made at
20 NGS, the increased costs will roll into a higher electricity price. Needless to say, if either
21 occurs, the closure or the retrofit at NGS, it will cause significant cost increases to
22 CAWCD which will in turn raise CAP water rates. CCWC is reliant on this source of
23 water and would have no option but to continue to purchase water at the higher price.

1 **Q. CAN THESE ISSUES WHICH FACE CAWCD CAUSE ADDITIONAL EXPENSE**
2 **AND HARM TO CCWC SHOULD THEY OCCUR?**

3 A. Yes. These types of issues are exactly why the SWS should be approved, to allow
4 CCWC full recovery of such a vital expense, for renewable water, each year, after the
5 expense has occurred. Just as purchased power is critical to the electric industry (and
6 thus subject to a surcharge), purchased water is critical to the water industry.

7 **Q. YOU STATED THAT CCWC WILL HAVE TO COME IN FOR RATE CASES**
8 **MORE OFTEN. CAN YOU ELABORATE?**

9 A. Yes, with CAP water prices rising, CCWC will under recover more and more with each
10 increase, such that if the SWS is not approved, CCWC will likely apply to the
11 Commission for rate increases more often, causing additional rate case expense.

12 **V WATER CONSERVATION**

13 **Q. ARE YOU PROPOSING ANYTHING IN REGARDS TO WATER**
14 **CONSERVATION?**

15 A. Yes. CCWC is a responsible water utility and has a water conservation program.

16 **Q. PLEASE DESCRIBE THE PROGRAM AND ITS COSTS.**

17 A. CCWC has begun implementing conservation activities similar to the conservation
18 activities that EWUS implements in its other Arizona districts. The activities include
19 making the residential home water audit kit and the residential home retrofit kit available.
20 It will include a youth education component. Bill inserts and bill text messages will also
21 be implemented, educating customers about water conservation. Conservation Staff will
22 also be available to teach about water conservation and visit homes and HOAs to give
23 presentations on water conservation. Annual costs have been estimated at \$7,079 per
24 year. No costs were accumulated in the test year as the conservation activities began post

1 test year. Ms. Sheryl L. Hubbard has included a pro forma adjustment to expenses
2 reflecting the additional expense of \$7,079, which is \$0.5218 per customer times the test
3 year customer count of 13,567. Her adjustment is to Schedule C-2 and is Adjustment
4 SLH-4 – Conservation Expense.

5 **Q. ARE YOU FAMILIAR WITH THE CONSERVATION BMP PROGRAM THAT**
6 **THE COMMISSION HAS IMPLEMENTED OVER THE LAST SEVERAL**
7 **YEARS, AND IF SO DO YOU HAVE ANY OBJECTION TO THE COMMISSION**
8 **REGULATING CCWC UNDER IT?**

9 A. Yes. I am familiar with the Commission's water conservation BMP tariffs; they are
10 based on the ADWR program. CCWC believes that because water conservation is
11 already regulated by ADWR, additional requirements from the Commission are not
12 necessary, and lead to additional administration and paperwork associated with the water
13 conservation program.

14 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

15 A. Yes.

16

EXHIBIT JL-1

**CENTRAL ARIZONA PROJECT
FINAL 2013 - 2018 RATE SCHEDULE**

Approved
June 7, 2012

DELIVERY RATES FOR VARIOUS CLASSES OF WATER SERVICE

Units = \$/ acre-foot

(The Letter Designations in the Formulas Refer to the Rate Components Shown Below)

	2012	Firm 2013	Provi- sional 2014	Advisory			
				2015	2016	2017	2018
Municipal and Industrial							
Long Term Subcontract (B+C) ¹	\$ 122	\$ 129	\$ 138	\$ 149	\$ 155	\$ 159	\$ 160
Non-Subcontract (A+B+C)	137	144	154	166	173	177	178
Recharge (A+B+C) ²	137	144	154	166	173	177	178
AWBA Interstate Recharge (A+B+C+D) ³	165	168	177	190	198	204	208
Federal (B+C)	\$ 122	\$ 129	\$ 138	\$ 149	\$ 155	\$ 159	\$ 160
Agricultural							
Settlement Pool (C) ⁴	\$ 49	\$ 53	\$ 59	\$ 66	\$ 68	\$ 70	\$ 68
Agricultural Incentives ⁴							
Meet Settlement Pool Goals	(4)	(6)	(7)	(11)	(11)	(11)	(7)
Meet AWBA/CAGR D GSF Goals	(1)	(1)	(2)	(2)	(2)	(2)	(2)
Meet Recovery Goals	(1)	(1)	(2)	(2)	(2)	(2)	(2)

RATE COMPONENTS

Units = \$/acre-foot

Capital Charges							
(A) Municipal and Industrial - Long Term Subcontract ⁵	\$ 15	\$ 15	\$ 16	\$ 17	\$ 18	\$ 18	\$ 18
Delivery Charges							
(B) Fixed OM&R ⁶	\$ 73	\$ 76	\$ 79	\$ 83	\$ 87	\$ 89	\$ 92
(C) Pumping Energy Rate ¹⁷	49	53	59	66	68	70	68
(D) Property Tax Equivalency ⁸	28	24	23	24	25	27	30

Qualifications for Various Classes of Water Service

Long-Term Municipal and Industrial (M&I) Subcontract: M&I subcontractors.

Non-Subcontract: M&I users who are not subcontractors and the CAGR D.

Recharge (AWBA/CAGR D and M&I Underground Water Storage): The Arizona Water Banking Authority and M&I subcontractors and other Arizona entities who have valid Arizona Department of Water Resources permits and accrue long-term recharge/storage credits from this activity.

DIRECT UNDERGROUND WATER STORAGE

Units = \$/acre-foot

Underground Water Storage O&M ⁹							
Phoenix AMA	\$ 8	\$ 8	\$ 8	\$ 9	\$ 9	\$ 10	\$ 10
Tucson AMA	15	15	15	15	15	15	15
Underground Water Storage Capital Charge ¹⁰							
Phoenix AMA	\$ 15	\$ 15	\$ 15	\$ 15	\$ 15	\$ 15	\$ 15
Tucson AMA	9	9	9	9	9	9	9

**CENTRAL ARIZONA PROJECT
FINAL 2013 - 2018 RATE SCHEDULE**

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT ASSESSMENT RATES

Units = \$/acre-foot

	Firm		Provi-	Advisory			
	2011/12	2012/13	sional	2014/15	2015/16	2016/17	2017/18
Phoenix Active Management Area							
Water & Replenishment Component ¹¹	\$ 140	\$ 137	\$ 148	\$ 161	\$ 168	\$ 171	\$ 177
Administrative Component ¹²	42	44	45	45	45	41	37
Infrastructure & Water Rights Component ¹³	170	204	245	294	353	353	353
Replenishment Reserve Charge ¹⁴	51	52	54	59	62	63	66
Total Assessment Rate (\$/AF)	\$ 403	\$ 437	\$ 492	\$ 559	\$ 628	\$ 628	\$ 633
Pinal Active Management Area							
Water & Replenishment Component ¹¹	\$ 116	\$ 117	\$ 128	\$ 141	\$ 148	\$ 152	\$ 154
Administrative Component ¹²	42	44	45	45	45	41	37
Infrastructure & Water Rights Component ¹³	170	204	245	294	353	353	353
Replenishment Reserve Charge ¹⁴	53	56	60	65	69	76	76
Total Assessment Rate (\$/AF)	\$ 381	\$ 421	\$ 478	\$ 545	\$ 615	\$ 622	\$ 620
Tucson Active Management Area							
Water & Replenishment Component ¹¹	\$ 155	\$ 161	\$ 171	\$ 183	\$ 190	\$ 194	\$ 197
Administrative Component ¹²	42	44	45	45	45	41	37
Infrastructure & Water Rights Component ¹³	170	204	245	294	353	353	353
Replenishment Reserve Charge ¹⁴	60	65	69	74	78	80	84
Total Assessment Rate (\$/AF)	\$ 427	\$ 474	\$ 530	\$ 596	\$ 666	\$ 668	\$ 671
Contract Replenishment Tax - Scottsdale ¹⁵							
Cost of Water	\$ 137	\$ 137	\$ 144	\$ 154	\$ 166	\$ 173	\$ 177
Cost of Transportation	0	0	0	0	0	0	0
Cost of Replenishment	0	0	0	0	0	0	0
Administrative Component ¹²	42	44	45	45	45	41	37
Total Tax Rate (\$/AF)	\$ 179	\$ 181	\$ 189	\$ 199	\$ 211	\$ 214	\$ 214

ENROLLMENT & ACTIVATION FEES

Units = \$/Housing Unit

Enrollment Fee ¹⁶	\$ 138	\$ 165	\$ 198	\$ 237	\$ 284	n.a.	n.a.
Activation Fee ¹⁶	\$ 136	\$ 163	\$ 196	\$ 235	\$ 282	\$ 282	\$ 282

ANNUAL MEMBERSHIP DUES

Member Land Annual Membership Dues (\$/Lot) ¹⁷							
Phoenix Active Management Area	\$ 6.88	\$ 9.87	\$ 13.19	\$ 17.91	TBD	TBD	TBD
Pinal Active Management Area	\$ 0.90	\$ 1.29	\$ 1.74	\$ 2.41	TBD	TBD	TBD
Tucson Active Management Area	\$ 4.34	\$ 6.24	\$ 8.38	\$ 11.53	TBD	TBD	TBD
Member Service Area Annual Membership Dues (\$/AF) ¹⁷							
	\$ 10.35	\$ 14.88	\$ 20.08	\$ 27.91	TBD	TBD	TBD

**CENTRAL ARIZONA PROJECT
FINAL 2013 - 2018 RATE SCHEDULE**

Approved
June 7, 2012

NOTES:

- 1 Does not include the Capital Charge.
- 2 This rate applies to all recharge customers. Rules regarding the eligibility for and use of this class are shown on page 1.
- 3 The rate is obtained by adding the Fixed OM&R component, the Pumping Energy Rate 1 component, the M&I Capital Charge and an equivalency tax component.
- 4 Rate is the Pumping Energy Rate 1 component. Incentives may be earned for meeting delivery goals in three areas. Any incentives earned are applied to Settlement Pool deliveries.
- 5 For M&I subcontract water, the Capital Charge is paid on full allocation regardless of amount delivered and not included in delivery rates.
- 6 Fixed O&M costs divided by projected total water volumes plus components to fund capital replacements and a rate stabilization reserve. This amount is collected on all ordered water whether delivered or not.
- 7 Applies to all water deliveries. The calculation is pumping energy costs divided by projected volumes. This amount is collected only for water actually delivered as opposed to scheduled.
- 8 The rate is based upon the tax levy for the previous elapsed tax year divided by the average water deliveries (excluding Federal deliveries and water storage credits) for the three previous completed delivery years (e.g., for 2012, the tax equivalency is the levy for the 2010-2011 tax year divided by the average water deliveries for 2008, 2009 and 2010). The Provisional and Advisory Rates are estimates. Note the 2012 rate has been revised.
- 9 Underground Water Storage O&M is paid by all direct recharge customers using CAP recharge sites.
- 10 Underground Water Storage Capital Charge is paid by all direct recharge customers except AWBA for M&I firming, the CAGR, municipal providers within the CAP service area and co-owners of CAWCD recharge facilities using no more than their share of capacity.
- 11 The Water & Replenishment Component is designed to cover the projected annual costs of satisfying replenishment obligations, including the purchase of long-term storage credits (LTSC) and the purchase and replenishment of water and effluent. The total volume of water to be purchased and replenished includes a sufficient volume to offset losses incurred during the replenishment process (generally 1% to 2.5%). For the Phoenix Active Management Area (AMA), replenishment is planned to be accomplished at direct underground storage facilities (USFs) and groundwater savings facilities (GSFs). For the Pinal AMA, replenishment is planned to be accomplished at GSFs. For the Tucson AMA, replenishment is planned to be accomplished at USFs.
- 12 The Administrative Component is designed to cover all CAGR administrative costs, except labor related costs associated with the acquisition of water rights and infrastructure. A \$2/AF has been added to this component to help fund the CAGR conservation program.
- 13 The Infrastructure & Water Rights Component is designed to generate funds to purchase long-term rights to water, and construct additional infrastructure facilities as the need arises.
- 14 The Replenishment Reserve Charge is designed to cover costs associated with establishing a replenishment reserve of LTSCs as required by statutes. Water will be stored at a combination of USFs and GSFs in the Phoenix AMA, and at USFs in the Tucson AMA. In the Pinal AMA, LTSCs will be purchased from CAP in accordance with Board policy adopted on October 6, 2005. This charge will be levied as provided in ARS Sections 48-3774.01 and 48-3780.01.
- 15 The components of the Contract Replenishment Tax - Scottsdale reflect the provisions in the Water Availability Status Contract to Replenish Groundwater between CAWCD and Scottsdale. The rates reflect the assumption that Non-Subcontract CAP water will be available to meet the associated contract replenishment obligations.
- 16 The Enrollment Fee and Activation Fee reflect the fees established pursuant to the CAGR Enrollment Fee and Activation Fee Policy adopted by the Board on May 1, 2008. A \$2 per housing unit is included in the Enrollment Fee to help fund CAGR's conservation program.
- 17 The Annual Membership Dues for Member Lands and Member Service Areas reflect the fees established pursuant to ARS Sections 48-3772.A.8. and 48-3779 as well as the Policy on Collection of CAGR Annual Membership Dues adopted by the Board on April 7, 2011.

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

IN THE MATTER OF THE APPLICATION OF
CHAPARRAL CITY WATER COMPANY FOR A
DETERMINATION OF THE CURRENT FAIR
VALUE OF ITS UTILITY PLANT AND
PROPERTY AND FOR INCREASE IN ITS
RATES AND CHARGES BASED THEREON

DOCKET NO. W-02113A-13-0118

**DIRECT TESTIMONY
OF
THOMAS J. BOURASSA
ON BEHALF OF
CHAPARRAL CITY WATER COMPANY
APRIL 26, 2013**

DIRECT TESTIMONY
OF
THOMAS J. BOURASSA
ON BEHALF OF
CHAPARRAL CITY WATER COMPANY
April 26, 2013

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EXECUTIVE SUMMARY iii

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1 **EXECUTIVE SUMMARY**

2
3 Thomas J. Bourassa testifies as follows:

4
5 Mr. Bourassa reports on the results of his cost of service study for CCWC. The cost of service
6 study provides a starting point for determining how proposed revenues should be allocated to the
7 residential, commercial, irrigation, and hydrant customer classes based on their respective costs
8 of service. These results provide meaningful information in the determination of cost of service
9 based rates for the customers of CCWC.

10
11 Mr. Bourassa's testimony explains the monthly minimum and commodity rate for a customer on
12 a ¾ inch meter when the allocations for expenses and plant for the functions of demand,
13 customer, meters and services are included. He then compares those rates to the Company's
14 current and proposed rates. The Company's proposed monthly minimum is about 37 percent of
15 the actual cost for the monthly minimum. The proposed first tier, second tier and third tier
16 commodity rates continue to be much greater than the cost to produce the water. As Mr.
17 Bourassa explains, the proposed rate designs add substantial risk. Inverted multi-tiered rates
18 designs as proposed in this case encourage conservation. If conservation is actually achieved,
19 usage will decline and it will cause a substantial shortfall in the revenues the Company collects,
20 which means it will be impossible to actually achieve the requested return.
21
22

1 **I INTRODUCTION AND QUALIFICATIONS**

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

4 A. My name is Thomas J. Bourassa. My business address is 139 W. Wood Drive, Phoenix,
5 Arizona 85029.

6 **Q. WHAT IS YOUR PROFESSION AND BACKGROUND?**

7 A. I am a Certified Public Accountant and am self-employed, providing consulting services
8 to utility companies as well as general accounting services. I have a B.S. in Chemistry
9 and Accounting from Northern Arizona University (1980) and an M.B.A. with an
10 emphasis in Finance from the University of Phoenix (1991).

11
12 **Q. COULD YOU BRIEFLY SUMMARIZE YOUR PRIOR WORK AND**
13 **REGULATORY EXPERIENCE?**

14 A. Yes. Prior to becoming a private consultant, I was employed by High-Tech Institute,
15 Inc., and served as controller and chief financial officer. Prior to working for High-Tech
16 Institute, I worked as a division controller for the Apollo Group, Inc. Before joining the
17 Apollo Group, I was employed at Kozoman & Kermod, CPAs. In that position, I
18 prepared compilations and other write-up work for water and wastewater utilities, as well
19 as tax returns.

20 In my private practice, I have prepared and/or assisted in the preparation of
21 several water and wastewater utility rate applications before the Arizona Corporation
22 Commission ("Commission").

23
24 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?**

1 A. I am testifying in this proceeding on behalf of the Chaparral City Water Company
2 (“CCWC” or the “Company”). CCWC is seeking increases in its rates and charges for
3 water utility service in its certificated service area.
4

5 **II PURPOSE OF TESTIMONY**

6 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?**

7 A. The purpose of my testimony is to report on the results of my cost of service study for
8 CCWC. The cost of service study provides a starting point for determining how
9 proposed revenues should be allocated to the residential, commercial, irrigation, and
10 hydrant customer classes based on their respective costs of service. These results provide
11 meaningful information in the determination of cost of service based rates for the
12 customers of CCWC.
13

14 **III COST OF SERVICE STUDY**

15 **A Background**

16 **Q. WHAT IS A COST OF SERVICE STUDY?**

17 A. A cost of service study is an analysis of the adequacy of water revenues and revenue
18 requirements to be met by the various classes of customers under both existing and
19 proposed rates. The study begins with an allocation of utility plant and expenses into cost
20 and asset functions which are then allocated to customer classifications. The study
21 attempts to trace the costs associated with meeting the customers’ service requirements.
22 Ideally, the revenues received from each customer class should equal the cost of
23 providing service to that customer class. The cost to provide service includes the
24 operating and maintenance expenses and the capital costs. Operating and maintenance
25 expenses include the costs of operating the system and the costs of maintaining system
26 facilities and equipment. Capital costs include investment-related cash requirements such

1 as debt service, contributions to debt service reserves, and capital requirements not
2 financed by debt. Capital costs also include depreciation expense and either a return on
3 rate base (for-profit utilities) or an operating margin (non-profit utilities) as well as
4 incomes taxes and other taxes, if applicable.

5
6 **Q. WHAT IS THE PURPOSE OF A COST OF SERVICE STUDY?**

7 A. Typically, the purpose of preparing a cost of service study is to offer guidance in setting
8 rates to be charged for utility service. The basic premise in establishing rates for the
9 various classes of customers that are both adequate and equitable is that rates should
10 reflect the cost of providing utility service. Generally, regulators should set rates based
11 on the cost of service. This assures that the cost of providing service is allocated
12 equitably among customers and customer classes. Cost-based rates also send an
13 appropriate price signal to customers because the amount paid for service approximates
14 the cost to provide the service. In other words, subsidies between customers are
15 minimized.

16 There are many factors at play when rates are set which may result in rates which
17 are not adequate and/or equitable between the various classes of customers. Non-
18 economic factors may be at play when rates are set. For example, the regulatory body
19 may favor subsidizing one class of customers by shifting costs to other classes of
20 customers, or shifting revenues within one class of customers to subsidize members
21 within that class. Lifeline or discounted rates, which are sometimes used to assist low-
22 income customers in areas with high utility costs, are prime examples of subsidization of
23 a class of customers by other customers. If possible, lifeline rates should not apply to a
24 whole customer class. If lifeline rates are needed, they should be offered only to
25 customers meeting some income test.

1 Another example is rate designs intended to encourage conservation.
2 Conservation-based rates deviate from cost-of-service principles because larger water
3 users pay more than their cost of service. Inverted-tier rates shift revenue recovery into
4 the upper rate blocks in order to send a price signal to customers, regardless of the cost to
5 serve those customers. This may be a desirable social policy, but these rates may also be
6 regarded as unfair and discriminatory by larger water users on economic grounds.

7 Thus, public policy may have a significant impact on rate design. The
8 Commission should consider the impact that these sorts of alternative rate designs have
9 on other customers, and the degree that such approaches deviate from cost-based rates,
10 which may result in inequities and, in extreme cases, cause customers to develop
11 alternatives to service from the utility provider. In the end, the goal in setting new rates
12 is for the Company to recover its revenue requirement.

13

14 **Q. HOW IS YOUR COST OF SERVICE STUDY ORGANIZED?**

15 A. The standard filing requirements call for Schedules G-1 through G-7 and these schedules
16 are included with my testimony. I have also included Schedules G-8 and G-9. Schedule
17 G-8 shows cost based rate designs based on CCWC's cost of service. Schedule G-9
18 shows the break-even point of the ¾ inch residential customers (the largest customer
19 class) under the Company proposed rates. I will further explain these two schedules later
20 in my testimony.

21 G Schedules with higher numbers (*i.e.*, 5, 6 and 7) contain the allocation factors
22 and actual allocations to functions. These functions are then carried forward to the
23 summary G schedules 1, 2, 3 and 4, which allocate expenses and plant (by function) to
24 classes of customers (residential, commercial, irrigation, and hydrant).

1 I will start my analysis using Schedule G-7 and end with Schedules G-2 and G-1.

2 I will then describe Schedules G-8 and G-9.

3

4 **Q. BEFORE YOU PROCEED, WHAT IS A "FUNCTION"?**

5 A. Functions refer to the plant and the expenses needed to get the water (the commodity)
6 from the source (well or surface water) to the customer. The functions are commodity,
7 demand, customer, services, and meters.

8 Commodity refers to the actual volume of water delivered. The commodity
9 function is used to derive the commodity rate or the rate charged per unit of
10 measurement, *i.e.*, 1,000 gallons of water. Demand refers to how the water system is
11 sized to deliver the water, which is normally determined by total customers and fire flow
12 requirements. Hence, the system is built to be able to deliver water (the commodity) to
13 customers, as well as the demand placed on the water system when water is used to
14 contain or fight a fire.

15 Customer, service, and meter functions are also used to develop the monthly
16 minimum charged to each class of customer. The full cost of the demand function should
17 also be included in the monthly minimum charge. However, the practice of Staff has
18 been to allocate a portion of the demand function to both the commodity rate and the
19 monthly minimum charge, and this has generally been adopted by the Commission in my
20 experience.

21 Demand, customer, service and meter functions refer to the delivery of the water
22 from the Company's wells, surface sources or reservoirs through the transmission and
23 distribution mains to the individual customer's premises. The costs associated with
24 demand, customer, service and meter functions are incurred whether the customer uses
25 1,000 gallons or 1,000,000 gallons of water each month.

1 Fire protection assets (e.g., hydrants) and expenses associated with fire protection,
2 including depreciation, should be allocated to the customer function because fire
3 protection generally benefits all customers on the system. This has been the
4 Commission's policy with regard to fire protection costs.

5
6 **Q. WHAT TYPE OF COST OF SERVICE STUDY DID YOU PREPARE TO**
7 **SUPPORT THE PROPOSED RATES?**

8 A. I used the Commodity - Demand Method for the cost of service study. This method
9 normally separates expenses and assets into three primary functions or components:
10 commodity; demand; customer (with further breakdown of customer costs and plant into
11 meters and services).

12 Commodity costs are costs that tend to vary (change) with the production or
13 output of water. These costs would consist primarily of power costs, chemicals, water
14 treatment, purchased water, and other variable expenses. Please note that I included a
15 portion of the demand function into the commodity function to adhere to Commission
16 Staff's past practices.

17 Demand costs are capital and maintenance costs of facilities related to meeting the
18 peak demand or peak usage requirements. The plant assets which cause the bulk of the
19 demand cost are transmission and distribution mains.

20 Customer costs are those costs related to serving and/or having customers,
21 without regard to the amount of water used. These costs would include meter reading,
22 billing, customer accounting and collection, and the capital costs and maintenance costs
23 related to the meters, services, and customer equipment such as meters, service lines,
24 computers, office furniture, transportation equipment, etc.

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Q. AFTER COSTS ARE ALLOCATED TO FUNCTIONS, HOW ARE EXPENSES AND ASSETS THEN ALLOCATED TO THE INDIVIDUAL CLASSES OF CUSTOMERS?

A. After the expenses and assets are allocated to the commodity, demand, customer, service, and meter functions, the values for the functions are then allocated to various customer classes. Customer classes are based on meter sizes on the system.

Q. DOES A COST OF SERVICE STUDY PROVIDE DATA TO DETERMINE HOW THE TIERED RATE DESIGN SHOULD BE SET?

A. No. The cost of service study will provide the cost of the commodity, but it will not provide data on where rate tiers should be set. The tier rates can be based on studying the usage by the customers.

B Explanation of Cost of Service Study Schedules

Q. WOULD YOU PLEASE DESCRIBE AND EXPLAIN THE SCHEDULES THAT COMPRISE YOUR COST OF SERVICE STUDY, AND WOULD YOU DESCRIBE HOW THE VARIOUS FUNCTIONS WERE DEVELOPED?

A. The allocations for the development of the class allocation factors are shown on Schedule G-7, pages 1 through 3.

The commodity allocation is based on the number of gallons of water used by customers on various sizes of meters, plus the gallons from the revenue annualization to year-end number of customers, divided by the total gallons of water sold (including gallons from the revenue annualization) during the Test Year. Thus, if 80,000,000 gallons of water were sold through the 5/8 inch meters, out of a total of 100,000,000

1 gallons of water sold by the water utility, this meter size would be allocated 80 percent of
2 the commodity cost.

3 The demand allocation factor consists of the number of meters for each size of
4 meter on the system, multiplied by the equivalent weight of each size of meter. The
5 equivalent weight is determined by the flow capacity of each meter. A 5/8 inch meter
6 can flow 20 gallons per minute, while a 6 inch meter can flow 1,000 gallons per minute.
7 Thus, one 6 inch meter is equivalent to approximately fifty 5/8 inch meters. The larger
8 meters are restated into equivalent 5/8 inch meters to derive a monthly meter charge for
9 the 5/8 inch meter. Then based on flow capacity, monthly minimums are developed for
10 larger meters. After determining the equivalent 5/8 inch meters for all meter sizes and
11 classes, they are then grouped by customer class (residential, commercial, irrigation, and
12 hydrant) and used for the demand allocation factors used in the study.

13 The customer allocation factor is the number of customers on each size meter.
14 The allocation is based on total meters, not equivalent meters. It costs no more to read a
15 6 inch meter than a 5/8 inch meter, and it costs the same to issue a bill. The customer
16 numbers are grouped by customer class (residential, commercial, irrigation, and hydrant)
17 and used as the customer allocation factors in the study.

18 I computed the meter allocation factor by multiplying the number of meters times
19 the cost of installing a meter.¹ The dollar weighted value of meters is then divided by the
20 total computed meter cost to derive the meter allocation factor to each class of customer.
21 The dollar weighted meter values are grouped by customer class (residential, commercial,
22 irrigation, and hydrant) and used as the meters allocation factors in the study

¹ Costs were used from the Commission Staff Engineering memorandum originated by Marlin Scott, Jr., dated February 21, 2008.

1 The service line allocations were computed in the same manner as the meters.
2 That is, I used the values listed on the Staff Memorandum² to derive a total value of the
3 service lines. The allocation to each service line size was the result of dividing the dollar
4 value of the service lines for each customer class by the total dollar value of the service
5 lines. The dollar weighted service line values are grouped by customer class (residential,
6 commercial, irrigation, and hydrant) and used as the services allocation factors used in
7 the study.

8 Schedule G-7, page 2.1 lists the allocation factors for plant and equipment.
9 Allocation factors for these expenses were determined by examining the causal
10 relationships of each expense to the various functions.

11 Schedule G-7, page 2.2 lists the allocation factors for repairs and maintenance
12 expense, contractual services, purchased power, purchased water, transportation,
13 chemicals, water testing, and salaries and wages. Allocation factors for these expenses
14 were determined by examining the causal relationships of each expense to the various
15 functions, which may include an examination of the recorded amounts during the test
16 year and the use of professional judgment.

17 The depreciation expense allocations shown on Schedule G-6, page 3, apply the
18 allocation factors shown on Schedule G-7, page 2.1, times the depreciation expense for
19 each plant asset. For the demand function for Wells, Mains, Water Treatment
20 Equipment, and Pumping Equipment, I assumed an allocation factor of 90 percent. Ten
21 percent of plant values and related depreciation expense for Wells, Mains, Water
22 Treatment Equipment, and Pumping Equipment was allocated to the commodity function.

23 The depreciation expense was computed using the Company's depreciation rates.

² *Id.*

1 The operation and maintenance expense allocation to functions (commodity,
2 demand, customer, service, and meter) are shown on Schedule G-6, page 1 (adjusted test
3 year at present rates) and Schedule G-6, page 2 (adjusted test year at proposed rates).

4 On Schedule G-5, page 2, I allocated net plant and other rate base items to each
5 customer class using the allocation factors set forth in Schedule G-7, page 2.1. I
6 deducted AIAC and CIAC from the plant balances normally financed with AIAC and
7 CIAC, which would be primarily transmission and distribution mains. I allocated the
8 AIAC and CIAC to both the demand and commodity functions to be consistent with my
9 allocation of the transmission and distribution mains.

10 Then I computed rate bases for each function (commodity, demand, customer,
11 services and meters). The rate bases by function are shown on Schedule G-5, page 1.

12 Schedule G-4 allocates the commodity, demand, customer, services and meters
13 expenses to customer classes using the allocation factors developed on Schedule G-7,
14 page 3. Schedule G-4, page 1 shows the allocated costs at present rates. Schedule G-4,
15 page 2 shows the allocated costs at proposed rates.

16 Schedule G-3 allocates the rate bases for commodity, demand, customer, service,
17 and meter to customer classes.

18 Schedules G-1 and G-2 derive the return on rate base by customer classes at
19 present and proposed rates, respectively. The returns on rate base are computed by
20 dividing the operating income for the customer class by the rate base for that customer
21 class.

22 Property taxes are allocated based on revenue on Schedules G-1 and G-2.
23 Revenue is the main factor in the method used by the Arizona Department of Revenue to
24 determine the full cash value of the utility.

1 Income Taxes are allocated based on taxable income of each customer class on
2 Schedules G-1 and G-2.

3

4 **Q. DID YOU PREPARE SCHEDULES SHOWING RATE DESIGNS BASED ON**
5 **THE COST OF SERVICE STUDY?**

6 A. Yes. Cost based monthly minimums and commodity rates are shown on Schedule G-8.

7

8 **C Indicated Monthly Minimums and Single Tier Commodity Rates**

9 **Q. WOULD YOU PLEASE DISCUSS SCHEDULE G-8?**

10 A. There are 4 sets of G-8 schedules: pages 1A through 4A show rate design computations
11 for all customer classes combined; pages 1B through 4B show rate design computations
12 for the residential class; pages 1C through 4C show rate design computations for the
13 commercial class; pages 1D through 4D show rate design computations for the irrigation
14 class; and, pages 1E through 4E show rate design computations for the hydrant class.

15 Page 1 of each set shows the derivation of the Customer Charge portion of the
16 monthly minimums. Page 2 of each set shows the derivation of the Demand Charge
17 portion of the monthly minimums. Page 3 of each set shows the derivation of a single-tier
18 commodity rate and monthly minimums for each size meter assuming no portion of the
19 customer charge and the demand charge are recovered via the commodity rate. Finally,
20 page 4 of each set shows the derivation of a single-tier commodity rate and monthly
21 minimums for each size meter assuming a portion of the demand, customer, services and
22 meters costs are recovered via the commodity rate.

23

1 **Q. WHAT IS THE INDICATED MONTHLY MINIMUM AND COMMODITY RATE**
2 **FOR A CUSTOMER ON A 3/4 INCH METER BASED ON YOUR COST OF**
3 **SERVICE STUDY?**

4 A. Referring to Schedule G-8, page 3A (all customer classes), the monthly minimum, with
5 no water in that minimum, should be \$59.50 when you include the allocations for
6 expenses and plant for the function of demand, customer, meters and services. The
7 commodity rate should be \$1.4829.

8 Referring to Schedule G-8, page 3B (residential class), the monthly minimum,
9 with no water in that minimum, should be \$56.11. The commodity rate should be
10 \$1.4830.

11 Referring to Schedule G-8, page 3C (commercial class), the monthly minimum,
12 with no water in that minimum, should be \$98.85. The commodity rate should be
13 \$1.4830.

14 Referring to Schedule G-8, page 3D (irrigation class), the monthly minimum, with
15 no water in that minimum, should be \$115.54. The commodity rate should be \$1.4830.

16 Referring to Schedule G-8, page 3E (hydrant class), the monthly minimum, with
17 no water in that minimum, should be \$91.82. The commodity rate should be \$1.4830.

18
19 **D Comparison of COSS-Indicated Rate Design and Company's Present and**
20 **Proposed Rates**

21 **Q. HOW DOES THE COMPUTED MONTHLY MINIMUM CHARGE COMPARE**
22 **TO THE COMPANY'S PROPOSED MONTHLY MINIMUM?**

23 A. The proposed monthly minimum for a 3/4 inch meter is \$22.30, or approximately 40
24 percent of the computed monthly minimum of \$59.50 as shown on Schedule G-8, page

1 3A. Thus, the proposed monthly minimum is about 37 percent of the actual cost for the
2 monthly minimum.

3
4 **Q. HOW DOES THE COMPUTED COMMODITY RATE COMPARE TO THE**
5 **COMPANY'S PRESENT AND PROPOSED COMMODITY RATES FOR THE 3/4**
6 **INCH RESIDENTIAL CUSTOMER?**

7 A. The commodity rate under present rates being charged is \$2.31 per 1,000 gallons for the
8 first 3,000 gallons, \$2.96 per 1,000 gallons for 3,001 gallons to 9,000 gallons, and \$3.61
9 per 1,000 gallons over 9,000 gallons. The first tier rate is approximately 1.55 times what
10 it costs to produce the water (\$2.31 divided by \$1.4830). The second tier rate is
11 approximately 2 times what it costs to produce the water (\$2.96 divided by \$1.4830).
12 The third tier rate is approximately 2.4 times what it costs to produce the water (\$3.61
13 divided by \$1.4830).

14 The Company's proposed commodity rates are \$3.1061 for tier one, \$3.9850 for
15 the tier two, and \$4.8640 for tier three for the 3/4 inch residential meters. The proposed
16 first tier rates are over 2 times the cost to produce the water. The proposed second tier
17 rates are nearly 2.7 times the cost to produce the water while the proposed third tier rate is
18 nearly 3.3 times the cost to produce the water. The proposed first tier, second tier and
19 third tier commodity rates continue to be much greater than the cost to produce the water.

20 **Q. WHAT IS THE IMPACT OF SETTING THE MONTHLY MINIMUMS**
21 **SUBSTANTIALLY BELOW COST?**

22 A. It adds substantial risk. Inverted multi-tiered rates designs as proposed in this case
23 encourage conservation. If conservation is actually achieved, usage will decline and it
24 will cause a substantial shortfall in the revenues the Company collects. That means that it
25 will be impossible to actually achieve the requested return. The Company's proposed

1 design reduces the amount recovered from the monthly minimums which does not help
2 mitigate the revenue instability since the monthly minimums do not cover all of the
3 demand, customer, services, and meter costs (the "fixed" costs in the cost of service).

4
5 **Q. COULD YOU ILLUSTRATE THE ABOVE ANSWER?**

6 A. Yes. Schedule G-9 illustrates what happens when conservation is achieved. On
7 Schedule G-9, page 1, I have constructed the illustration showing the profit or loss from
8 proposed rates that is achieved for the 3/4 inch metered residential customer at
9 increments of 1,000 gallons through 100,000 gallons of monthly usage. The cross over
10 point going from a loss to a profit is between 7,000 and 8,000 gallons.

11 By pricing the monthly minimum below cost and the commodity rate
12 substantially above cost, the Company will under earn if water sales decrease.
13 Conversely, if water sales increase, there is the potential to over earn.

14 Under the Company proposed rate design, the monthly minimum is being
15 subsidized by the commodity rate. In other words, the Company must recover a large
16 amount of fixed costs, through sales of water, which can vary based on weather, or
17 conservation efforts. Any conservation by customers will substantially impact the
18 Company's net income.

19
20 **Q. WHAT HAPPENS WHEN THE MONTHLY MINIMUMS AND COMMODITY**
21 **RATES ARE NOT PRICED AT COST?**

22 A. Two things can happen. If customers don't conserve and usage increases rather than
23 decreases, the Company will over earn. If customers conserve, or just use less water due
24 to more rainfall, the Company will under earn. If usage changes substantially, either up
25 or down, the impacts I just referred to will be magnified.

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Q. BUT EVEN IF THE MONTHLY MINIMUMS AND COMMODITY RATES ARE PRICED AT COST, WOULDN'T THE COMPANY STILL OVER OR UNDER EARN IF CUSTOMERS USE MORE OR LESS WATER?

A. Yes, but to a lesser extent.

Q. WHAT WOULD BE A SINGLE TIERED RATE DESIGN ASSUMING A PORTION OF THE DEMAND, CUSTOMER, SERVICES, AND METER COSTS ARE RECOVERED VIA THE COMMOIDY RATES?

A. On Schedule G-8, page 4A (all customer classes), I set forth a computation of a single tiered rate design which assumes a portion of the demand, customer, services, and meters costs (the "fixed costs") are recovered via the commodity rate. As shown, the 3/4 inch monthly minimum would be \$23.81 and the commodity rate \$3.878. My computation contemplates 45 percent of the demand costs and 45 percent of the customer, services and meters costs are recovered via the commodity rate. The overall revenue recovery from the monthly minimums translates to about 43 percent of total revenues.

As shown on Schedule G-8, page 4B (residential class), the 3/4 inch monthly minimum would be \$23.45 and the commodity rate \$4.117.

As shown on Schedule G-8, page 4C (commercial class), the 3/4 inch monthly minimum would be \$24.53 and the commodity rate \$3.398.

As shown on Schedule G-8, page 4D (irrigation class), the 3/4 inch monthly minimum would be \$28.99 and the commodity rate \$2.774.

As shown on Schedule G-8, page 4E (hydrant class), the 3/4 inch monthly minimum would be \$18.73 and the commodity rate \$6.475.

1 **Q. HOW DO THE SINGLE TIER COMPUTED RATES COMPARE TO THE**
2 **COMPANY'S PROPOSED RATES?**

3 A. Referring to Schedule G-8, page 4A, the computed monthly minimum of \$23.81 is higher
4 than the proposed monthly minimum of \$22.30 for a 3/4 inch metered customer;
5 somewhat below the indicated monthly minimum. The computed commodity rate of
6 \$3.878 is well above the proposed first tier rate of \$3.1061, is approximately 97 percent
7 the proposed second tier rate of \$3.9850, and is approximately 80 percent the third tier
8 rate of \$4.864. In other words, the proposed first and second tier rates are below cost
9 while the proposed third tier rate is above the indicated single tier commodity rate.

10

11 **Q. WHAT IS THE RANGE OF THE RETURNS FOR THE VARIOUS CUSTOMER**
12 **CLASSES AT PRESENT RATES?**

13 A. As shown on Schedule G-1, the returns vary substantially between the customer classes at
14 the present rates. The largest customer class, the residential class, provides the lowest
15 return under the present rates or 3.16 percent. The commercial and irrigation classes are
16 providing much higher returns at 13.21 percent and 20.33 percent, respectively.

17

18 **Q. WHAT ARE THE RETURNS FOR THE CUSTOMER CLASSES AT PROPOSED**
19 **RATES?**

20 A. As shown on Schedule G-2, the returns at proposed rates also vary substantially between
21 the customer classes. The largest customer class, the residential class, continues to
22 provide the lowest return under the present rates at 8.75 percent. This indicates the
23 residential class is not paying its full cost of service. The commercial and irrigation
24 classes continue to provide much higher returns at 16.68 percent and 24.53 percent,
25 respectively. These results indicate that the commercial and irrigation customer classes

1 pay more than their respective cost of service and continue to subsidize the residential
2 class under the Company's proposed rates.

3

4 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY IN THIS CASE?**

5 **A. Yes.**