BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

IN THE MATTER OF THE APPLICATION OF ARIZONA WATER COMPANY, AN ARIZONA CORPORATION, FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR ADJUSTMENTS TO ITS RATES AND CHARGES FOR UTILITY SERVICE FURNISHED BY ITS EASTERN GROUP AND FOR CERTAIN RELATED APPROVALS.	DOCKET NO. W-01445A-11-0310 DECISION NO. 73736 **OPINION AND ORDER**

DATE OF HEARING:	September 19, 2011 (Procedural Conference); May 11, 2012 (Prehearing Conference); May 14, 16, 17, 18, 21, 23, and 24, 2012
PLACE OF HEARING:	Phoenix, Arizona
ADMINISTRATIVE LAW JUDGE:	Sarah N. Harpring
IN ATTENDANCE:	Brenda Burns, Commissioner
APPEARANCES:	Mr. Steven A. Hirsch and Mr. Stanley B. Lutz, Bryan Cave, LLP, and Mr. Robert W. Geake, Vice President and General Counsel, Arizona Water Company, on behalf of Arizona Water Company; Mr. Daniel W. Pozefsky, Chief Counsel, on behalf of the Residential Utility Consumer Office; and Ms. Bridget A. Humphrey, Mr. Wesley C. Van Cleve, and Ms. Kimberly A. Ruht, Staff Attorneys, Legal Division, on behalf of the Utilities Division of the Arizona Corporation Commission.

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BY THE COMMISSION:

DISCUSSION

I. PROCEDURAL HISTORY

On August 5, 2011, Arizona Water Company ("AWC") filed with the Arizona Corporation Commission ("Commission") a permanent rate application for its Eastern Group systems. The rate application uses a 2010 test year ("TY") and requests a permanent rate increase for AWC's Eastern Group systems as well as authorization for a Distribution System Improvement Charge ("DSIC") Mechanism, an Arsenic Cost Recovery Mechanism, and an Off-Site Facilities Fee; authorization to complete consolidation of the Bisbee and Sierra Vista water systems into the Cochise Division;[1] and authorization to consolidate the Oracle and SaddleBrooke Ranch systems into a new Falcon Valley Division.[2] In its application, AWC asserts that the Eastern Group had TY adjusted gross revenues of $19,717,147; adjusted operating income of $3,016,638; an adjusted original cost rate base ("OCRB") of $63,794,726; and a rate of return ("ROR") on OCRB of 4.73 percent. AWC asserts that this ROR is inadequate to enable AWC to service its debt, maintain a sound credit rating, and attract additional capital on reasonable and acceptable terms so as to continue investing in plant to adequately serve its customers. The application requests a revenue increase of $5,268,560, or approximately 25.68 percent over TY total operating revenues. AWC stipulates in its application that the Commission may use its OCRB as its fair value rate base ("FVRB") for the purpose of establishing rates and charges in this matter.

With the application, AWC filed the Direct Testimony of William M. Garfield, AWC's President and Chief Operating Officer; Fredrick K. Schneider, AWC's Vice President of Engineering; Joseph D. Harris, AWC's Vice President and Treasurer; Joel M. Reiker, AWC's Vice President of Rates and Revenues; and Thomas M. Zepp, Ph.D., a consulting economist and Vice President of Utility Resources, Inc.

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[1] This request appears to have been included by AWC in error, as it was not pursued. Mr. Harris's direct testimony clarified that AWC intended only to continue the partial consolidation of Bisbee and Sierra Vista into the Cochise Division by moving the systems' commodity rates closer together. (Ex. A-9 at 11.)

[2] AWC originally requested to include the San Manuel system in the new Falcon Valley Division, but subsequently amended its request to exclude San Manuel and have it remain separate.

On September 6, 2011, the Commission's Utilities Division ("Staff") issued a Letter of Sufficiency stating that AWC's rate application had met the sufficiency requirements of Arizona Administrative Code R14-2-103 and that AWC had been classified as a Class A water utility.

On September 8, 2011, a Procedural Order was issued scheduling a procedural conference to be held on September 19, 2011, at the Commission's offices in Phoenix, Arizona.

On September 14, 2011, the Residential Utility Consumer Office ("RUCO") filed an Application to Intervene and Request to Modify the Procedural Schedule, requesting that RUCO be granted intervention and that the time for the procedural conference be altered slightly to allow counsel for RUCO to appear.

On September 15, 2011, a Procedural Order was issued rescheduling the time for the procedural conference and requiring AWC and Staff to respond at the procedural conference to RUCO's Application to Intervene.

On September 19, 2011, a procedural conference was held at the Commission's offices in Phoenix, Arizona, with AWC, RUCO, and Staff appearing through counsel. At the procedural conference, RUCO was granted intervention without objection, and the scheduling for this matter was discussed and determined.

On September 19, 2011, a Procedural Order was issued scheduling the hearing in this matter to commence on May 14, 2012, at the Commission's offices in Phoenix, Arizona, and establishing other procedural requirements and deadlines.

On October 20 and November 3, 2011, Kathie Wyatt, a commercial and residential AWC customer, filed a Motion to Intervene and an amended Motion to Intervene. No objections to Ms. Wyatt's intervention were filed.

On November 3, 2011, AWC filed a Certificate of Notice stating that notice had been published in the *Bisbee Daily Review* and the *Sierra Vista Herald* on October 4, 2011; in the *Arizona Silver Belt*, *San Carlos Apache Moccasin*, *San Manuel Miner*, *Copper Basin News*, and *Superior Sun* on October 5, 2011; and in the *Apache Junction Independent* on October 12, 2011. AWC further certified that a copy of the notice had been mailed to each AWC customer as a billing insert for the October 3, 2011, billing cycle, for which mailing had been completed on October 28, 2011.

On November 14, 2011, a Procedural Order was issued granting intervention to Ms. Wyatt.

On March 2, 2012, Staff filed a Request for Extension of Time to File Testimony, requesting modified deadlines for all parties' pre-filed testimony, but no change in hearing dates, and asserting that AWC and RUCO had agreed to the changes but that Staff had been unsuccessful in its attempts to reach Ms. Wyatt.

On March 2, 2012, a Procedural Order was issued establishing the modified pre-filed testimony deadlines requested by Staff and making corresponding adjustments to the schedule for the pre-hearing conference and for filing any settlement agreement reached.

On March 13, 2012, RUCO filed the Direct Testimony of William A. Rigsby, Certified Rate of Return Analyst and RUCO's Chief of Accounting and Rates, and Robert B. Mease, RUCO Public Utilities Analyst V, and a Notice of Errata to the Direct Testimony of Mr. Rigsby. Staff filed the Direct Testimony of Jeffrey M. Michlik, Staff Public Utilities Analyst V; Katrin Stukov, Staff Utilities Engineer; John A. Cassidy, Staff Public Utilities Consultant; and D. Bentley Erdwurm, Staff Consultant.

On March 23, 2012, Staff filed a Notice of Errata to the Direct Testimony of Mr. Erdwurm.

On April 10, 2012, AWC filed the Rebuttal Testimony of Mr. Schneider, Mr. Harris, Mr. Reiker, Dr. Zepp, and Pauline M. Ahern, Certified Rate of Return Analyst and Principal of AUS Consultants.

On April 23, 2012, Staff filed a Notice of Settlement Discussions and Request for Modifications to the Procedural Schedule, in which Staff proposed that scheduling modifications, agreed upon by the parties and including separate tracks for settlement and litigation, be approved to accommodate settlement discussions.

On April 24, 2012, AWC filed a Notice of Scheduling of Settlement Conference, stating that a settlement meeting for all parties had been scheduled for April 27, 2012.

On April 25, 2012, a Procedural Order was issued modifying the procedural schedule for this matter by establishing dual tracks—one to be followed in the event that the parties were able to reach a conceptual agreement for settlement by May 7, 2012, and one to be followed in the event that they were not. The Procedural Order also extended the Commission's time frame by 7 days.

On May 7, 2012, Staff filed the Surrebuttal Testimony of Mr. Cassidy, Ms. Stukov, Mr. Michlik, and Mr. Erdwurm, and RUCO filed the Surrebuttal Testimony of Mr. Rigsby and Mr. Mease. Staff and RUCO subsequently filed Notices of Errata.

On May 9, 2012, AWC filed Testimony Summaries for Mr. Garfield, Mr. Reiker, Mr. Harris, Mr. Schneider, Dr. Zepp, and Ms. Ahern.

On May 11, 2012, a prehearing conference was held at the Commission's offices in Phoenix, Arizona, with AWC, RUCO, and Staff appearing through counsel. Ms. Wyatt did not appear. In addition, AWC filed the Rejoinder Testimony of Mr. Schneider, Mr. Harris, Mr. Reiker, Dr. Zepp, and Ms. Ahern, and Staff filed Testimony Summaries for Ms. Stukov, Mr. Michlik, Mr. Cassidy, and Mr. Erdwurm.

On May 14, 2012, RUCO filed Testimony Summaries for Mr. Rigsby and Mr. Mease.

On May 14, 2012, a full evidentiary hearing commenced before a duly authorized Administrative Law Judge of the Commission at the Commission's offices in Phoenix, Arizona. AWC, RUCO, and Staff appeared through counsel, and Ms. Wyatt did not appear. The hearing continued on May 16, 17, 18, 21, 23, and 24, 2012. AWC presented exhibits and the testimony of Mr. Garfield, Mr. Reiker, Mr. Harris, Mr. Schneider, Dr. Zepp, and Ms. Ahern. RUCO presented exhibits and the testimony of Mr. Rigsby and Mr. Mease. Staff presented exhibits and the testimony of Ms. Stukov, Mr. Michlik, Mr. Cassidy, Mr. Erdwurm, and Gordon L. Fox, Staff Public Utilities Analyst Manager. At the conclusion of the hearing, the parties[3] were directed to file final schedules by June 8, 2012; closing briefs by June 26, 2012; and responsive briefs by July 11, 2012.

Final schedules were filed by RUCO on June 4, 2012, and by AWC and Staff on June 8, 2012.[4]

On June 13, 2012, RUCO filed a Motion to File Late Filed Exhibit, requesting admission or judicial notice of Comments of the Regulatory Affairs & Public Advocacy Section of the Alaska Attorney General's Office ("RAPA") that had been filed with the Regulatory Commission of Alaska

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[3] From this point forward, references to "the parties" refer to AWC, RUCO, and Staff, as Ms. Wyatt did not participate in the hearing for this matter.

[4] Official notice is taken of these Final Schedules, which are referenced herein as AWC Fin. Sched., RUCO Fin. Sched., and Staff Fin. Sched.

on May 31, 2012, in a docket for "Consideration of a Plant Replacement Surcharge Mechanism for Water and Wastewater Utilities." RUCO asserted that counsel for AWC had indicated an objection to admission of the document.

On June 15, 2012, AWC filed a Response to RUCO's Motion, opposing admission of RAPA's Comments either as a late-filed exhibit or through judicial notice. Staff did not file a response to RUCO's Motion.

On June 21, 2012, a Procedural Order was issued taking limited official notice of RAPA's Comments[5] and taking official notice without limitation of the statutes and session laws included in the appendix to RAPA's Comments.

AWC, RUCO, and Staff filed initial closing briefs on June 26, 2012, and reply briefs on July 11, 2012.[6]

Public comment was received on the first day of hearing from Greg Patterson, Director of the Water Utility Association of Arizona, and Tom Broderick, Director of Rates for EPCOR Water, both of whom spoke in support of AWC's requested DSIC. No other members of the public provided comment at hearing.

Between October 13, 2011, and February 2, 2012, written comments were received representing five customer accounts, all in opposition to AWC's requested rate increase as excessive and/or unaffordable.

II. BACKGROUND

A. AWC & the Eastern Group Generally

AWC provides water utility service, pursuant to Certificates of Convenience and Necessity ("CC&Ns") granted by the Commission, to approximately 84,300 customers through 19 water systems located in Cochise, Coconino, Gila, Maricopa, Navajo, Pima, Pinal, and Yavapai Counties.

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[5] Official notice was limited in that the assertions made and conclusions drawn in RAPA's Comments were not to be treated as facts established by the evidence in this case, but rather were to be attributed to RAPA, with identification of the area of RAPA's Comments from which each assertion or conclusion was taken.

[6] Official notice is taken of these briefs, which are referred to herein as AWC Br., RUCO Br., Staff Br., AWC Reply Br., RUCO Reply Br., and Staff Reply Br.

(App.[7] at 1.) AWC's water systems are organized into three groups: the Northern Group, the Eastern Group, and the Western Group. (*Id.*)

AWC's Eastern Group includes the following water systems, which are geographically dispersed and located in Maricopa, Pinal, Gila, and Cochise counties: Apache Junction, Superior, and Miami (collectively known as the Superstition Division); Bisbee and Sierra Vista (collectively known as the Cochise Division); and San Manuel, Oracle, SaddleBrooke Ranch, and Winkelman. From an engineering and Arizona Department of Environmental Quality ("ADEQ") perspective, the Eastern Group is comprised of eight physically separate and independent public water systems ("PWSs"): Apache Junction, PWS #11-004; Superior, PWS #11-021; Miami, PWS #04-002; Winkelman, PWS #04-003; San Manuel, PWS #11-020; Oracle/SaddleBrooke, PWS #11-019; Sierra Vista, PWS #02-004; and Bisbee, PWS #02-001. (Ex. S-1 at 1, 6.) Each of these eight systems has its own water production/supply and water treatment, storage, and distribution facilities. (*Id.* at 1.) The Eastern Group covers approximately 266 square miles of territory and has more than 600 miles of water main in service. (Ex. A-28 at FKS-13.)

At the end of the TY, AWC's Eastern Group water systems were serving approximately 33,437 customers, as follows: Superstition Division—23,792; Cochise Division—6,404; San Manuel—1,476; Oracle—1,521; SaddleBrooke Ranch—89; and Winkelman—157. (Ex. A-4 at Sched. H-2.)

Approximately 89 percent of Eastern Group connections are for residential 5/8" x ¾" meters. (Ex. A-4 at Sched. H-2.) Another approximately 5 percent of connections are for residential 1" meters. (*Id.*) Commercial connections comprise approximately 4.82 percent, with approximately half of those being 5/8" x ¾" meters. (*Id.*) The Eastern Group had only 12 industrial connections during the TY, with 9 of them located in the Superstition Division. (*Id.*)

On seven dates in October and November 2011, Ms. Stukov completed site visits for all of the Eastern Group systems. (Ex. S-1 at 6.) Ms. Stukov determined that each system had adequate

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[7] Official notice is taken of AWC's application filed in this case on August 5, 2011. The first portion of the application (as opposed to the schedules and testimony included with the application) was not offered as an Exhibit.

production[8] and storage facilities. (*Id.*)

As of April 2011, ADEQ reported that all eight Eastern Group PWSs were in compliance with ADEQ requirements and delivering water meeting the water quality standards required by Arizona Administrative Code Title 18, Chapter 4. (Ex. S-1 at 33.) All of the Eastern Group systems other than the Apache Junction system and the San Manuel system participate in the ADEQ Monitoring Assistance Program ("MAP"), which is mandatory for community water systems serving fewer than 10,000 persons. (*Id.*) AWC has had a MAP surcharge tariff approved in prior rate cases and reported TY MAP costs of $33,764 and TY MAP surcharge revenues totaling $24,426. (*Id.* at 33.)

As of November 2011, the Arizona Department of Water Resources ("ADWR") reported that all eight Eastern Group PWSs were in compliance with ADWR requirements governing water providers and/or community water systems. (Ex. S-1 at 33.) Only three of the Eastern Group PWSs are in Active Management Areas ("AMAs")—the Apache Junction and Superior systems, which are in the Phoenix AMA, and the Oracle/SaddleBrooke system, which is in the Tucson AMA. (*Id.*)

AWC has proposed to continue using previously approved individual component depreciation rates developed by AWC. (Ex. S-1 at 34.) Staff has recommended that the Commission approve AWC's continuing use of those depreciation rates, shown in Table A to Exhibit S-1. (*Id.*)

AWC has an approved curtailment plan tariff and an approved backflow prevention tariff. (Ex. S-1 at 35.)

For the period from January 1, 2009, through February 8, 2012, the Commission received a total of 61 customer complaints regarding AWC, 17 of which concerned quality of service. (Ex. S-3 at 4.) Staff reported that all of the complaints have been resolved and closed. (*Id.*)

B. Ownership

AWC is a privately held for-profit Arizona corporation and a wholly owned subsidiary of Utility Investment Company, which is a wholly owned subsidiary of United Resources, Inc. (Ex. A-3 at Sched. E-9.) None of these companies is publicly traded, and the shares are ultimately owned

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[8] San Manuel does not have production facilities, as it purchases all of its water from BHP Copper, Inc.'s water system, PWS #11-347. (Ex. S-1 at 6, 21.) During the TY, the Apache Junction system also purchased some of its water supply, from the Central Arizona Project ("CAP"). (*Id.* at 7.)

within a family, although Mr. Garfield stated that he is unaware of the detailed ownership interests. (Tr. at 178-82.) The majority of AWC's board members are shareholders of United Resources, Inc. (Tr. at 182.) AWC's actual TY capital structure was 49.03 percent long-term debt and 50.97 percent equity. (AWC Final Sched. D-1; RUCO Final Sched. WAR-1; Staff Final Sched. JAC-1.)

In 2008, AWC made significant cuts in its operating costs, even laying off employees for the first time in its history. (*See* Tr. at 131-37, 241-43, 255, 731.) Most of these cuts have been sustained during the pendency of this case. (*See* Tr. at 131, 255.)

In spite of AWC's decision to cut operating costs, AWC has consistently continued to pay its shareholders dividends, paying $4,287,600 in 2008, 2009, and 2010. (Ex. A-3 at Sched. E-4.) AWC increased the amount of dividends in 2011, after having held dividends steady for three years. (Tr. at 154-55.) Although dividends are paid quarterly, upon approval by AWC's Board of Directors, AWC has no set policy on establishing dividends. (Tr. at 155.)

Mr. Garfield testified that there is no overlap among AWC's shareholders and the holders of AWC's bonds. (Tr. at 180.)

C. Pertinent Prior Decisions

AWC's current rates for the Eastern Group systems (other than SaddleBrooke Ranch) were established in Decision No. 71845 (August 25, 2010), which was a company-wide rate case ("2010 company-wide rate case").[9] AWC's most recently completed rate case was for the Western Group systems, for which rates were set in Decision No. 73144 (May 1, 2012) ("2012 Western Group rate case"), through Commission adoption of a settlement agreement entered into by all of the parties to the matter.[10] Prior to the 2010 company-wide rate case, AWC's most recent group rate cases had been decided for the Eastern Group in Decision No. 66849 (March 19, 2004) ("2004 Eastern Group rate case"), for the Northern Group in Decision No. 64282 (December 28, 2001) ("2001 Northern Group rate case"), and for the Western Group in Decision No. 68302 (November 14, 2005) ("2005

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[9] Official notice is taken of Decision No. 71845 (August 25, 2010). The rates in Decision No. 71845 were set using a 2007 TY. SaddleBrooke Ranch's current rates were established in Decision No. 62754 (July 25, 2000), the decision in which AWC received a CC&N for the SaddleBrooke Ranch development. Official notice is taken of Decision No. 62754.

[10] Official notice is taken of Decision No. 73144 (May 1, 2012).

Western Group rate case").[11]

In Decision No. 66400 (October 14, 2003),[12] AWC was granted authority to implement an Arsenic Cost Recovery Mechanism ("ACRM") due to AWC's facing approximately $30 million in capital costs to bring its systems into compliance with the newly lowered Environmental Protection Agency ("EPA") maximum contaminant level ("MCL") for arsenic. (Decision No. 66400 at 4-5.) As the Decision was issued in Phase 2 of the 2001 Northern Group rate case, the ACRM was limited to the affected Northern Group systems of Sedona and Rimrock. (*Id.* at 21.)

In the 2004 Eastern Group rate case, the Commission approved an ACRM for the Apache Junction, Superior, and San Manuel systems within AWC's Eastern Group. AWC was subsequently authorized to implement ACRM surcharges in its Superstition Division (for Apache Junction and Superior) through Decision No. 70169 (February 27, 2008) and in its San Manuel system through Decision No. 70191 (March 10, 2008).[13] In the 2010 company-wide rate case, the Commission discontinued the existing ACRM surcharges because of the new rates set, but approved a new ACRM for the Superstition Division and required AWC to file a new application for each step of the ACRM surcharge consistent with the process outlined in Decision No. 66400.

In the 2010 company-wide rate case, the Commission also approved full consolidation of the Miami system into the Superstition Division and partial consolidation[14] of the Bisbee and Sierra Vista systems (into the Cochise Division). The Commission further ordered AWC to prepare a study outlining consolidation proposals for its remaining systems (to include a full system-wide single-tariff consolidation option) and to file the study with the Commission by June 30, 2011, or no later than three months before AWC's next rate case application. The Commission also ordered AWC to use the information from the consolidation study to inform AWC's future rate case proposals. AWC filed the consolidation study in the docket for the 2010 company-wide rate case on September 30, 2010.

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[11] Official notice is taken of Decision No. 66849 (March 19, 2004), Decision No. 64282 (December 28, 2001), and Decision No. 68302 (November 14, 2005).

[12] Official notice is taken of Decision No. 66400 (October 14, 2003).

[13] Official notice is taken of Decision No. 70169 (February 27, 2008) and Decision No. 70191 (March 10, 2008).

[14] Monthly minimum charges were to be the same, while commodity rates would remain different.

In the 2010 company-wide rate case, the Commission also ordered AWC to prepare a study on DSICs designed to implement leak detection devices and make conservation-based repairs to infrastructure, which study was to detail costs and rate impacts and consider how to balance costs and benefits for customers. AWC was ordered to file a report on the study in the docket for the 2010 company-wide rate case by June 30, 2011. AWC was further ordered to use the information from the study to inform AWC's proposals in its future rate cases. AWC filed an initial DSIC study in the 2010 company-wide rate case docket on June 29, 2011, after having filed the DSIC study in the docket for the 2012 Western Group rate case.[15]

In the 2010 company-wide rate case, AWC was also ordered to submit for Commission consideration, within 120 days after the effective date of that Decision, a prescribed number of Best Management Practices ("BMPs"), as outlined in ADWR's Modified Non-Per Capita Conservation Program, for each AWC system or consolidated system. For the Eastern Group systems, the requirements were as follows: Superstition, 10 BMPs; Bisbee, Sierra Vista, San Manuel, Oracle, and Miami, 5 BMPs each; and Winkelman, 5 BMPs. The Decision specified that where systems were consolidated, AWC was to apply the higher BMP submission for the consolidated system. The Decision also authorized AWC to request cost recovery of actual costs associated with the BMPs implemented in its next rate case. AWC submitted proposed BMPs as required by the Decision. (Ex. S-1 at 36.) As of the hearing in this matter, AWC was still working with Staff to finalize a set of BMP tariffs. (Tr. at 190-91.)

In the 2012 Western Group rate case, the Commission approved a settlement agreement authorizing a rate of return of 8.44 percent for the Western Group systems and an overall 17.30 percent increase in revenue for the Western Group. (Decision No. 73144 at 39-42.) The Decision also authorized AWC to extend its ACRM for the Western Group; to consolidate its Stanfield system fully into the Pinal Valley system; to continue its Central Arizona Project ("CAP") hook-up fees and rename them CAP M&I fees;[16] to collect off-site facilities fees; to defer and record its costs associated with implementing and performing BMPs, for recovery in a future rate case; and to accrue

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[15] The Western Group rate case was in Docket No. W-01445A-10-0517.

[16] "M&I" stands for Municipal and Industrial.

allowance for funds used during construction ("AFUDC") on land purchased for a water storage tank and booster pump station. (*Id.* at 31-32.) The Decision also ordered AWC to file its next Western Group system rate case using data from an actual 12 months of experience. (*Id.* at 34.) Although AWC had initially requested approval of a DSIC for the Western Group, AWC withdrew that request in the 2012 Western Group rate case. (*Id.* at 31.)

D. The Eastern Group Systems

1. The Superstition Division (Apache Junction, Superior, Miami)

The Superstition Division includes the Apache Junction, Superior, and Miami systems.

Apache Junction

The Apache Junction system serves the Apache Junction area and is located primarily in Pinal County, but also includes two smaller areas just over the northwestern border of Pinal County and within Maricopa County. (Ex. S-1 at 3, 7.) The system has eight active wells; two arsenic treatment plants (treating the water from all eight wells in two separate groups); 13 storage tanks; pumping facilities; and a distribution system serving approximately 19,539 connections during the TY. (*Id.* at 7, 9.)

AWC has a CAP water allocation of 6,285 acre-feet per year to supplement the water supply for the Apache Junction system and until April 2010 was having CAP water treated and delivered by the City of Mesa pursuant to an agreement. (*Id.*) Mesa has since disputed the agreement and ceased treating and delivering the CAP water to the Eastern Group. (*Id.*) In December 2011, AWC finished expanding the treatment capacity of its Oasis Arsenic Removal Facility from 3.5 million gallons per day ("MGD") (2,500 gallons per minute ("GPM")) to 7.7 million gallons per day (5,350 GPM). (*Id.*)

For the TY, Apache Junction reported 2,455,794,000 gallons obtained from all sources, 2,270,400,900 gallons sold, and 6,688,000 gallons of authorized non-revenue uses, which results in a 7.3 percent water loss. (*Id.* at 10.) This level of water loss is within acceptable limits.

Superior

The Superior system serves the Town of Superior in Pinal County and abuts the Apache Junction system (to the west) and the U.S. 60 and AZ 177 (to the east). (Ex. S-1 at 3, 11.) The Superior system has three active wells, an arsenic treatment plant (treating water from all three

wells), three storage tanks, pumping facilities, and a distribution system serving approximately 1,270 connections during the TY. (Ex. S-1 at 11.) After treatment, the water is piped approximately 26 miles, through approximately 40-year-old 12" steel transmission line to the Town of Superior. (*Id.*; Tr. at 60-61.)

For the TY, Superior reported 140,925,000 gallons pumped, 124,196,200 gallons sold, and 2,267,000 gallons of authorized non-revenue uses, which results in a 9.97 percent water loss. (*Id.* at 13.) Staff determined this level of water loss to be within acceptable limits.[17] (*Id.*)

Miami

The Miami system serves the Miami area in Gila County, near the border with Pinal County, and in the proximity of the U.S. 60 and AZ 188. (Ex. S-1 at 3, 14.) The Miami system has 13 active wells, 12 storage tanks, pumping facilities, and a distribution system serving approximately 3,022 connections during the TY. (*Id.* at 14, 15.) Although it does not have an arsenic treatment plant, the Miami system has one well with elevated arsenic levels, for which it meets the arsenic MCL by blending its water with that of two other wells. (*Id.*) The Miami system also has an emergency interconnection with the City of Globe's water system. (*Id.*)

For the TY, Miami reported 304,361,300 gallons pumped, 267,219,600 gallons sold, and 2,013,700 gallons of authorized non-revenue uses, which results in an 11.6 percent water loss. (*Id.* at 16.) This level of water loss exceeds acceptable limits.

2. The Cochise Division (Sierra Vista, Bisbee)

The Cochise Division is located in Cochise County and includes the Sierra Vista and Bisbee systems.

Sierra Vista

Sierra Vista serves the Sierra Vista area in Cochise County and is located in two physically separated areas along AZ 90 and AZ 92 where the two highways intersect, approximately 20 miles northwest of Bisbee. (Ex. S-1 at 5.) The Sierra Vista system has eight active wells, six storage tanks, pumping facilities, and a distribution system serving approximately 2,985 connections during the TY.

[17] We note that rounding to only one decimal place, as was done for the other systems, would have resulted in water loss of 10 percent.

(*Id.* at 27, 28.)

For the TY, Sierra Vista reported 399,535,200 gallons pumped, 376,076,500 gallons sold, and 523,100 gallons of authorized non-revenue uses, which results in a 5.7 percent water loss. (*Id.* at 29.) This level of water loss is within acceptable limits.

Bisbee

The Bisbee system serves the Bisbee area in Cochise County. (Ex. S-1 at 5, 30.) The Bisbee system's westernmost point is approximately 20.25 miles southeast of the southeastern border of the larger portion of the Sierra Vista system. (Ex. S-1 at 5.) The Bisbee system has four active wells, nine storage tanks, pumping facilities, and a distribution system serving approximately 3,429 connections during the TY. (*Id.* at 30, 31.)

For the TY, Bisbee reported 344,857,400 gallons pumped, 290,368,600 gallons sold, and 667,600 gallons of authorized non-revenue uses, which results in a 15.6 percent water loss. (*Id.* at 32.) This level of water loss exceeds acceptable limits.

3. San Manuel

The San Manuel system serves the San Manuel area, in the southeastern corner of Pinal County. (Ex. S-1 at 2, 4, 21.) The San Manuel system is located approximately five miles east of the easternmost border of the Oracle system. (*Id.* at 4.) The San Manuel system has no wells and purchases all of its water from a Public Water System owned by BHP Copper, Inc. (*Id.* at 21.) The San Manuel system treats all of the purchased water for arsenic before distributing it to customers. (*Id.*) The San Manuel system has an arsenic treatment plant, two storage tanks, pumping facilities, and a distribution system serving approximately 1,464 connections during the TY. (*Id.*)

For the TY, San Manuel reported 153,658,000 gallons purchased, 142,963,000 gallons sold, and 1,220,000 gallons of authorized non-revenue uses, which results in a 6.2 percent water loss. (*Id.* at 22.) This level of water loss is within acceptable limits. (*See id.*)

4. Oracle and SaddleBrooke Ranch

Oracle and SaddleBrooke Ranch are interconnected portions of the same Public Water System, for purposes of ADEQ and engineering. (Ex. S-1 at 24.) Oracle/SaddleBrooke Ranch is located in Pinal County, along AZ 77, in the vicinity of its intersection with AZ 79, and serves the

Oracle area in Pinal County through a 13-mile transmission line from the system's well field. (*Id.* at 4, 24.) The SaddleBrooke Ranch system area is located on the northern border of the western half of the Oracle system area. (*Id.* at 4, 24.)

The Oracle/SaddleBrooke Ranch system has five active wells,[18] nine storage tanks, pumping facilities, and a distribution system serving approximately 1,630 connections during the TY. (*Id.* at 24.)

For the TY, Oracle/SaddleBrooke Ranch reported 150,594,000 gallons pumped, 131,010,600 gallons sold, and 571,900 gallons of authorized non-revenue uses, which results in a 12.6 percent water loss. (*Id.* at 25.) This level of water loss exceeds acceptable limits.

When AWC received the CC&N for SaddleBrooke Ranch, SaddleBrooke Ranch was a proposed 2,500-acre planned residential community, expected to have 6,200 residential units and some light commercial uses and for which construction had not yet commenced.[19] Although a portion of the SaddleBrooke Ranch service area had already been certificated as the Oracle service area, AWC sought overlapping CC&N authorization because SaddleBrooke Ranch was intended at that time to have separate wells and a separate rate structure and not to be interconnected with the Oracle system. (Dec. No. 62754 at 2.) Robson, the developer for SaddleBrooke Ranch, originally requested that SaddleBrooke Ranch be a separate system, but subsequently agreed to have the system combined with AWC's existing Oracle system. (Tr. at 188-89.) Because AWC did not begin providing service to its first permanent residential SaddleBrooke Ranch customer until late September 2008,[20] AWC did not include SaddleBrooke Ranch in the 2010 company-wide rate case (which used a 2007 TY). (*See* Tr. at 59.)

5. Winkelman

The Winkelman system is located in Winkelman in Pinal County, near the southernmost point of Gila County. (Ex. S-1 at 2, 18.) The Winkelman system has two active wells, two storage tanks,

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[18] Two of the wells are located in the SaddleBrooke Ranch area. (Ex. S-1 at 24.)

[19] The current rates for SaddleBrooke Ranch were established in the CC&N Decision and differ from those in the rest of the Eastern Group in that there is a flat commodity rate for all usage. (*See* Dec. No. 62754 at 3, 5.)

[20] Official notice is taken of AWC's Notice of Compliance Item filing of October 2, 2008, in Docket No. W-01445A-00-0017, the docket for Decision No. 62754, in which AWC provided notice that service to the first permanent residential customer in SaddleBrooke Ranch had commenced on September 25, 2008.

pumping facilities, and a distribution system serving approximately 157 connections during the TY. (*Id.* at 18.)

For the TY, Winkelman reported 33,352,000 gallons pumped, 31,553,400 gallons sold, and 184,500 gallons of authorized non-revenue uses, which results in a 4.8 percent water loss. (*Id.* at 19.) This level of water loss is within acceptable limits.

III. RATE BASE ISSUES

AWC has requested to use its OCRB as its FVRB for the purpose of establishing rates in this case. (Ex. A-2 at 7.) The parties' final positions[21] on the OCRB/FVRB for the Eastern Group and its Divisions and systems are as follows:

OCRB/FVRB

	AWC	RUCO	Staff
Superstition (AJ, Superior, Miami)	$50,432,117	$49,960,832	$50,167,845
Cochise (Bisbee, Sierra Vista)	$8,425,690	$8,365,892	$8,373,560
San Manuel	$2,014,751	$2,011,030	$2,028,649
Oracle	$2,497,996	$2,474,988	$2,482,021
SaddleBrooke Ranch	($116,014)	($114,891)	($114,868)
Winkelman	$306,390	$304,040	$304,529
Eastern Group Total	$63,560,930	$63,001,891	$63,241,736

During the pendency of this matter, AWC accepted various adjustments[22] affecting its OCRB, for a net reduction in its proposed OCRB/FVRB of $233,795. (Tr. at 214-15.) The difference between the parties' final OCRB/FVRB figures is attributable to two outstanding issues: (1) whether Miami Well No. 17 should be disallowed from Utility Plant in Service ("UPIS") because it was out of service during the TY, and (2) whether cost of equity should be included in the lead/lag study calculation of cash working capital. Those issues are discussed below.

A. Utility Plant in Service—Superstition, Miami Well No. 17

1. AWC

Miami Well No. 17 was originally placed into service in 1976 and was taken out of service in August 2008 because its pump and motor had failed. (Tr. at 469-70.) Although AWC originally intended to return Well No. 17 to service early in 2009, its return to service was delayed due to

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[21] AWC Final Sched. B-1; RUCO Final Sched. RBM-2; Staff Final Sched. JMM-3.

[22] These included the capitalization of water testing expenses as proposed by Staff, the true-up of post-TY plant to actual figures as proposed by RUCO, and the updating of AWC's working cash requirement to reflect its rebuttal levels for expense and cost figures.

"numerous well and pump failures" in the Miami system during the period of 2009 through 2011, all of which AWC considered to be higher priority than Well No. 17 because of the affected wells' greater water production capacity. (*Id.* at 469.) AWC asserted that while Well No. 17 was out of service, the capacity of Well No. 28 was increased to make up some of the demand, and other well replacements were made as quickly as possible to ensure that downtime for other wells was minimized. (*Id.* at 470.) The pump for Well No. 17 was replaced in 2012, and the well was placed back into service on March 22, 2012. (*Id.* at 469-70.) The total cost to bring Well No. 17 back into service was approximately $50,000.[23] (*Id.* at 470.) AWC asserts that Well No. 17 is now used and useful and that AWC does not currently intend to retire it. (*Id.* at 470, 299.) AWC is asking that Well No. 17 be included in its OCRB/FVRB, but is not requesting to have the $50,000 return-to-service cost included in rate base. (*Id.* at 470.) AWC agrees that it would be "well outside of a typical post-test-year plant addition" if AWC were requesting to include the $50,000 in capital improvements. (*Id.* at 544.) Mr. Reiker testified that because AWC will not be retiring the well, Staff's recommended treatment of Well No. 17 would result in inconsistencies between AWC's regulatory books and accounting books, a situation that AWC desires to avoid. (Tr. at 299-300.)

2. RUCO

RUCO does not oppose AWC's proposed treatment of Well No. 17. (Ex. R-9 at 15.)

3. Staff

Staff opposes AWC's proposed treatment of Well No. 17, asserting that the well should be excluded from UPIS because it was out of service during the entire TY and thus was not used and useful. (Tr. at 1184.) Staff characterized its recommended treatment of Well No. 17 as "favorable" because Staff treated it as though it had been retired (by removing the total UPIS amount and also removing all associated accumulated depreciation for the well), resulting in "a wash on the rate base side."[24] (*Id.*) Staff pointed out that it would have been less favorable to AWC if Staff had removed the entire UPIS value and then removed only a portion of the accumulated depreciation, up until the

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[23] This was attributed to repair, cleaning, brushing, bailing, and preparation costs. (Tr. at 470.)

[24] Staff's final schedules for the Superstition Division show that a total of $46,890 was deducted from the plant categories Wells, Pumping Plant Structures, and Electric Pumping Equipment, and that an equivalent amount of accumulated depreciation was removed. (Final Sched. JMM-5.)

end of the TY, which would be Staff's more typical treatment of disallowed post-TY plant. (*Id.*) Staff described its recommended adjustment as "nominal," and explained that it was done to be consistent with Staff's policy and practice of taking out of UPIS those plant items that have been determined not to be used and useful by Staff's engineers. (Tr. at 1185-86.) Mr. Michlik characterized AWC's position as "requesting the best of both worlds" by taking plant items out of service after the TY without a pro forma reduction to rate base while asking for a pro forma increase in rate base for post-TY plant. (Ex. S-4 at 9.) In its Initial Brief, Staff supported its position with the following excerpt from Decision No. 71845, which references a proposed definition for "useful" plant:

> We do not believe that such a definition is appropriate for determining the Company's rate base in this proceeding. Rather, we find that the commonly understood definition of plant that may be included in OCRB is one that requires such plant to be both used *and* useful during the test year for the provision of service to customers. To conclude otherwise could result in rates that are not just and reasonable, as required by the Arizona Constitution, because captive utility customers would be forced to pay rates that included plant that is not being used to serve them but which plant could be placed back into service at some as yet uncertain point in time, and entirely at the discretion of the Company. Nor is existence of a "plan" for future use sufficient to overcome the underlying defect in AWC's position because, as pointed out above, the decisions of when, or even if, plant will be returned to service remains entirely within the Company's discretion.[25]

Mr. Michlik asserted that if Well No. 17 were included in UPIS for the TY, then any plant retired or taken out of service since the TY should also be excluded from rate base, as a matter of fairness.[26] (Tr. at 1187.) Staff did not change its recommendation, however, which was to disallow Well No. 17 and exclude all of its accumulated depreciation.[27] (*See* Staff Init. Br. at 13-15; Final Sched. JMM-5.)

4. Conclusion

It is undisputed that Well No. 17 was not in service during the TY and that it is now back in service and has been since March 2012, approximately 15 months after the conclusion of the TY.

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[25] Decision No. 71845 at 15. Staff included this excerpt at page 14 of its Initial Brief.

[26] Staff provided an AWC data response showing that between January 1, 2011, and April 30, 2012, AWC had taken $770,981.71 in plant out of service from the Eastern Group, none of which had been returned to service, with accumulated depreciation of $349,646.83, for a net reduction in UPIS of $421,334.88. (Ex. S-15.)

[27] Staff's rate base adjustment no. 1, which included both Well No. 8 and Well No. 17, removed $46,890 from UPIS and from accumulated depreciation. (*See* Staff Final Sched. JMM-5.)

Well No. 17 was not used and useful during the TY, although it is used and useful now. Because Well No. 17 was never actually retired, just temporarily out of service, treating Well No. 17 as though it has been retired does not seem appropriate. Nor does it seem appropriate to remove Well No. 17 from UPIS and then remove only that portion of accumulated depreciation up to the end of the TY.

Rather, we find that it is appropriate to allow Well No. 17 to remain in UPIS and to maintain its accumulated depreciation, as Well No. 17 is used and useful, and there has been no suggestion that Well No. 17 results in excess capacity. We also note that the quoted excerpt from the company-wide rate case, provided above, was dealing not with plant that had been taken out of service temporarily, but with "plant held for future use" that had "at best, estimated completion dates . . . several years past the end of the test year[,] . . . anticipated in-service dates . . . up to five years past the test year; . . . [or] completion dates . . . contingent upon entirely subjective future events, such as . . . 'improvement' in the Company's earnings and/or the housing market." (*See* Decision No. 71845 at 12-13.) In the instant case, there is no question that Well No. 17 is currently in service, is used and useful, and was in service and used and useful before the hearing in this matter. Under the circumstances, we find that including Well No. 17 in UPIS and OCRB/FVRB is a reasonable and appropriate known and measurable adjustment to the TY.

B. Cash Working Capital—Inclusion of Cost of Equity, Dividends, Interest

The other item of dispute as to rate base concerns whether cost of equity, cost of debt, and/or dividends should be included when calculating cash working capital using a lead/lag study. A lead/lag study examines the time lag between services rendered and the receipt of revenues for the services as well as the time lag between the recording of costs and the payment of such costs. (Ex. A-2 at 8.) Each party completed a lead/lag study to calculate cash working capital, using the same general formula to calculate each expense category's working cash requirement, and then combining them. The differences arise primarily[28] from what the parties included below the line, after calculating the combined working cash requirements. The parties' cash working capital proposals are

[28] Minor differences also result from differences in parties' adjusted operating expense figures.

as follows:

Proposed Cash Working Capital[29]

	AWC	RUCO	Staff
Superstition (AJ, Superior, Miami)	$112,550	($358,891)	($151,878)
Cochise (Bisbee, Sierra Vista)	$51,282	($8,519)	($887)
San Manuel	$8,906	$5,176	$22,793
Oracle	$12,198	($10,810)	($3,788)
SaddleBrooke Ranch	($574)	$558	$559
Winkelman	($648)	($2,988)	($2,511)
Eastern Group Total	$183,714	($375,474)	($135,712)

1. AWC

AWC's position is that if interest expense is factored into cash working capital, cost of equity should be factored in as well, because the cost of equity is as much a cost of providing service as is the cost of debt. (*See* Ex. A-4 at 9; Tr. at 309-11; AWC Final Sched. B-5.) Mr. Reiker testified that for consistency, because the entire amount of operating income (both debt and equity) finances a utility's rate base, it is important that both the lag on interest expense payments and the equity return be included in the working capital calculation. (Tr. at 227-28, 309-11; Ex. A-4 at 10.) According to Mr. Reiker, including only the debt component reduces the revenue requirement, and including only the equity component increases the revenue requirement, so either both or neither should be included in the calculation. (Tr. at 308, 309-11.) Mr. Reiker also testified that inclusion of only debt in determining cash working capital with the lead/lag study works to penalize AWC for maintaining a balanced capital structure. (Ex. A-4 at 10.) Mr. Reiker acknowledged that the Commission has never allowed the cost of equity to be included in the calculation of cash working capital, that the Commission specifically denied AWC's request to include the cost of equity in the 2010 company-wide rate case, and that AWC agreed in the 2010 company-wide rate case to have dividends but not cost of equity included in the calculation, but stated that AWC's agreement to do so was "a terrible mistake on our part." (Tr. at 227-28, 329, 351-53.) AWC now asserts that dividends should not be factored into the lead/lag study to determine cash working capital. (*See* AWC Final Sched. B-5.) Mr. Reiker testified that AWC rejected RUCO's inclusion of only interest and dividends for the same

[29] AWC Final Sched. B-5 App.; RUCO Final Sched. RBM-6(1); Staff Final Sched. JMM-7.

reasons that Staff's proposal was rejected. (Ex. A-4 at 11-12.)

2. RUCO

RUCO's position is that interest expense and dividends paid should both be factored into cash working capital, but that cost of equity should not. (*See* RUCO Final Sched. RBM-6(1).) Mr. Mease explained that he does not agree with AWC's underlying premise that shareholders earn a return on their investments each day that AWC is earning a return, stating that the shareholders do not actually earn the return until they receive it, either through payment of dividends or sale of stock. (Tr. at 649.) Mr. Mease also pointed out that the Commission has not previously allowed cost of equity to be factored into cash working capital. (*Id.* at 650-51.) As to RUCO's inclusion of dividends, Mr. Mease asserted that AWC's consistently paying dividends every quarter for years has resulted in what is basically an implied contractual obligation to do so. (*Id.* at 651-52.) Mr. Mease added that he believes the Commission excluded dividends in the 2010 company-wide rate case because the Commission thought that their inclusion would burden ratepayers, but that this is not true because the cash is received up front, and the dividends are not paid until the end of the quarter, which benefits ratepayers. (Tr. at 653-54.) Mr. Mease asserted that AWC and its customers benefit from the time between the receipt of revenue and the payment of dividends, approximately 60 days later, due to the increased cash flow that AWC can use without collecting additional money from ratepayers. (Tr. at 718-19.) Mr. Mease also acknowledged, however, that the Commission has previously rejected RUCO's position that dividends should be included in the calculation of cash working capital. (*Id.* at 705.)

3. Staff

Staff's position is that interest expense should be factored into AWC's cash working capital requirement, but that cost of equity and dividends should not. (*See* Staff Final Sched. JMM-7.) Mr. Michlik testified that AWC's position assumes that funds become the property of common shareholders at the time service is provided and are effectively reinvested in the company until paid out to shareholders as common dividends, without regard to the fact that shareholders actually receive cash through quarterly dividends or the sale of stock, both of which involve delay. (*See* Ex. S-3 at 14.) Staff asserted that the cost of equity is not a normal or appropriate component for inclusion in a

lead/lag study and that it should not be included in a lead/lag study because dividends are paid at the discretion of AWC's Board of Directors, rather than through an arm's length contractual obligation, and because the cost-of-equity component of a lead/lag study thus can be manipulated by AWC's changing the timing and amount of dividends or whether dividends are paid at all. (*Id.*; Staff Init. Br. at 15; Staff Reply Br. at 6.) Staff also pointed out that in the 2010 company-wide rate case, the Commission rejected AWC's attempt to have cost of equity included in working capital, referencing the mandatory and contractual nature of debt payments and the discretionary nature of dividend payments. (Ex. S-3 at 14-15 (citing Decision No. 71845 at 23).)

4. Conclusion

The Commission stated in the 2010 company-wide rate case that AWC could choose not to pay dividends to its shareholders or could choose to reduce the dividends paid to its shareholders. Such a choice would not have the same legal and other repercussions that would a choice not to pay debt service. To put it simply, AWC does not have a legal obligation to pay dividends to its shareholders every quarter of every year, as much as it may believe or assert that it has no choice in the matter. Because of this fundamental difference between the legal nature of cost of equity-related and cost of debt-related obligations, we find that it is reasonable and appropriate to exclude cost of equity from the calculation of cash working capital, as Staff has asserted. Likewise, we agree with Staff and find that it is reasonable and appropriate to exclude dividends from the calculation of cash working capital. We note that this is consistent with the position taken by the parties in the settlement agreement approved for the Western Group in Decision No. 73144 (May 1, 2012).[30]

C. Fair Value Rate Base Summary

As stated previously, AWC has requested to have its OCRB used as its FVRB for the purpose of establishing rates for the Eastern Group in this matter. Based on the discussion of rate base issues set forth above, we find that the TY FVRB for each of the Eastern Group Divisions and systems was as follows:

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[30] Decision No. 73144 at Ex. B at Sched. B-5 App.

Superstition	Cochise	San Manuel	Oracle	SaddleBrooke Ranch	Winkelman
$50,174,504	$8,377,277	$2,029,061	$2,483,094	($114,727)	$304,702

IV. OPERATING INCOME/LOSSES

The parties' final positions[31] concerning AWC's TY operating income/losses for the Eastern Group Divisions and systems were as follows:

	AWC	RUCO	Staff
Superstition (AJ, Superior, Miami)			
Adjusted TY Revenues	$15,056,166	$15,056,166	$15,056,166
Adjusted TY Expenses	$12,521,578	$12,276,536	$12,200,109
Adjusted Operating Income/Loss	$2,534,589	$2,779,630	$2,856,057
Cochise (Bisbee, Sierra Vista)			
Adjusted TY Revenues	$3,303,549	$3,303,548	$3,303,549
Adjusted TY Expenses	$2,911,495	$2,838,508	$2,830,394
Adjusted Operating Income/Loss	$392,054	$465,040	$473,155
San Manuel			
Adjusted TY Revenues	$947,528	$947,528	$947,528
Adjusted TY Expenses	$918,298	$906,840	$904,624
Adjusted Operating Income/Loss	$29,230	$40,688	$42,904
Oracle			
Adjusted TY Revenues	$990,109	$990,111	$990,109
Adjusted TY Expenses	$826,530	$805,761	$803,428
Adjusted Operating Income/Loss	$163,579	$184,350	$186,681
SaddleBrooke Ranch			
Adjusted TY Revenues	$117,103	$117,102	$117,103
Adjusted TY Expenses	$194,302	$196,427	$193,737
Adjusted Operating Income/Loss	($77,200)	($79,325)	($76,634)
Winkelman			
Adjusted TY Revenues	$102,098	$102,099	$102,098
Adjusted TY Expenses	$91,315	$87,714	$87,175
Adjusted Operating Income/Loss	$10,784	$14,385	$14,923
Total Eastern Group			
Adjusted TY Revenues	$20,516,553	$20,516,554	$20,516,553
Adjusted TY Expenses	$17,463,518	$17,111,786	$17,019,467
Adjusted Operating Income/Loss	$3,053,036	$3,404,768	$3,497,086

[31] AWC Final Scheds. A-1, C-1; RUCO Final Scheds. RBM-1, RBM-7; Staff Final Scheds. JMM-1, JMM-8.

A. TY Operating Revenues

The parties do not dispute the TY operating revenues for the Eastern Group Divisions and systems. We find that the TY operating revenues for the Eastern Group Divisions and systems were as set forth above.

B. TY Operating Expenses

The parties' proposals for the Eastern Group systems' adjusted TY expenses are set forth above. The parties' positions reflect agreements reached as to unbilled expense accruals for all systems, water testing expenses for San Manuel, BMP expenses for Superstition, miscellaneous expenses for all systems, and updated purchased water expenses for San Manuel. (*See* AWC Final Sched. C-2 and C-2 App.; RUCO Final Sched. RBM-8; Staff Final Sched. JMM-9; Tr. at 215.)

Staff disagrees with AWC's adjusted pumping and transmission and distribution ("PT&D") maintenance expenses, fleet fuel expenses, and rate case expenses and with AWC's adjusted depreciation expenses for the Superstition Division and the SaddleBrooke Ranch system. RUCO disagrees with AWC's PT&D maintenance expenses and rate case expenses. Each of these areas of disagreement is described below.

1. PT&D Maintenance Expenses

AWC

AWC proposes a pro forma adjustment to increase its PT&D maintenance expenses in the cumulative amount of $548,218 to "reflect a normalized level" of PT&D maintenance expenses.[32] (Ex. A-2 at 16.) Mr. Reiker testified that TY PT&D maintenance expenses were "abnormally low and not representative of the level of costs that would be prudently incurred during normal economic and business conditions (which include a proactive approach to reducing water loss)" because of the cost-cutting measures taken by AWC, starting in 2008, in response to the recession.[33] (*Id.*) Mr. Reiker testified that AWC's pumping maintenance expenses were reduced by 28 percent and its T&D maintenance expenses by 23 percent from 2007 levels. (*Id.*) Mr. Reiker also testified that one

[32] AWC adjusted "pumping expenses, other" by $21,171 and T&D expenses by $527,047. (Ex. A-3 at Sched. C-2.)

[33] Mr. Schneider testified that some of the activities affected by the reductions in T&D maintenance expenses were valve exercising, painting, and hydrant flushing. (Tr. at 589-91.)

consequence of the cost-cutting was a reduction in AWC's ability proactively to address and remedy water loss on its systems. (*Id.*) Mr. Reiker calculated the requested $548,218 adjustment using a "statistical methodology of least-squares trend fitting" that incorporated both historical data and projected future data. (*Id.* at 16-17.) To support the adjustment, he provided charts and back-up data showing that AWC's T&D maintenance costs per customer had increased from $4.64 in 1966 to a high of $40.64 in 2007 before declining to $31.41 in 2010.[34] (Ex. A-6; Ex. A-38; Ex. A-4 at 17.) A trendline for the 1966 to 2010 data, generated using regression analysis, shows that the "normalized" level of TY T&D maintenance expenses would have been approximately $37.50 and that there was a TY shortfall. (*See* Ex. A-6; Tr. at 314-15.) Mr. Reiker asserted that the regression analysis for this longer period is more accurate than a regression analysis for just the most recent years because the recent years had artificially low and inadequate T&D expenses and thus show a sharp decline in cost per customer, whereas the longer regression analysis more accurately shows that the T&D expenses have been trending upward since at least 1966. (Tr. at 289-94, 315-16.) Mr. Reiker further testified that "the consensus [is] that water utilities operate in a rising-cost industry," which he asserted is consistent with the charts and back-up data provided. (*See* Ex. A-4 at 17.) Mr. Reiker also testified that analyses performed using different and shorter time periods consistently produced results showing positive and statistically significant coefficients indicating a long-term increasing trend in T&D costs. (See Tr. at 259-63.)

Mr. Reiker testified that the cost-cutting measures were still in place as of the hearing in this matter and will continue until AWC begins collecting its cost of service. (Tr. at 255.) In response to suggestions that AWC could have cut dividends instead of T&D maintenance expenses, AWC argued that such cuts could have negative financial effects more significant than the short-term recession-related cost-cutting efforts made by AWC. (*See* Ex. A-4 at 19-20; AWC Reply Br. at 19.) AWC also cautioned that adopting Staff's recommended level of T&D maintenance expenses would result in rates set below the cost of service, which would ultimately result in rate shock. (Ex. A-4 at 20.)

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[34] The charts and back-up data do not include pumping expense data, only T&D maintenance expense data, and include company-wide data rather than data for only the Eastern Group. (*See* Ex. A-6; Ex. A-38; Ex. A-4 at 17.)

RUCO

Although RUCO initially proposed a normalization adjustment for PT&D maintenance expenses using three years of historical data, RUCO now recommends that the Commission disapprove AWC's requested normalization adjustment. (Ex. R-9 at 7, 20.) Mr. Mease testified that the PT&D expense adjustment is not justified by Mr. Reiker's regression analysis, which Mr. Mease characterized as unreliable. (Ex. R-9 at 17-18.) Mr. Mease testified that Mr. Reiker used both actual expenses and projected future expenses in the regression analysis, that there is only a weak relationship between variables in the regression analysis for the Superstition and Cochise Divisions, and that some of the data used by Mr. Reiker suggests that the T&D expenses could be cyclic in nature rather than increasing. (*Id.*) Mr. Mease further asserted that the requested PT&D maintenance expense adjustment was excessive because AWC increased its administration and general expenses by more than 12 percent, and paid shareholder dividends each quarter, during the same time period for which Mr. Reiker has asserted that cost-cutting measures artificially lowered AWC's PT&D maintenance expenses. (*Id.* at 19; Tr. at 666.) Mr. Mease testified that actual Eastern Group T&D maintenance expenses for 2011 were $384,853 lower than AWC's projection, which he said supports RUCO's assertion that the expenses do not need to be normalized upward. (*See* Tr. at 665.) RUCO asserts that no normalization adjustment should be made for TY PT&D maintenance expenses. (Ex. R-9 at 20; Tr. at 668.)

Staff

Staff also urged the Commission to deny AWC's requested normalization adjustment for TY PT&D maintenance expenses. Staff found AWC's use of a regression analysis to be problematic after determining that the asserted trend line could not be confirmed using data over time periods differing from the 11-year time period used by AWC. (Ex. S-4 at 12-13.) Mr. Michlik testified that this indicated AWC's adjustments were based on results that were not statistically robust. (*Id.* at 13.) Mr. Michlik further testified that AWC's use of an 11-year statistical regression was invalid and that when he performed a statistical regression using four years of data, which he considered to be the best period for a regression model, he obtained results indicating that negative pro forma adjustments should be made for each system except SaddleBrooke Ranch. (*Id.* at 15-16, App. A at Table II.)

Like RUCO, Mr. Michlik compared AWC's actual 2011 PT&D expenses with the estimates projected by AWC using its regression analysis and determined that the actual expenses were substantially lower than predicted. (*Id.* at 16, App. A at Table III.) In addition, Mr. Michlik observed that although AWC had decreased its maintenance expenses (which were authorized in its existing rates) to cut costs, AWC had not reduced its dividend payments to shareholders, which he concluded did "not . . . provide equal consideration for ratepayers and shareholders." (Ex. S-3 at 22.) Mr. Michlik expressed concern about the negative consequences of inadequate system maintenance, including decreased useful life of plant, increases in other short- or long-term expenses, decreased system efficiency, and increased water loss. (*Id.* at 21-22.) Staff recommended that the pro forma adjustments be denied. (*Id.* at 22.)

Conclusion

AWC has presented evidence indicating that, until its recent cost-cutting measures in 2008, the amount of its T&D expenses on a company-wide basis had increased significantly over time, from a low of $4.64 per customer in 1966 to a high of $40.64 per customer in 2007. (Ex. A-38.) AWC's evidence further shows that while its company-wide T&D expenses have declined since 2007, to a level of approximately $31.41 per customer during the TY, its Eastern Group T&D expenses per customer were at a level of approximately $33.35 during the TY and a level of approximately $33.56 in 2011. (*See* Ex. A-38; Ex. A-7.) AWC has also shown that the Eastern Group's pumping maintenance expenses per customer were approximately $6.00 in the TY and approximately $5.97 in 2011. (*See* Ex. A-7.) AWC asserts that its requested upward adjustment for the Eastern Group would bring pumping maintenance expenses to approximately $16.40 per customer per year, which AWC asserts is a normalized level that will allow it to continue providing safe and adequate service to its customers. Both RUCO and Staff have questioned the reliability of AWC's regression analysis based upon their own analyses of the underlying data, and both have pointed out that AWC's regression analysis projection significantly overestimated PT&D expenses for 2011. Considering that AWC's cost-cutting efforts continue pending the outcome of this rate case, that outcome is not wholly unexpected.

We are not comfortable in relying upon AWC's statistical analysis. We also do not desire to

incentivize a utility to cut maintenance costs below the level authorized in its current rates (thus potentially jeopardizing the adequacy of service to its customers while increasing its earnings) only to request an upward adjustment in its next rate case. However, we also note that AWC has been expending more per customer in T&D expenses in the Eastern Group than company-wide and that AWC has presented a great deal of evidence in this matter regarding its infrastructure replacement needs in the Eastern Group. We find, after reviewing all of the evidence on this issue, that it is just and reasonable to adjust the actual TY PT&D expenses for AWC's Eastern Group upward in the aggregate amount of $234,059 to reflect a PT&D expense level that is more appropriate for a group of systems with an abundance of aging infrastructure that needs to be proactively maintained. We caution AWC that this increased expense level is intended to allow it to restore a normalized PT&D expense level, not to make additional increases in administration expenses and/or dividends. Furthermore, we caution AWC that future use of cost-cutting in the areas of system maintenance, as opposed to administration and dividends, will be thoroughly scrutinized by the Commission in AWC's next rate case to determine whether AWC's decisions in this regard are harming its ratepayers.

2. Fleet Fuel Expenses

AWC

AWC proposes adjusting TY fleet fuel expenses for the Eastern Group to reflect increased costs over six different categories of expenses: source of supply, pumping, water treatment, T&D, customer accounting, and administrative & general. (Ex. A-3 at Sched. C-2, Sched. C-2 App.) Mr. Reiker testified that the adjustments were made to reflect the current cost of gasoline to operate the Eastern Group's fleet of service vehicles. (Ex. A-2 at 18.) AWC calculated its adjustment using a price of $3.671 per gallon, which was the average price of regular gasoline in Arizona as of April 19, 2011. (Ex. A-4 at 14.) Mr. Reiker testified that the average price had increased to $3.887 per gallon as of March 20, 2012, and that the price of gasoline is expected to remain at a level significantly higher than the average price per gallon for 2011 ($3.53 per gallon), with an expected average of $3.79 per gallon for the U.S. in 2012 and an expected average of $3.72 per gallon for the U.S. in

2013.[35] (*Id.* at 13-14.) Mr. Reiker also testified that the average price of gasoline in Arizona generally is 4 percent below the national average. (*Id.* at 15.) AWC asserts that its adjustment is more reasonable than Staff's adjustment and should be adopted. (*Id.* at 15.)

RUCO

RUCO originally reduced AWC's fleet fuel expenses adjustment, (Ex. R-7 at 23), but ultimately accepted it, (Ex. R-9 at 24; Tr. at 656). Mr. Mease accepted AWC's pro forma fleet fuel expense adjustment after observing that fuel expenses had been increasing since his direct testimony was filed. (Ex. R-9 at 24.)

Staff

Staff did not accept AWC's fleet fuel expense adjustment and initially decreased it by $18,895 overall to reflect use of a 2011 historical average fuel price of $3.38 per gallon[36] (as opposed to AWC's proposed $3.671 per gallon). (Ex. S-3 at 19, Sched. JMM-11.) On surrebuttal, Staff continued to disagree with AWC's fleet fuel expense adjustment, but adopted an increased price per gallon of $3.47, based on a 12-month average through March 2012, resulting in an overall decrease in AWC's fleet fuel expense adjustment of $13,051. (Ex. S-4 at 11-12, Sched. JMM-11.) Mr. Michlik testified that Mr. Reiker's position is based on a fallacy—that gasoline prices will stay the same or increase over time—when the reality is that gasoline prices are volatile and can drop dramatically in a very short time. (*Id.* at 11.) Mr. Michlik supported his testimony with a chart showing that average retail prices for regular gasoline in Arizona over a 96-month period included a peak of $4.05 in approximately June/July 2008, a floor of $1.54 in approximately December 2008, and a rise to exceed $3.80 in approximately April 2012. (*Id.* at 10.) The chart also showed that the increases in price over time did not occur smoothly, but with numerous peaks and valleys along the way. (*See id.*) Mr. Michlik testified that this pattern of volatility makes it preferable to use an average of prices over a 12-month period as opposed to a single price in time. (*Id.* at 11.) Mr. Michlik further testified that Staff was being accommodating on this issue, as the average gasoline price used by Staff had been

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[35] Mr. Reiker cited the U.S. Energy Information Administration's March 6, 2012, Short-Term Energy Outlook for these figures. (*Id.* at 14, JMR-RB-4.)

[36] Staff's average annual gas price for calendar year 2011 appears to be lower because it is specific to Arizona.

derived using data well after the TY, and gasoline prices had been decreasing for the past seven weeks at the time of hearing. (Tr. at 1215-16.) Staff calculated the 12-month average gas price through April 2012 at $3.4875, and Staff stated that the average Arizona price for gasoline in April 2012 was $3.87. (Ex. S-16.)

Conclusion

The evidence on this issue supports a finding that a just and reasonable fleet fuel expense for the Eastern Group should be based upon a gasoline price slightly higher than that recommended by Staff, but also establishes the tremendous volatility of gasoline prices and that future gasoline prices are difficult if not impossible to estimate with any real precision. We must consider all of the evidence presented by the parties along with the interests of AWC, to have its gasoline expenses covered by its rates, and the interests of AWC's customers, both to have AWC's expenses covered and not to have AWC obtain a windfall should gasoline prices decrease significantly in the time between rate cases. In light of the evidence and in an effort to balance the interests of AWC and its customers, we find that it is just and reasonable to reduce AWC's proposed fleet fuel expense adjustment by using a gasoline price of $3.57 per gallon rather than AWC's proposed gasoline price of $3.671 per gallon.

3. Rate Case Expenses

AWC

AWC is requesting rate case expense of $476,874, amortized over three years, for an increase in TY operating expenses of $147,529.[37] (Ex. A-2 at 17.) Mr. Reiker testified that the rate case expense figure was based upon a rate case budget prepared by AWC in consultation with its outside counsel and Dr. Zepp and that it included estimated costs for public notice, printing, and other miscellaneous expenses. (*Id.*) To support its proposed rate case expense, AWC provided a summary[38] breaking down the estimated rate case expense as follows:

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[37] This figure is not equal to one-third of the total rate case expense proposed, *i.e.*, $158,958, because of additional adjustments made by AWC: an upward adjustment of $17,247 in unrecovered rate case expense from the 2010 company-wide rate case culminating in Decision No. 71845 and a downward adjustment of $28,676 for "T.Y. 2010 Prior Rate Case Expense" charged to operations and maintenance. (Ex. A-3 at Sched. C-2 App.)

[38] Exhibit A-8.

Expense Item	Estimated Cost
Dr. Zepp	$ 86,000
Bryan Cave (Outside Counsel)	375,000
Public Notice	8,264
Postage	2,612
Supplies	2,929
ACC Site Visit	954
Courier Service	435
Overtime for Schedule Prep	544
P/R Tax on OT	49
Hearings	88
Total	**$476,874**

Mr. Reiker explained that this proposed rate case expense figure is an estimate of what AWC expects to spend on the rate case, although this figure does not include the cost of Ms. Ahern's services, which were billed at a flat rate of $200 per hour plus travel expenses and which cost $7,500 for rebuttal testimony and would cost more for rejoinder testimony and hearing. (Tr. at 234, 266, 354-55.)

The estimate for the cost of outside counsel services was developed by outside counsel using two different approaches: a "top down" approach based on an analysis of fees requested in prior Class A water utility rate cases (AWC, Arizona-American Water Company, and Global Water), adjusted for rate increases over time and the size of the utilities involved,[39] and resulting in a range of $316,000 to $367,000; and a "bottom up" approach based on a projection of the actual hours to be expended for each step of the rate case, multiplied by the applicable hourly rates for the individuals working on the case,[40] and resulting in a range of $305,125 to $406,250. (Ex. A-39.) Based on those two approaches, outside counsel provided a good faith estimate that legal fees and expenses would range from $350,000 to $400,000 and proposed a specific estimate of $375,000. (*Id.*) Mr. Reiker stated that AWC compared this to the actual cost for outside counsel services in the recent 2010 company-wide rate case ($484,468) and determined that outside counsel's $375,000 estimate was reasonable. (*Id.*) The estimated costs for expert witness services were based upon the actual cost incurred in the 2010 company-wide rate case ($86,345), along with input from Dr. Zepp. (*Id.*)

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[39] Attorney fees were estimated when not specifically provided. (Ex. A-39.)

[40] The hourly rates were $145, $220, $395, and $470. (Ex. A-40.) The two highest numbers are the hourly rates for the two attorneys representing AWC in this matter. (*Id.*)

AWC characterized Staff's recommended rate case expense ($246,070) as unreasonable because it is lower than the $250,000 approved in the 2004 Eastern Group rate case; is lower than the $250,000 approved in the 2005 Western Group rate case; and is only $29,000 higher than the $217,000 approved for the 2001 Northern Group rate case, which involved total revenues and rate base less than one-third of the current amounts for the Eastern Group. (Ex. A-4 at 21-22.) Mr. Reiker testified that AWC spent $345,727 and was allowed rate case expense of $250,000 in the 2004 Eastern Group rate case, which included the same systems other than SaddleBrooke Ranch. (Tr. at 266-67.) Mr. Reiker also testified that the rate case expenses for this case are higher in part because of the work done by Mr. Schneider and others to support AWC's request for a DSIC and, further, that costs have increased rather than decreased over the last decade. (Tr. at 345-46; Ex. A-4 at 22.) While AWC acknowledged that filing group rate cases, as opposed to a company-wide rate case, results in some redundancies that increase actual out-of-pocket rate case expense, AWC considers a company-wide rate case to be more costly because of the length of time it took to receive a decision (and thus to implement and receive increased revenues from new rates) in the recent 2010 company-wide rate case. (*See* Tr. at 141-49; 268-70, 1494.) Mr. Garfield also testified that a company-wide rate case is more complicated and requires more work from all of the parties involved, including AWC. (Tr. at 1494-95.) Mr. Garfield clarified that AWC is not requesting to recover anything greater than its actual rate case expense, once determined. (Tr. at 1502.)

In response to Staff's suggestion that AWC should only be permitted to recover a portion of its rate case expense because it chose to file group rate cases rather than a company-wide rate case, Mr. Reiker pointed out that the Commission has expressly authorized AWC to file rate applications for each group rather than filing on a company-wide basis. (Ex. A-4 at 23 (citing Decision No. 58120 ((December 23, 1992) at 33).) Mr. Reiker also stated that AWC has previously filed group rate case applications without receiving criticism from Staff for doing so or having Staff recommend that rate case expenses not be covered. (*Id.* at 24 (citing the 2001 Northern Group rate case, the 2004 Eastern Group rate case, and the 2005 Western Group rate case).)

In response to the suggestion that in-house personnel could have performed the services performed by AWC's outside counsel and expert witnesses, and that the costs associated with outside

counsel and expert witnesses are avoidable and therefore unreasonable because of AWC's in-house counsel and experts, AWC asserted that such treatment would be inconsistent with the treatment afforded other similarly situated Class A utilities. (Ex. A-4 at 27.) In addition, Mr. Harris testified that he is not a qualified cost-of-capital witness, as he lacks the appropriate financial training. (Tr. at 383.)

RUCO

RUCO recommends that AWC be granted rate case expense in the amount of $312,600, an amount determined by taking the $250,000 rate case expense authorized by the Commission in the 2004 Eastern Group rate case and adjusting it based upon the Consumer Price Index inflation factor for the period from January 2004 through November 2011. (Ex. R-7 at 22; Tr. at 668-69.) Mr. Mease testified that he did not question the amount paid to the outside experts, but instead focused on whether the amount requested was a fair and reasonable amount to require ratepayers to pay, as any authorized rate case expense amount will be collected only from the ratepayers. (Tr. at 669-70, 725-27.) Mr. Mease also suggested that AWC personnel could have performed at least some of the functions served by outside experts and outside counsel. (*See* Tr. at 726-27.)

Staff

Staff recommends that AWC be granted rate case expense in the amount of $246,070, a figure reached by pro-rating the actual rate case expense incurred by AWC for the 2010 company-wide rate case ($616,199) based on each group's number of customers. (Tr. at 1278-79.) Mr. Michlik asserted that AWC's rate case expenses were higher largely due to AWC's decision to file group rate cases rather than another company-wide rate case. (Tr. at 1278.) Mr. Michlik also attributed AWC's large requested rate case expense to AWC's choice of experts and outside counsel to represent it. (*See* Tr. at 1278-82.) Although Mr. Michlik acknowledged that AWC is free to make those choices, he stated that Staff will recommend coverage of only those expenses that are reasonable. (Tr. at 1279-80.) Though Staff does not advocate that AWC should choose its legal representation based on the lowest bid, Mr. Michlik asserted that some of the attorneys who appear regularly before the Commission charge hourly fees approximately 50-percent lower than those charged by AWC's outside counsel and, further, that the reasonableness of attorney fees in the market must be considered. (*Id.* at 1279-

80.) Mr. Michlik testified:

> Staff notes that the Company already employs in-house personnel qualified to perform a cost of capital analysis and an in-house licensed attorney who can provide legal rate case services. Yet, most of the Company's rate case expense is derived from its hiring of outside legal counsel and a cost of capital consultant. Staff find this perplexing since these are repetitive services that are partially, if not wholly, avoidable.[41]

Mr. Michlik also stated that although AWC had represented in the 2010 company-wide rate case that consolidating some of its water systems would result in lower rate case expense due to increased efficiencies and the reduced cost and complexity of rate filings, such benefits have been lost due to AWC's filing rate case applications using groups rather than on a company-wide basis.[42] (Ex. S-3 at 25-26.) Mr. Michlik characterized AWC's group rate case filings, made only several months apart and using the same TY, as "duplicative and repetitive" and "not an effective use of time for Staff, RUCO, the Hearing Division, the Commission and the Company." (Ex. S-4 at 17-18.)

In addition to recommending that AWC be permitted to recover only a portion of its requested rate case expenses in this case, Staff recommends that AWC be required in future to file the rate case applications for its groups together when the rate cases use the same TY. (*Id.* at 19.)

Conclusion

After considering all of the evidence on this issue, we determine that AWC should be permitted to recover rate case expense in the amount of $350,000, to be amortized over three years. In reaching this figure, we have particularly considered RUCO's calculation of reasonable rate case expense based upon inflation since the 2004 Eastern Group rate case, the amount of rate case expense approved for the Western Group in Decision No. 73144,[43] the DSIC issue in this case, and the extent of the analysis and evidence presented concerning the infrastructure replacement needed for the Eastern Group. Although we will not go so far as to adopt Staff's recommendation for AWC to be

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[41] Ex. S-3 at 27-28.

[42] Mr. Michlik testified that Staff had told AWC, before it filed its most recent rate case applications, that Staff would prefer for AWC to file on a company-wide basis. (Ex. S-3 at 27.) Staff also asserted that AWC had not demonstrated that the length of time to process its 2010 company-wide rate case was due to consolidation rather than other factors. (Ex. S-4 at 19.)

[43] The amount approved for the Western Group, pursuant to the settlement agreement, was RUCO's recommended $304,975, to be collected over three years. (Decision No. 73144 at Ex. B at Ex. 1 Sched. C-2 App.)

required to file group rate cases together if they use the same TY, we encourage AWC to do so when the same TY is used, both in order to avoid cost-causing redundancies in the preparation and presentation of its rate cases and to allow for meaningful consideration of additional consolidation of systems and/or rates. We also encourage AWC thoroughly to consider, prior to preparing and filing its next rate case application, whether the effectiveness of presenting outside expert witness testimony outweighs the expense of those witnesses' services.

4. Depreciation Expenses

AWC

AWC asserts that its depreciation and amortization expense should be increased by $114,478 to make up deferred CAP charges for the Superstition Division, totaling $691,522, which were authorized to be amortized over a 10-year period in the 2004 Eastern Group rate case, but were then erroneously included in the revenue requirement and rates adopted in that decision as though a 32.17-year amortization period had been approved instead. (Ex. A-2 at 19.) AWC asserts that although $69,152 should have been included in the revenue requirement and rates adopted in the 2004 Eastern Group rate case, only $21,498 was actually included, and this reduced level of amortization has been charged each year since and was reflected in the rates adopted in the 2010 company-wide rate case. (*Id.*) AWC asserts that increasing the depreciation and amortization expense by $114,478 would reflect the original 10-year amortization period approved by the Commission. (*Id.*)

Mr. Reiker explained what happened as follows:

> Ultimately in Decision 66849, and this is all spelled out in that decision, the Commission adopted RUCO's proposed 10-year amortization. So they included the 691,522 in rate base, and then based on that 10-year amortization, they should have included in depreciation expense $69,152, which is one-tenth of the 691,522. What actually happened, though, after the order was issued and the work papers came out, the company found that the actual amount of amortization expense included in rates was only 21,498; and the company realized that right away. And rather than file for a rehearing or whatnot - - I wasn't with the company at that time, but for whatever reason they began amortizing $21,498 a year, consistent with the rates that were approved in the decision, rather than the 69,000 that the Commission contemplated. This error snuck by us when we prepared the 2007 test year total company rate case, so it wasn't addressed at all in that case. So as a result, the company continued to amortize the 21,498 per year. And then we came to 2010, which is the test year in this case, and in

> this proceeding we are proposing to correct that amortization and boost the amount included in rates for recovery of the amortization to 114,478 per year, and that will allow us to recover those charges, I think I estimated by 2016. And I believe that coincides with when the rates would be expected to go into effect for our next Eastern Group rate case.[44]

AWC responded to Staff's recommendation for the original amortization amount of $69,152 to be authorized in this case by asserting that even AWC's proposal extends the original 10-year amortization period to approximately 11.75 years, while Staff's proposal would result in approximately a 13-year amortization period. (Ex. A-4 at 28-29.) AWC asserts that there is no valid reason to extend the amortization period further than what was deemed reasonable by the Commission in the 2004 Eastern Group rate case. (*Id.* at 29.) AWC further refuted Staff's argument, that ratepayers should not be burdened, by arguing that Superstition Division customers have benefited for more than seven years by paying water rates that are, "by the Commission's own determination, too low." (*Id.*)

Mr. Reiker also asserted that AWC will not overrecover because the increased amortization amount will be eliminated in the next Eastern Group rate case. (Tr. at 296.) AWC's position is that the customers in the Superstition Division have been receiving a discount since the rates authorized in the 2004 Eastern Group rate case went into effect and still are receiving that discount, because the Commission determined that $69,152 should be amortized annually as a component of AWC's cost of service, and the rates implemented have recovered only a portion of that amount. (Tr. at 297.) He acknowledged, however, that AWC does not know whether the customers who benefited from the erroneously lower rates are the same customers who would now be paying the increased rates caused by the additional annual amortization amount. (*Id.* at 297-98.)

RUCO

RUCO did not contest AWC's depreciation and amortization expense adjustment for the Superstition Division. (Ex. R-7 at 25, Sched. RBM-14.)

Staff

Staff recommends adoption of the $69,152 in annual amortization that should have been

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[44] Tr. at 295-96.

included in AWC's revenue requirement per the Commission's resolution of the deferred CAP expense in the 2004 Eastern Group rate case. (Ex. S-3 at 30.) Mr. Michlik stated that the deferred CAP balance at the end of the TY was $543,094 and that Staff's recommendation would result in full amortization of the balance within 7.85 years, as opposed to 4.74 years under AWC's proposal.[45] (*Id.*) Mr. Michlik testified that AWC has had two opportunities to identify the error previously, once in the 2004 Eastern Group rate case itself and then again in the 2010 company-wide rate case. (*Id.* at 29.) While he acknowledged that AWC should be permitted to recover the full authorized amount of $691,522, he asserted that AWC's proposal could be detrimental to ratepayers because the rates would be higher and, once the balance is recovered fully, AWC will over-recover at a faster rate and by a greater amount. (*Id.*) Staff recommends that the requested $114,478 adjustment be reduced to $69,152. (*Id.*; Staff Final Sched. JMM-16.)

Conclusion

In the 2004 Eastern Group rate case, the Commission authorized AWC to recover $691,522 in rate base for deferred CAP M&I charges over a period of 10 years, with CAP M&I charges on a going-forward basis to be recovered as operating expenses. (Decision No. 66849 at 9-10.) In that case, the then-effective amortization period was 44 years, AWC had requested a three-year amortization period, RUCO had recommended a 10-year amortization period, and Staff had recommended a 32-year amortization period. (*Id.* at 10.) The Commission adopted RUCO's recommendation, but the recommendation inadvertently was not carried through to the revenue requirement and rates adopted therein. It is difficult to understand why AWC did not notify the Commission when it first identified the error and request that the error be remedied either through a *nunc pro tunc* order or an A.R.S. § 40-252 proceeding. Likewise, it is difficult to understand how the issue fell through the cracks when AWC prepared its 2010 company-wide rate case. Nonetheless, the fact remains that the Commission expressly approved recovery for AWC greater than that actually supported by the rates adopted in the 2004 Eastern Group rate case. The difference between AWC's position and Staff's position of how that recovery should now be allowed is an additional $45,326

[45] Per Staff, this disregards the amounts recovered and to be recovered from the end of the TY until the effective date of the rates approved in this case. (Ex. S-3 at 30.)

annually in operating expenses, which, if spread equally among Superstition Division customer accounts, amounts to approximately $1.91 per customer account per year, or approximately $0.16 per customer account per month. Considering that the lesser amortization amount was an error, the relatively minimal impact that remedying the error will have on the Superstition Division's customers, and the lack of opposition from RUCO, it is just and reasonable to make the remedial change requested by AWC, and we will adopt AWC's adjustment to increase depreciation and amortization expense by $114,478 ($45,326 more than recommended by Staff). We note, however, that we will expect AWC in the future to be more vigilant and proactive in ensuring that substantive errors detected in AWC's cases before the Commission are brought to the Commission's attention in a timely manner.

C. Operating Income Summary

Based on the discussion of operating income issues set forth above, we find that the TY operating revenues, operating expenses, operating incomes, and rates of return on FVRB for the Eastern Group Divisions and systems were as follows:

	Operating Revenues	Operating Expenses	Operating Income	Rate of Return
Superstition	$15,056,166	$12,364,347	$2,691,819	5.36%
Cochise	$3,303,549	$2,864,427	$439,122	5.24%
San Manuel	$947,528	$909,787	$37,741	1.86%
Oracle	$990,109	$812,715	$177,394	7.14%
SaddleBrooke Ranch	$117,103	$194,626	($77,523)	N/A
Winkelman	$102,098	$88,836	$13,262	4.35%

V. COST OF CAPITAL

The Commission has described its power and duty in establishing an appropriate rate of return as follows:

> In determining just and reasonable rates, the Commission has broad discretion subject to the obligation to ascertain the fair value of the utility's property, and establish[] rates that "meet the overall operating costs of the utility and produce a reasonable rate of return." *Scates, et al. v. Arizona Corp. Comm'n*, 118 Ariz. 531, 534, 578 P.2d 612 (Ct. App. 1978). Under the Arizona Constitution, a utility company is entitled to a fair rate of return on the fair value of its properties, "no more and no less." *Litchfield Park Service Co. v. Arizona Corp. Comm'n*, 178 Ariz. 431, 434, 874 P.2d 988 (Ct. App. 1994), citing *Arizona Corp. Comm'n v. Citizens Utilities Co.*, 120 Ariz. 184 (Ct. App. 1978). The oft cited *Hope*, *Bluefield*, and *Duquesne* cases provide that the return determined by the Commission

> must be equal to an investment with similar risks made at generally the same time, and should be sufficient under efficient management to enable the Company to maintain its credit standing and raise funds needed for the proper discharge of its duties.[46]

Thus, the Commission has a duty to establish a cost of capital that will allow a public service corporation with efficient management to earn a rate of return that will allow it to discharge its duties and attract credit. AWC proposes that the necessary cost of capital is 9.72 percent, based on a cost of common equity of 12.50 percent and a weighted average cost of capital ("WACC") calculated using AWC's actual TY capital structure and cost of debt. (AWC Final Sched. D-1.) RUCO advocates a cost of common equity of 9.40 percent and a WACC of 8.13 percent. (RUCO Final Sched. WAR-1.) Staff recommends a cost of common equity of 9.4 percent and a WACC of 8.1 percent.[47] (Staff Final Sched. JAC-1.)

A. Capital Structure

Before the need to construct arsenic treatment facilities arose, AWC's capital structure included 75 percent equity. (Tr. at 183.) Because AWC used $35 million in long-term debt (bonds) to fund most of the arsenic treatment facility construction, AWC's equity position dropped to 45 percent. (*Id.* at 183-84.) At the end of the TY, AWC's shareholders made a paid-in capital contribution of $10,222,000, more than doubling the level of paid-in capital at the time. (Ex. A-3 at Sched. E-4.) AWC suggested that the shareholders' equity infusion was unusual, but Mr. Rigsby opined that such an action is not uncommon and that it appeared to have been done to avoid the need to issue additional shares. (*See* Tr. at 183-86, 1096-97.)

AWC raises funds through the sale of bonds, generally to insurance companies. (Tr. at 272-73.) AWC asserts that its most recent attempted bond issuance was in September 2008, when it issued bond packets to five different lenders but received offers from only two, both of whom sought interest premiums (10 basis points and 50 basis points) from AWC.[48] (Tr. at 367-68, 371.) In the

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[46] Decision No. 72026 (December 10, 2010) at 60-61 (footnote omitted) (citing *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co. v. Public Serv. Comm'n of West Virginia,* 262 U.S. 679 (1923); *Duquesne Light Co. v. Barasch*, 488 U.S. 299 (1989)). Official notice is taken of this Decision.

[47] The differences between Staff's and RUCO's positions are attributable to rounding and Staff's displaying only one decimal place in its figures.

[48] This was in contrast to its sister water company in California, from which no interest premiums were sought.

financing case related to that attempted bond issuance, Staff recommended denial of a portion of the financing, expressing concern regarding whether AWC's capital structure was robust enough to allow it to repay the debt.[49] (*Id.* at 347, 371, 441.)

AWC's ability to issue long-term debt in the form of bonds is restricted by its bond indenture, which protects prior bond holders by conditioning the issuance of additional bond debt based on debt-equity ratio and times interest earned ratio ("TIER"). (*Id.* at 368-70.) AWC's bond indenture does not allow it to issue additional long-term debt if its debt outstanding exceeds 65 percent. (*Id.* at 370.) Based on TY financial statements, AWC currently would be able to issue approximately an additional $7 million in long-term debt. (*Id.*) However, AWC asserts that it would likely be difficult for AWC to have a bond issuance of $7 million, as such long-term debt is typically issued in amounts of $15 to $20 million or more. (*See* Tr. at 366.)

The parties agree that it is appropriate to use AWC's actual TY capital structure to determine cost of capital in this case. (*See* AWC Final Sched. D-1; RUCO Final Sched. WAR-1; Staff Final Sched. JAC-1.) That capital structure includes 49.03 percent long-term debt and 50.97 percent equity. (*Id.*) We agree that it is appropriate to use AWC's actual TY capital structure to determine the Eastern Group's cost of capital in this case, and we will do so.

B. Cost of Debt

The parties agree that it is appropriate to use AWC's actual TY cost of long-term debt, 6.82 percent, to determine cost of capital in this case. (*See* AWC Final Sched. D-1; RUCO Final Sched. WAR-1; Staff Final Sched. JAC-1.) Although this cost of long-term debt seems somewhat high considering the current market,[50] we agree that it is appropriate to use AWC's actual cost of long-term debt as of the end of the TY to determine the Eastern Group's cost of capital in this case.

C. Cost of Common Equity

Cost of common equity ("COE") represents the expected amount of return that will cause an investor to choose to invest funds in a specific business as opposed to others and is expressed as the

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[49] AWC ultimately withdrew the financing application, and no decision was issued in the docket. (*Id.* at 440-41.)

[50] Official notice is taken that the prime rate has been at 3.25 percent since December 16, 2008. It may be worthwhile for AWC to explore whether it is possible to refinance any of its long-term debt at a more favorable interest rate.

rate of return that could be earned if the investor's funds were instead invested with a different business having equivalent risks. (*See* Ex. A-32 at 8; Ex. S-5 at 7.) Each party presented expert testimony and evidence supporting its position as to the COE that would enable AWC to obtain capital investments on an ongoing basis, with AWC presenting the testimony of Dr. Zepp and Ms. Ahern, RUCO presenting the testimony of Mr. Rigsby, and Staff presenting the testimony of Mr. Cassidy.[51]

1. AWC

AWC is requesting a COE of 12.5 percent. (Ex. A-32.) Dr. Zepp based his COE recommendation on analyses using market data available to investors in early March 2011 and a sample group of seven publicly traded water utilities: American States Water, American Water Works, Aqua America, California Water Service Group, Connecticut Water Service, Middlesex Water, and SJC Corp (collectively the "AWC sample group"). (Ex. A-32 at 5, 15.) Dr. Zepp determined the COE for the AWC sample group using the discounted cash flow ("DCF") model, the capital asset pricing model ("CAPM"), and two versions of the risk premium ("RP") model (as a check on the CAPM). (*Id.* at 6.) Dr. Zepp then gave equal weight to the DCF estimates and CAPM estimates and concluded that the COE for the AWC sample group fell within the range of 10.9 percent to 12.1 percent.[52] (*Id.* at 6.) Dr. Zepp next determined a risk premium for the Eastern Group, based upon the asserted additional business risks faced by it as compared to the AWC Sample Group—its smaller size; Arizona's use of a historical TY; and AWC's location in Arizona, which some view as having a risky regulatory environment for water utilities.[53] (*Id.* at 6-7, 13-14, 32-43.)

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[51] Although AWC's argument at hearing and on brief emphasized the superiority of its experts' credentials, suggesting that their opinions should accordingly be given more weight, we do not feel it necessary to recount their qualifications here. Their qualifications are amply described in the evidentiary record. We note that Dr. Zepp, at hearing, testified that he did not question the qualifications of either Mr. Rigsby or Mr. Cassidy. (Tr. at 972.)

[52] Dr. Zepp concluded that the DCF model estimates indicated a benchmark COE of 11.7 percent to 12.1 percent, with an average of 11.9 percent; that the CAPM estimates indicated a benchmark COE of 10.1 percent to 12.1 percent, with an average of 11.1 percent; and that the RP model checks on the CAPM estimates indicated a benchmark COE of 10.8 to 12.7 percent, with an average of 11.7 percent. (Ex. A-32 at 13.)

[53] Dr. Zepp asserted that comparatively smaller water utilities, like AWC, have a risk premium in the range of 99 to 136 basis points. (*Id.* at 13, 33-37.) Dr. Zepp also used a risk analysis created by the California Public Utility Commission's Division of Ratepayer Advocates ("California DRA") in a 2009 consolidated return on equity case, which resulted in a risk premium range of 32 to 61 basis points for AWC. (*Id.* at 14, 37-41.) The regulatory risk assertion was based upon an April 2011 research report, published by Janney Montgomery Scott, that introduced a Regulatory Climate Indicator and concluded that Arizona water utilities have the most risky regulatory environment out of the 16 states reviewed. (Ex. A-

Dr. Zepp concluded that because of its business risks and its relative age, the COE for the Eastern Group is at least 90 basis points higher than the COE for the AWC Sample Group[54] and, further, that the Eastern Group requires a risk premium 40 basis points higher than does the Western Group.[55] (*Id.* at 7.) Dr. Zepp concluded that the Eastern Group's COE falls within a range of 11.8 to 13.0 percent and recommended that the Eastern Group be authorized a return on equity ("ROE") of 12.5 percent. (*Id.* at 7, 14.)

Dr. Zepp's first DCF analysis was conducted using the constant growth DCF model and analysts' forecasts of future earnings per share ("EPS") growth taken from *Zacks Investment Research* ("*Zacks*"), *Yahoo! Finance*, *Reuters*, and *Value Line Investment Survey* ("*Value Line*") and resulted in a COE estimate range of 12.9 percent to 13.0 percent "when conceptually consistent forecasts of growth [we]re used to prepare the analysis" and in a range of 12.6 to 12.7 percent when "more conservative estimates of growth" were used. (Ex. A-32 at 17, 18-19, 21.) Both ranges reflect inclusion of a 90-basis-point risk premium. (*Id.* at 17.) Dr. Zepp did not use historical data because he believes that historical data does not accurately reflect investors' current higher expectations and can result in a negative bias in DCF estimates. (*Id.* at 18-19.)

Dr. Zepp's second DCF analysis was conducted using an approach incorporating both estimates of average projected growth and estimates of growth for the past 15 years. (*Id.* at 22.) When combined with a 90-basis-point risk premium, the second DCF analysis resulted in a COE range of 12.6 percent to 12.7 percent. (*Id.* at 23.)

In his first CAPM analysis, Dr. Zepp used a risk-free asset return of 5.17 percent, taken from forecasts of long-term U.S. Treasury securities rates; the average beta (0.74) of the AWC sample

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32 at 6-7, TMZ-5.) Dr. Zepp testified that he was not actually suggesting that the Commission is biased against water utilities. (Tr. at 947.) Both RUCO and Staff expressed doubt as to Janney Montgomery Scott's objectivity, due to its interest in the performance of some water utilities. (Tr. at 1042-43; 1131-32.)

[54] According to Dr. Zepp, allowing a risk premium to raise AWC's authorized ROE above that of the utilities in the AWC sample group only gives AWC the same opportunity to earn its COE as is available to the utilities in the AWC sample group, which he said operate under more flexible rate-setting systems. (Ex. A-32 at 11.)

[55] In the 2012 Western Group rate case, Dr. Zepp estimated a ROE range of 11.4 percent to 12.8 percent based on data available in November 2010. (*Id.* at 15.) The settlement agreement approved by the Commission in the 2012 Western Group rate case provided the Western Group a COE of 10.0 percent. In that case, prior to settlement, AWC had requested a COE of 12.10 percent, RUCO had proposed a COE of 9.50 percent, and Staff had recommended a COE of 10.0 percent. (Decision No. 73144 at 23.)

group utilities taken from the *Value Line* of February 25, 2011; and the 6.7-percent average long-horizon market risk premium ("MRP") reported in the *Ibbotson SBBI 2010 Valuation Yearbook.* (*Id.* at 26.) This CAPM analysis resulted in a COE of 10.1 percent for the AWC sample group and a COE of 11.0 percent for the Eastern Group. (*Id.*) Dr. Zepp expressed two concerns with this result, the first being that the beta estimate for AWC would be greater than 0.74 if it were known, because beta estimates are expected to increase as company size decreases, and the second being that the long-horizon average MRP estimate of 6.7 percent is lower than investors currently require. (*Id.* at 26-28.) In his second CAPM analysis, Dr. Zepp used a 9.4-percent MRP,[56] along with the same average beta and risk-free asset return, to obtain a COE of 12.1 percent for the AWC sample group and of 13.0 percent for the Eastern Group. (*Id.* at 28.) Dr. Zepp acknowledged the difficulty of judging investors' current MRP requirements and adopted "an average" of his two CAPM estimates, 11.1 percent, as his CAPM estimate.[57] (*Id.*)

Dr. Zepp checked his CAPM results using two RP approaches. (*Id.* at 29.) The first RP method used authorized ROEs as proxies for COEs and resulted in a COE range of 10.8 to 10.9 percent for the AWC sample group[58] and 11.7 to 11.8 for the Eastern Group. (*Id.* at 29-30.) The second RP method used 10 annual average DCF estimates[59] as proxies for the COEs in 10 different years, subtracted the long-term average U.S. Treasury rate for each year to determine 10 annual estimates of average risk premiums required by water utilities in those years, and then computed 5-year and 10-year averages of those risk premiums to determine forward-looking risk premiums. (*Id.* at 30.) This second RP analysis resulted in a COE range of 11.5 to 12.7 percent for the AWC sample group and of 12.4 to 13.6 percent for AWC. (*Id.* at 31.) From these RP analyses, Dr. Zepp

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[56] This is the average forecasted risk premium for *Value Line*'s Industrial Composite ("IC") for the period of 2006 through 2010, which Dr. Zepp considers to be similar to the MRP for the market as a whole. (Ex. A-32 at 27-28.)

[57] It is unclear how this average was calculated, as the average of the two CAPM COE figures would be 12.0. Dr. Zepp expressed concern about the CAPM, stating that it "makes me very nervous right now." (Tr. at 901.) He testified that it is difficult to determine what to use as the risk-free rate or the zero beta asset right now due to the Federal Reserve's efforts to keep interest rates down and because the long-horizon average MRP may not reflect the risk premium currently being demanded by investors. (Tr. at 943, 945.)

[58] Data for American Water Works was not available for the years in which it was not publicly traded. (Ex. A-32 at 30.)

[59] The annual DCF estimates were averages of annual DCF estimates derived from data for the sample group. (Ex. A-32 at 30.) Data for American Water Works were only available for 4 of the 10 years. (*Id.*)

concluded that the COE for the AWC sample group fell within a range of 10.8 to 12.7 percent, with an average of 11.7 percent, and that an average CAPM estimate of 11.1 percent is conservative for the Eastern Group. (*Id.*)

Dr. Zepp asserted that the interests of ratepayers are not served by ignoring or discounting the importance of allowing the utility the opportunity to earn its COE because a utility whose authorized ROE is set too low will be unable to attract capital on reasonable terms, which may result in its inability to maintain an appropriate level of service to its customers and, ultimately, in harm to ratepayers. (*Id.* at 12.) Dr. Zepp further asserted that the recent recession has resulted in investors' continuing to be cautious and to demand high returns on water utility stocks. (*Id.* at 14.)

Dr. Zepp did not update his originally recommended COE of 12.5 percent in later testimony, either in response to other parties' proposals or in response to changes in the market. (*See* Ex. A-33; Ex. A-5, Zepp, at 3-4.) Although Dr. Zepp acknowledged on rebuttal that interest rates had decreased since the preparation of his original testimony in March 2011, he asserted that his recommended 12.5 percent COE still fell within a reasonable range of equity cost estimates and was still appropriate. (Ex. A-33 at 3-4; Ex. A-5, Zepp, at 3-4.)

Dr. Zepp criticized Mr. Rigsby's DCF analysis, disagreeing with Mr. Rigsby's use of geometric annual averages of historical data to determine future growth rates and required ROEs, which Dr. Zepp characterized as negatively biased and "results-driven";[60] Mr. Rigsby's use of a gas utilities proxy group in his analysis, a practice that Dr. Zepp said had previously been rejected by the Commission;[61] Mr. Rigsby's choices of gas utilities to include in the proxy group, which Dr. Zepp suggested were "results-oriented"; Mr. Rigsby's reliance on historical retention/internal growth rates ("br"), both because Mr. Rigsby did not adjust the *Value Line* ROEs used to a mid-period basis and because Mr. Rigsby relied on *Value Line* estimates of future ROEs, which Dr. Zepp said is circular; and Mr. Rigsby's use of br + sv growth rate estimates, which Dr. Zepp said were unreliable because Mr. Rigsby's estimates of external growth rates ("sv") were unsupportable, arbitrary, inconsistent

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[60] Ex. A-33 at 39, 40-41. Dr. Zepp provided an excerpt from Roger A. Morin's *New Regulatory Finance* (2006) to support his position. (*Id.* at 40-41, TMZ-1.)

[61] Dr. Zepp cited the 2004 Eastern Group rate case as the decision in which the Commission had rejected Dr. Zepp's use of gas utilities to estimate COE. (Ex. A-33 at 5-6.)

with concepts underlying the DCF model, and invalid. (Ex. A-33 at 5-11.) Dr. Zepp asserted, among other things, that Mr. Rigsby should have considered market prices per share ("MPPS") growth as well as analyst forecasts of EPS growth reported by *Reuters* and *Yahoo! Finance.* (*Id.* at 11-12.) Dr. Zepp stated that if "conceptually correct" analysts' estimates of growth were averaged, the result was 7.9 percent growth rather than the 5.17 percent growth used by Mr. Rigsby in his analysis. (*Id.* at 13.) Dr. Zepp further stated that it was inappropriate for Mr. Rigsby to compute dividend yields for two of the water utilities in his sample group using last year's dividend to measure future dividends, to assume that current dividends would remain the same for the remaining utilities in the water sample group, and not to make any adjustment for time value of money. (*Id.* at 13-14.)

Dr. Zepp likewise took issue with Mr. Rigsby's CAPM estimates, stating that without even looking at Mr. Rigsby's CAPM process, it was evident that the results were "unreasonable under any test and would be confiscatory if actually used to set rates." (*Id.* at 14-15.) Turning to the process, Dr. Zepp criticized Mr. Rigsby's use of the 5-year U.S. Treasury security rate to determine the risk-free rate of return, asserting that the average return on short-term and intermediate-term U.S. Treasury securities clearly understates the risk-free rate of return and is mismatched as a proxy for a return on long-lived assets such as common stocks in utilities. (*Id.* at 15-16.) Dr. Zepp also disagreed with Mr. Rigsby's characterization of analysts' interest rate forecasts as optimistic and pointed out that both Mr. Rigsby and Mr. Cassidy had reported "current" long-term U.S. Treasury rates that were approximately 45 basis points lower than the long-term U.S. Treasury rate effective on March 20, 2012. (*Id.* at 17.) Dr. Zepp further criticized Mr. Rigsby's use of geometric annual average returns, his use of total returns for Treasury securities (as opposed to "conceptually correct income returns"), his reliance on historical data in determining MRP, and his "bias" in calculating CAPM estimates. (*Id.* at 18.)

Dr. Zepp also criticized the analyses and recommendations of Mr. Cassidy. Dr. Zepp asserted that Mr. Cassidy's DCF results were biased downward and would have been 9.6 percent rather than 6.8 percent if Mr. Cassidy had not excluded American Water Works from the Staff sample group and had considered analysts' estimates of EPS growth made by *Zacks*, *Yahoo! Finance*, and *Reuters* in his forecasts of EPS growth. (Ex. A-33 at 4, 23-24.) To refute Mr. Cassidy's and Mr. Rigsby's

assertions that analysts' forecasts of long-term EPS growth should not be given much weight because they are overly optimistic and upwardly biased, Dr. Zepp provided a 2004 *USA Today* article, a graph published in the *Wall Street Journal* in 2009, a "Letter from Our Chairman" published by *Value Line* in 2001, a table providing Dr. Zepp's comparison of *Value Line* forecasts (four-years out) and actual earned ROE data for eight natural gas utilities for the period from 1981 through 1998, and a table providing Dr. Zepp's comparison of *Value Line* forecasts as compared to br-growth for electric utilities for the period from 1982 to 2009.[62] (Ex. A-33 at 25, 33-35, TMZ-3, TMZ-4, Tables 10 and 11.) Dr. Zepp asserted that analysts' forecasts (after adjustment for unexpected inflation) have been reliable and accurate, are the best indicator of future growth, and should be given more weight than afforded by Mr. Cassidy. (Ex. A-33 at 25, 28, 34-36.) Dr. Zepp further asserted that little or no weight should be given to past and projected dividends per share ("DPS") growth, to which Mr. Cassidy gave 33-percent weight, and questioned the validity of estimates of growth based on *Value Line* forecasts of future earned returns on equity ("the 'r' in br growth"). (Ex. A-33 at 25-28.) Dr. Zepp also questioned Mr. Cassidy's use of spot prices, suggesting that Mr. Cassidy may have "cherry-pick[ed]" a date to support a lower COE result and asserting that Mr. Cassidy's dividend yield should be rejected and an average of dividend yields used instead. (*Id.* at 28-29.) Dr. Zepp also disagreed with Mr. Cassidy's statement that Dr. Zepp had used averages of dividend yields to compensate for time value of money, although Dr. Zepp asserted that the time value of money must be recognized in calculating dividend yields. (*Id.* at 29-30.)

Dr. Zepp disagreed with Mr. Cassidy's CAPM analysis because Mr. Cassidy relied solely on current U.S. Treasury securities rates rather than considering forecasted U.S. Treasury rates for the period the new Eastern Group rates will be in place and because Mr. Cassidy used intermediate-term U.S. Treasury securities. (*Id.* at 30-31.) Dr. Zepp also disagreed with Mr. Cassidy's position that AWC and other small utilities do not require a risk premium due to size, stating that "Mr. Cassidy appears to misunderstand th[e] issue," arguing that even a well-diversified portfolio of small firms would be riskier than a well-diversified portfolio of large firms, and asserting that the Commission

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[62] Dr. Zepp referred to the *USA Today* article and the graph from the *Wall Street Journal* as "studies." (*See, e.g.*, Ex. A-33 at 33.)

should not rely upon Mr. Cassidy's testimony on that point. (*Id.* at 32.)

Ms. Ahern did not make a specific ROE recommendation for the Eastern Group because she had not conducted a complete rate of return study, but she opined that Dr. Zepp's recommended ROE of 12.5 percent would provide "a reasonable, if not conservative, opportunity" for AWC to reduce the amount of long-term debt it needs while improving its cash flows and providing additional retained earnings. (Ex. A-34 at 30.) Ms. Ahern characterized both Staff's and RUCO's recommended COEs as "materially and significantly inadequate,"[63] an assertion that she supported with a Predictive Risk Premium Model™ ("PRPM™")[64] analysis showing an average common equity cost rate of 11.05 percent for the Staff sample group and an average common equity cost rate of 11.32 percent for the RUCO sample water utility group. (*Id.* at 31-32, PMA-11.) In her rejoinder testimony, Ms. Ahern took issue with Mr. Cassidy's characterization of her testimony as having called into question the validity of Dr. Zepp's risk-free rate,[65] and she asserted that Dr. Zepp's 5.17 percent risk-free rate should not be compared to her 3.58 percent risk-free rate because the rates derived from different publications, were forecasts for different periods, and were different types of forecasts (annual versus quarterly). (Ex. A-5, Ahern, at 7-8.) Ms. Ahern also asserted that a PRPM™ analysis performed using Dr. Zepp's sample group and data through February 2011, *i.e.,* data comparable to the data used by Dr. Zepp, would result in a 13.59 percent average COE, supporting the "conservative reasonableness" of Dr. Zepp's recommended 12.50 percent COE. (*Id.* at 9-10.) Ms. Ahern added

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[63] Ms. Ahern pointed out that the difference in revenue generated with Staff's originally recommended 9.1 percent ROE and AWC's requested 12.5 percent ROE would exceed $1.1 million annually and represent approximately 35 percent of AWC's estimated annual infrastructure replacement costs for the Eastern Group. (Ex. A-34 at 31.)

[64] The PRPM™ is described in Pauline M. Ahern, Frank J. Hanley & Richard A. Michelfelder, *New Approach to Estimating the Cost of Common Equity Capital for Public Utilities*, 40 J. REGUL. ECON. 261 (2011), which was included as PMA-10 to Ex. A-34. The PRPM™ is described as a "consumption-based asset pricing model that . . . produces a prediction of the equity risk premium that is driven by its predicted volatility . . . [and] added to a risk-free rate of return to provide an estimate of the cost of common equity." (Ex. A-34 at PMA-10 at 2.) Ms. Ahern and the other authors of the article on the PRPM™ concluded therein that the PRPM™ results in "stable and consistent" estimates of the cost of common equity that "compare well" with rates of return on common equity book value and with CAPM estimates, although consistently higher than DCF estimates, and that the PRPM™ "should be used in combination with other cost of common equity pricing models as additional information in the development of a cost of common equity capital recommendation." (Ex. A-34 at PMA-10 at 14-15, 17.)

[65] Ms. Ahern and Dr. Zepp both stated that Mr. Cassidy was incorrect when he stated that every basis point increase in the risk-free rate results in a corresponding basis point increase in estimated COE because there is an inverse relationship between interest rates and equity risk premiums. (Ex. A-5, Ahern, at 9-10; Ex. A-5, Zepp, at 10.) Ms. Ahern also stated that the equity risk premiums increase or decrease only approximately half as much as interest rates. (Ex. A-5, Ahern, at 9-10.)

that it was incorrect for Mr. Cassidy to reject the use of forecasted risk-free rates in his COE analysis because COE and ratemaking are both forward looking and prospective. (*Id.* at 10.)

On rejoinder, in response to criticism that he had not updated his original recommendation to show subsequent changes in the market, Dr. Zepp pointed out that one of his rebuttal tables had reflected a drop in the forecasted risk-free rate from 5.17 percent to 4.42 percent based on an average of data for the next three years. (Ex. A-5, Zepp, at 9-11; Ex. A-33 at Table 8.) Dr. Zepp also acknowledged that he and Ms. Ahern have different approaches to determining the forecasted risk-free rate and that the difference in the periods they use would, at that time, result in a difference of 84 basis points. (Ex. A-5, Zepp, at 9-11.) Dr. Zepp reiterated his criticism of Mr. Cassidy's decision not to give greater weight to analysts' forecasts of EPS growth and criticized as insupportable Mr. Cassidy's "inconsistent" treatment of American Water Works and Connecticut Water, neither of which had complete data, which Dr. Zepp asserted resulted in a downward bias in Staff's DCF COE estimates. (Ex. A-5, Zepp, at 11-14.) Dr. Zepp characterized Mr. Rigsby's COE analysis as having such "significant flaws" that Mr. Rigsby's range of ROE estimates could not be compared to Dr. Zepp's ROE recommendation unless the flaws were repaired. (*Id.* at 4.) Dr. Zepp also provided a table comparing past RUCO and Staff ROE recommendations to annual national averages of authorized water utility ROEs, designed to show that RUCO and Staff recommendations are lower, that the gap is increasing with time, and that the RUCO- and Staff-recommended ROEs in this case are also lower than the national average.[66] (*Id.* at 5, Rejoinder Table 1.) Dr. Zepp also attributed the differences between his and Mr. Rigsby's results to flaws in Mr. Rigsby's DCF and CAPM analyses and provided a summary of those perceived flaws. (*Id.* at 5, 7-9.)

2. RUCO

Mr. Rigsby derived RUCO's recommended COE from DCF and CAPM analyses conducted using two proxy groups—a sample group of five publicly traded water companies ("RUCO water group") and a sample group of nine natural gas local distribution companies asserted to have

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[66] Rejoinder Table 1 does not indicate how the rate case decisions were selected, whether all of the rate cases for each calendar year were included, or what ROE was adopted in each decision shown. (*See* Ex. A-5, Zepp, at Rejoinder Table 1.) Nor does it appear to take into account how rate base is calculated in other jurisdictions, what capital structures the other utilities had, and whether any additional recovery mechanisms were authorized in any of the cases. (*See id.*)

operating characteristics similar to water providers ("RUCO gas group"). (Ex. R-11 at 5, 8, 18-19, 37.) The five water utilities in the RUCO water group—Middlesex Water Company, American States Water Company, California Water Service Group, SJW Corporation, and Aqua America, Inc.—were also included in the AWC sample group.[67] (*Id.* at 21.) The RUCO gas group included AGL Resources, Inc.; Atmos Energy Corp.; Laclede Group, Inc.; New Jersey Resources Corporation; Northwest Natural Gas Co.; Piedmont Natural Gas Company; South Jersey Industries, Inc.; Southwest Gas Corporation; and WGL Holdings, Inc. (*Id.* at 23.) Mr. Rigsby explained that all of the sample utilities in both groups are engaged in providing regulated services, are publicly traded on a major stock exchange, and are currently followed by *Value Line*.[68] (*Id.* at 20, 22.)

Mr. Rigsby conducted his DCF analyses using the constant growth valuation model, an average dividend growth rate estimate of 5.17 percent for the RUCO water group, and an average dividend growth rate estimate of 5.82 percent for the RUCO gas group. (Ex. R-11 at 8, 27-28.) Mr. Rigsby compared his growth estimates with the five-year projections of *Zacks* and *Value Line* analysts and determined that his estimate for water utilities was a good representation of the growth projections available to the investing public and that his estimate for the gas companies was more optimistic than the growth projections currently presented by analysts. (*Id.* at 28-29.) Mr. Rigsby calculated dividend yields using estimated annual dividends for the next 12-month period, taken from a January 2012 *Value Line* water utility industry update and a December 2011 *Value Line* natural gas utility update, and dividing those by the average daily adjusted closing price per share of the utility's common stock for the period from December 19, 2011, through February 10, 2012.[69] (*Id.* at 30.) From this DCF analysis, Mr. Rigsby determined a COE of 8.46 percent for the RUCO water group and a COE of 9.32 percent for the RUCO gas group. (*Id.* at 30, Sched. WAR-1.)

Mr. Rigsby also conducted CAPM analyses using the RUCO water group and RUCO gas

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[67] The AWC sample group also included American Water Works Company, Inc. and Connecticut Water Service, Inc., which Mr. Rigsby excluded because *Value Line* did not have five years of historical data for American Water Works, and Connecticut Water Service is followed by *Value Line-Small and Mid-Cap*, which does not include the same forward-looking information as provided in *Value Line*. (Ex. R-11 at 24-25.)

[68] Before January 2012, Middlesex Water Company was followed by *Value Line-Small and Mid-Cap*. (Ex. R-11 at 20.)

[69] The average dividend yields were 3.29 percent for the RUCO water group and 3.59 percent for the RUCO gas group. (Ex. R-11 at 30.)

group and using for his risk-free instrument the eight-week average yield on a five-year U.S. Treasury instrument, as published in *Value Line* December 30, 2011, through February 17, 2012, which was 0.83 percent. (Ex. R-11 at 34.) Mr. Rigsby reasoned that use of the five-year instrument as the risk-free instrument was appropriate because "a good argument can be made that the yield on an instrument that matches the investment period of the asset being analyzed . . . should be used as the risk-free rate of return," and because Mr. Rigsby believes three to five years to be the typical interval between Arizona utilities' rate case applications. (*Id.* at 34.) To calculate the MRP used in the CAPM analysis, Mr. Rigsby used both a geometric and an arithmetic mean of the historical total returns on the S&P 500 index from 1926 to 2010, and for the risk-free portion of the risk premium component, he used the geometric mean of total returns of intermediate-term government bonds for the same period. (*Id.* at 35.) The geometric mean resulted in a MRP of 4.50 percent, and the arithmetic mean resulted in a MRP of 6.40 percent. (*Id.*) Mr. Rigsby used beta coefficients calculated by *Value Line* as of January 20, 2012, for the companies in the RUCO water group and as of December 9, 2011, for the companies in the RUCO gas group, resulting in a range of 0.65 to 0.85 (average 0.71) for the water utilities and a range of 0.60 to 0.75 (average 0.67) for the gas utilities. (*Id.* at 35-36.) The CAPM analyses for the RUCO water group resulted in a COE of 4.03 percent using the geometric mean and 5.38 percent using the arithmetic mean, while the CAPM analyses for the RUCO gas group resulted in a COE of 3.86 percent using the geometric mean and 5.14 percent using the arithmetic mean.[70] (*Id.* at 36-37.)

On direct, Mr. Rigsby recommended a COE of 9.30 percent for the Eastern Group, which fell just below the high side of the range of results obtained in his COE analysis. (Ex. R-11 at 5, 37.) On surrebuttal, Mr. Rigsby increased his COE recommendation to 9.40 percent based on updated *Value Line* information on the water and natural gas industries and updated stock price information. (Ex. R-13 at 6.) Mr. Rigsby characterized his recommended COE, which he pointed out was 463 basis points higher than the current 4.67 percent yield on a Baa/BBB-rated utility bond, as sufficient to

[70] Mr. Rigsby noted that if a 30-year U.S. Treasury bond had been used as the risk-free asset in the CAPM analysis, with a 0.71 beta, the results for the RUCO water group would have been 6.93 percent using the geometric mean and 7.21 percent using the arithmetic mean. (*Id.* at 36.)

provide AWC with a reasonable rate of return on invested capital, when current interest rates, the current state of the U.S. economy, the U.S. Federal Reserve's recent decision to keep interest rates at current levels until at least late 2014, Arizona's economy, and the current Arizona and national unemployment rate are all considered. (Ex. R-11 at 38, 54-55.) Mr. Rigsby also asserted that his recommended COE is consistent with the principle that a utility is entitled to earn a rate of return that is commensurate with the returns that could be made on other investments with comparable risk. (*Id.* at 54-55.) Mr. Rigsby opined that investors would view AWC as having lower financial risk than the water utilities in the RUCO water group because AWC has more in equity in its capital structure. (*Id.* at 56.)

Mr. Rigsby attributed the difference between his and Dr. Zepp's DCF analysis results primarily to Dr. Zepp's reliance on EPS forecasts (as opposed to estimates of future growth in earnings, dividends, and book value per share) for growth estimates. (Ex. R-11 at 59.) Mr. Rigsby disagreed with Dr. Zepp's growth estimates and stated that relying solely on analysts' EPS estimates would tend to produce the higher results obtained by Dr. Zepp. (*Id.* at 59-60.) Mr. Rigsby attributed the difference between his and Dr. Zepp's CAPM analysis results both to Dr. Zepp's use of forecasted yields on long-term U.S. Treasury instruments (as opposed to actual current yields) and Dr. Zepp's use of long-term U.S. Treasury instruments (as opposed to intermediate-term instruments). (*Id.* at 60.) Mr. Rigsby stated that analysts' forecasts of interest rates generally skew overly optimistic and that the yield on a five-year U.S. Treasury instrument thus is a better proxy for a risk-free rate of return. (*Id.* at 59-60.) Mr. Rigsby also asserted that the analyst estimates used by Dr. Zepp were outdated and no longer valid, as they had been made in February 2011, and the February 2012 analyst estimates were an average of 153 basis points lower. (*Id.* at 61.) Mr. Rigsby also questioned the average beta used by Dr. Zepp in his CAPM analysis because a number of the water utilities common to both the AWC sample group and the RUCO water group had seen their betas fall by approximately 5 basis points, and Connecticut Water Service (which was included by Dr. Zepp but not by Mr. Rigsby) had also seen its beta fall by 5 basis points. (*Id.* at 62.)

In addition, Mr. Rigsby disagreed with Dr. Zepp's assertion that the Eastern Group needs a 90-basis point adjustment for business risk, stating that each of the water utilities in the RUCO water

group faces the same type of risks faced by AWC. (*Id.* at 63-64.) Mr. Rigsby characterized Dr. Zepp's proposed 12.50 percent COE as "unreasonably high," pointing out that it is more than 300 basis points higher than RUCO and Staff's recommended COEs; that it is 400 basis points higher than the book common equity estimates for 2012 through 2017 published in *Value Line* on April 20, 2012; and that it is 785 basis points higher than the most recent yield on a Baa/BBB utility bond as of April 25, 2012. (Ex. R-13 at 8.) Mr. Rigsby asserted that the Commission should reject Dr. Zepp's 12.50 percent COE because it exceeds even the return on the market (11.80 percent, calculated using an arithmetic mean) by 70 basis points, which means that Dr. Zepp's position is that AWC is riskier than the market as a whole, even though AWC has operated as a regulated monopoly in Arizona since 1954, which speaks to its ability to survive difficult economic recessions. (*Id.* at 9.) Mr. Rigsby also stated that Dr. Zepp's 12.50-percent rate of return ("ROR") would reflect a 1.48 beta for AWC (more than double the average beta of the water utilities in the RUCO water group), which would place AWC among a group of businesses operating in heavily competitive industries and not as regulated utilities (including Pulte Group, Inc., which has posted losses and not paid dividends since 2009; Ford Motor Company; Overstock.com; Sinclair Broadcast Group, Inc.; and Leap Wireless International, Inc. (aka Cricket)). (*Id.* at 9-11.)

3. Staff

Mr. Cassidy estimated AWC's COE using six of the seven utilities included in the AWC sample group (all but American Water Works) ("Staff sample group") and by performing both DCF model and CAPM analyses. (Ex. S-5 at 13-14.) Mr. Cassidy stated that the Staff sample group utilities were selected because they are publicly traded and receive most of their earnings from regulated operations. (*Id.* at 13.) Mr. Cassidy explained that he excluded American Water Works from the Staff sample group because Staff believes it necessary for sample companies to have been publicly traded for a long enough period to calculate 10-year growth rates for EPS, DPS, and sustainable growth. (Ex. S-6 at 7.) Mr. Cassidy stated that American Water Works does not meet this criterion because it did not become an independent publicly traded entity until 2008 and thus has less than four years of market data available to calculate growth. (*Id.*)

Staff used both the constant-growth DCF model and the multi-stage DCF model in its

analysis. (Ex. S-5 at 14.) Under the constant-growth DCF formula, COE is the sum of the dividend yield and the annual dividend growth rate. (*Id.* at 15.) Mr. Cassidy calculated the expected yield component of the constant-growth DCF formula by dividing the expected annual dividend taken from *Value Line* by the spot stock price after close of market on February 1, 2012, which Mr. Cassidy asserted is a more accurate reflection of investors' current expectations than is historical market price. (*Id.* at 15-16.) To determine the expected dividend growth rate for the Staff sample group, Mr. Cassidy averaged the results of six different estimation methods, including historical and projected growth estimates on DPS, EPS, and sustainable growth bases,[71] using information from *Value Line*, with a resulting expected dividend growth rate of 5.2 percent.[72] (*Id.* at 16-24.) Mr. Cassidy concluded that the constant-growth DCF estimate for the Staff sample group was 8.5 percent. (*Id.* at 24.)

Mr. Cassidy next performed a multi-stage DCF model analysis—projecting future dividends for each of the sample utilities using near-term and long-term growth rates, calculating the rate that equates the present value of the forecasted dividends to the current stock price for each sample utility, and then calculating an overall sample average COE estimate. (*Id.* at 25.) Mr. Cassidy calculated near-term growth using *Value Line*'s projected dividends for the next 12 months, as available, and the average dividend growth rate of 5.2 percent calculated in the constant-growth DCF analysis. (*Id.* at 25.) Mr. Cassidy then estimated long-term growth using the arithmetic mean rate of growth in Gross Domestic Product ("GDP") from 1929 to 2011 (6.5 percent), which assumes that the water utility industry is growing at the same rate as the economy as a whole. (*Id.* at 26.) Mr. Cassidy determined the multi-stage DCF estimate to be 9.7 percent and averaged it with the constant growth DCF estimate of 8.5 percent to arrive at Staff's overall DCF estimate of 9.1 percent. (*Id.* at 26, 30-31.)

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[71] Because Staff determined that the market-to-book ratio for the Staff sample group utilities was 1.9, which implies that investors expect an entity to earn a return on equity exceeding COE, Staff assumed that investors expect the market-to-book ratio to remain greater than 1.0 and added a stock financing growth rate of 2.4 percent to the retention ratio term to calculate historical and projected sustainable growth rates, with the results being a historical sustainable growth rate of 5.3 percent and a projected sustainable growth rate of 7.2 percent. (*Id.* at 19-23.)

[72] Staff determined an average historical DPS growth rate of 3.1 percent, an average projected DPS growth rate of 4.3 percent, an average historical EPS growth rate of 4.5 percent, an average projected EPS growth rate of 6.7 percent, an average historical retention (br) growth rate of 2.9 percent, and an average projected retention growth rate of 4.5 percent. (Ex. S-5 at 17-18.)

Mr. Cassidy also used the Staff sample group to complete two different CAPM analyses: the historical MRP CAPM estimation, for which Staff used the average of three intermediate-term U.S. Treasury securities spot rates as the surrogate for the risk-free rate, and the current MRP CAPM estimation, for which Staff used the 30-year U.S. Treasury bond spot rate for the risk-free rate. (Ex. S-5 at 27-28.) Mr. Cassidy used the average of the *Value Line* betas for the Staff sample group (0.72) as a proxy for AWC's beta, which he asserted signified less volatility than the market. (*Id.* at 28.) For the historical MRP, Mr. Cassidy used the intermediate-term government bond income returns published in Ibbotson Associates' Stocks, Bonds, Bills, and Inflation 2010 Yearbook, which were 7.2 percent. (*Id.* at 29.) For the current MRP, Mr. Cassidy used the expected dividend yield and the annual per share growth rate projected by *Value Line* for all dividend-paying stocks under its review as of February 10, 2012, along with the current long-term risk-free rate (3.01 percent for a 30-year Treasury note) and the market's average beta of 1.0, to arrive at a current MRP of 11.66 percent. (*Id.* at 29-30.) Mr. Cassidy then determined Staff's overall CAPM COE estimate to be 9.0 percent, or the average of Staff's historical MRP COE estimate of 6.5 percent and its current MRP COE estimate of 11.4 percent. (*Id.* at 30-32.)

Mr. Cassidy calculated Staff's overall COE estimate of 9.1 percent by averaging the DCF estimate of 9.1 percent with the CAPM estimate of 9.0 percent. (*Id.* at 32.) Because the average capital structure for the Staff sample group utilities (48.4 percent equity and 51.6 percent debt) was very similar to AWC's capital structure, Staff determined that AWC stockholders bear only slightly less financial risk than do stockholders for the Staff sample group utilities and that it was appropriate to use the same overall COE estimate of 9.1 percent for AWC. (Ex. S-5 at 32-33.)

On surrebuttal, Mr. Cassidy updated Staff's recommended overall COE estimate for AWC to 9.4 percent based on the most recent market data then available, which had resulted in a revised DCF estimate of 9.0 percent and a revised CAPM estimate of 9.7 percent. (Ex. S-6 at 2.)

Mr. Cassidy took issue with Dr. Zepp's decision to use only analysts' forecasts to estimate DPS growth in Dr. Zepp's primary constant growth DCF analysis because, Staff stated, analysts' forecasts are known to be overly optimistic, and using analysts' forecasts alone serves to inflate that

component of the DCF model and thus the resulting estimated COE.[73] (Ex. S-5 at 35-38.) Mr. Cassidy stated that the appropriate growth rate to use in the DCF model is the dividend growth rate expected by investors, which would encompass consideration of all relevant available information, including both historical measures of past growth and analysts' forecasts of future growth. (*Id.* at 35-36.) Mr. Cassidy also criticized Dr. Zepp's use of historical average stock prices in the denominator of the current dividend yield for the DCF model, which assumes constant growth, because Staff believes that the most recent stock price is the most accurate reflection of investor expectations at any time, historical stock prices do not reflect subsequent growth, and historical stock prices serve to inflate the current dividend yield and expected dividend yield components of the DCF formula. (*Id.* at 38-39.) Mr. Cassidy further stated that Dr. Zepp's rationale for using historical average stock prices is without merit because investors already know that dividends are paid out quarterly and thus would not need to be compensated for the time value of money. (*Id.* at 39.) Mr. Cassidy also took exception to Dr. Zepp's use of average annual price appreciation as a growth parameter by which to estimate the expected dividend growth rate and Dr. Zepp's use of a growth parameter relating to market values in excess of book values. (*Id.* at 40.)

Mr. Cassidy further disagreed with Dr. Zepp's use of a forecasted risk-free rate (rather than the current rate borne by investors) in his CAPM analyses, which Staff stated served to overstate the estimated market COE. (*Id.* at 41.) Mr. Cassidy pointed out that Dr. Zepp's risk-free rate was 216 basis points higher than the current 30-year U.S. Treasury yield, which was 3.01 percent. (*Id.* at 42.) Mr. Cassidy also questioned Dr. Zepp's use of RP models to check his CAPM results, which Mr. Cassidy said called into question the validity of the CAPM results. (*Id.* at 42.) At hearing, Mr. Cassidy emphasized that using a forecasted risk-free rate in the CAPM is not appropriate and that Dr. Zepp's failure to update his analysis and recommendations based on changes in market interest rates made Dr. Zepp's position not reflective of the market and not reflective of what the COE should be in this case. (Tr. at 1109-11, 1124-25.)

Mr. Cassidy also recommended disapproval of Dr. Zepp's recommended 90-basis-point risk

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[73] Staff cited multiple publications that have addressed analysts' inability to make reliable projections of future growth. (Ex. S-5 at 36-38.)

premium, both because Mr. Cassidy believes that the Commission has previously determined that utility size does not warrant recognition of a risk premium for regulated utilities, and because he believes that investors are able to eliminate firm-specific risks by holding diversified portfolios. (Ex. S-5. at 12-13, 43 (citing Decision No. 64282 (December 28, 2001) and Decision No. 64727 (April 17, 2002)).)

Mr. Cassidy also addressed Ms. Ahern's COE testimony, concluding that Ms. Ahern's PRPM™ analysis, which used a 3.58 percent risk-free rate based on forecasts of the 30-year long-term U.S. Treasury yield (as opposed to Dr. Zepp's 5.17 percent risk-free rate), implied that Dr. Zepp had overstated AWC's COE by 159 basis points. (Ex. S-5 at 3-5.) Mr. Cassidy concluded that Dr. Zepp's RP models actually overstated the COE by 202 basis points because Ms. Ahern's risk-free rate also overstated the current yield on the 30-year long-term U.S. Treasury bonds (3.15 percent) by 43 basis points. (*Id.* at 5-6.) Mr. Cassidy explained that he considered both historical and projected growth in his constant growth DCF model analysis because investors look at both historical and projected growth measures when making investment decisions; explained that Staff has long relied on *Value Line* as the source for growth estimates because it is well respected, readily accessible, and provides a uniform five-year projection of DPS and EPS for each company it follows; explained that American Water Works was excluded from the Staff sample group because there is not data available for it as an independent publicly traded entity before mid-2008; and suggested that inclusion of American Water Works in Dr. Zepp's sample group was inappropriate. (*Id.* at 6-8.) Mr. Cassidy also acknowledged that no DPS and EPS projections were available for Connecticut Water, which was included in the Staff sample group, because Connecticut Water is covered by the *Value Line-Small and Mid-Cap Survey* as opposed to *Value Line*. (*Id.* at 7.)

Staff's initially recommended COE of 9.1 percent resulted in a 7.9 percent overall rate of return. (Ex. S-5 at 43.) Staff's updated analysis resulted in a Staff recommended COE of 9.4 percent and a recommended 8.1 percent overall rate of return. (Ex. S-6 at 2.)

4. Conclusion on Cost of Equity

Each of the parties has put forth expert testimony including analyses of and recommendations for the appropriate COE for AWC and its Eastern Group, and each expert has also scrutinized and

questioned the analyses and recommendations of the other parties' experts. This is to be expected in the absence of agreement, and we consider all of the experts who provided testimony in this case to be qualified to have done so. In the end, the Commission must determine the appropriate COE for AWC's Eastern Group based upon all of the evidence, after considering all of the arguments presented. The Commission must also take into account the best interests of the Eastern Group's ratepayers, who are best served neither by a COE that is set too low and will result in jeopardy to AWC's financial health and ability to attract capital nor by a COE that is set too high and will result in AWC's overearning for services to the Eastern Group.

After considering all of the evidence presented in this case, including each party's COE estimates and each party's criticisms of other parties' analyses and input data, we conclude that the just and reasonable COE for the Eastern Group is 10.55 percent. In addition to the parties' COE recommendations themselves, our decision has been influenced by a number of other significant factors. For example, we are not persuaded that AWC's location in Arizona or its size necessitates a 90-basis-point risk premium, as Dr. Zepp asserted. Additionally, although our decision in the 2012 Western Group Rate Case adopted a COE of 10.0 percent for the Western Group, we conclude that the Eastern Group, due to the age of some of its systems and the resulting increased need for infrastructure replacement and improvement, necessitates a somewhat higher COE. We find persuasive the criticisms of Dr. Zepp's analysis as outdated because Dr. Zepp opted not to revise his analysis and recommendations based on fresher data after his prefiled direct testimony in this case. We also find persuasive Staff's criticism of the risk free rates used by Dr. Zepp and Ms. Ahern as well as Staff's argument that Dr. Zepp's analysis, if accepted, would place AWC in a similar risk category as businesses in highly competitive industries such as homebuilding and automotive production, a premise with which we cannot agree considering the monopolistic nature of AWC's business.

D. Cost of Capital Summary

Based upon our adoption of AWC's actual TY capital structure and cost of debt, upon which the parties agreed, and our adoption of a COE of 10.55 percent, we find that the Eastern Group's WACC is 8.72 percent and that the fair value rate of return ("FVROR") for the Eastern Group is

equivalent to its WACC and is 8.72 percent. This FVROR strikes a fair and appropriate balance between the needs of AWC and its ratepayers and will result in the establishment of just and reasonable rates in keeping with the Commission's responsibilities under the Arizona Constitution and the existing case law.

Cost of Capital Summary			
	Percent of Total	Cost	Weighted Cost
Debt	49.03%	6.82%	3.34%
Equity	50.97%	10.55%	5.38%
Total	100.00%		**8.72%**

VI. AUTHORIZED REVENUE INCREASE

As a result of our decisions made herein, the authorized revenue increase for the Eastern Group as a whole is $3,719,591, and the revenue increase authorized for the Eastern Group Divisions and systems are as follows:

A. Superstition (AJ, Superior, Miami)

Based on our determinations made herein, the Superstition Division's gross revenue should increase by $2,792,757, as follows:

Fair Value Rate Base:	$50,174,504
Required Fair Value Rate of Return:	8.72%
Required Operating Income:	$4,375,217
Operating Income Available:	$2,691,819
Operating Income Deficiency:	$1,683,398
Gross Revenue Conversion Factor:	1.6590
Gross Revenue Increase:	$2,792,757

B. Cochise (Bisbee, Sierra Vista)

Based on our determinations made herein, the Cochise Division's gross revenue should increase by $481,238, as follows:

Fair Value Rate Base:	$8,377,277
Required Fair Value Rate of Return:	8.72%
Required Operating Income:	$730,499
Operating Income Available:	$439,122
Operating Income Deficiency:	$291,377
Gross Revenue Conversion Factor:	1.6516
Gross Revenue Increase:	$481,238

C. San Manuel

Based on our determinations made herein, the San Manuel system's gross revenue should increase by $230,587, as follows:

Fair Value Rate Base:	$2,029,061
Required Fair Value Rate of Return:	8.72%
Required Operating Income:	$176,934
Operating Income Available:	$37,741
Operating Income Deficiency:	$139,193
Gross Revenue Conversion Factor:	1.6566
Gross Revenue Increase:	$230,587

D. Oracle

Based on our determinations made herein, on a stand-alone basis, the Oracle system's gross revenue should increase by $64,642, as follows:

Fair Value Rate Base:	$2,483,094
Required Fair Value Rate of Return:	8.72%
Required Operating Income:	$216,526
Operating Income Available:	$177,394
Operating Income Deficiency:	$39,132
Gross Revenue Conversion Factor:	1.6519
Gross Revenue Increase:	$64,642

E. SaddleBrooke Ranch

Based on our determinations made herein, on a stand-alone basis, the SaddleBrooke Ranch system's gross revenue should increase by $128,060, as follows:

Fair Value Rate Base:	($114,727)
Required Fair Value Rate of Return:	8.72%
Required Operating Income:	$0
Operating Income Available:	($77,523)
Operating Income Deficiency:	$77,523
Gross Revenue Conversion Factor:	1.6519
Gross Revenue Increase:	$128,060

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F. Winkelman

Based on our determinations made herein, the Winkelman system's gross revenue should increase by $22,307, as follows:

Fair Value Rate Base:	$304,702
Required Fair Value Rate of Return:	8.72%
Required Operating Income:	$26,570
Operating Income Available:	$13,262
Operating Income Deficiency:	$13,308
Gross Revenue Conversion Factor:	1.6762
Gross Revenue Increase:	$22,307

VII. RATE DESIGN

A. Cost of Service Study

Preliminary to creating AWC's proposed rate design, Mr. Reiker prepared a cost of service study ("COSS") using the "commodity demand" method[74] to obtain a starting point for determining allocation of revenues among customer classes and between fixed charges and commodity charges. (Ex. A-2 at 21-22.) The COSS, as updated through AWC's final schedules, shows that for the Eastern Group as a whole, the residential customer class would require the largest percentage increase in rates to have its new rates fully cover cost of service. (*See* AWC Final Sched. G-1.) The COSS also shows that on a percentage basis, SaddleBrooke Ranch is the system that is currently least able to cover cost of service with its rates. (*See id.*)

The following table summarizes the results of the COSS, as presented in AWC's Final Schedules:[75]

System/Division	Overall	Residential	Commercial	Industrial	Other	Priv. Fire
Superstition						
Rate of Return	5.03%	3.93%	11.48%	16.82%	9.29%	8.89%
Req. Rev. Inc. %	26.08%	31.48%	4.55%	(7.52%)	12.57%	6.07%
Cochise						
Rate of Return	4.65%	1.59%	16.45%	9.92%	44.81%	4.78%
Req. Rev. Inc. %	21.34%	33.23%	(4.16%)	5.90%	(28.51%)	46.63%
San Manuel						
Rate of Return	1.45%	0.36%	6.38%	n/a	6.10%	469.42%
Req. Rev. Inc. %	29.12%	31.43%	18.75%	0.00%	19.51%	(51.47%)

[74] Mr. Reiker stated that this method splits costs into four functional categories—commodity, demand, customer, and direct private fire—and is consistent with the allocation factors used in the 2010 company-wide rate case. (Ex. A-2 at 22.)

[75] *See* AWC Final Sched. G-1.

Oracle						
Rate of Return	6.55%	5.32%	14.51%	n/a	11.22%	n/a
Req. Rev. Inc. %	15.19%	18.85%	2.10%	0.00%	4.74%	(53.00%)
SaddleBrooke R.						
Rate of Return	n/a[76]	n/a	n/a	n/a	n/a	n/a
Req. Rev. Inc. %	92.24%	121.99%	74.32%	0.00%	62.47%	387.21%
Winkelman						
Rate of Return	3.52%	0.55%	9.23%	8.20%	n/a	n/a
Req. Rev. Inc. %	31.21%	44.49%	13.70%	42.31%	0.00%	0.00%

Mr. Reiker testified that he used the COSS data to target revenue requirements and then applied the ratemaking policies of gradualism, avoiding inter-system subsidies, affordability, and cost recovery to determine AWC's proposed rates.[77] (Ex. A-2 at 23-24.) Mr. Reiker further testified:

> The Commission should set a fair and reasonable rate, and that fair and reasonable rate is one that allows the company to recover its cost of service, no more, no less, over the long term. I believe that's the rate and it's widely believed that that is the rate that's in the customers' interest and the company's.[78]

Mr. Reiker testified that AWC has not recovered its cost of service in more than 15 years, since 1996, although it has filed six rate case applications during that time. (Tr. at 332, 334.) Mr. Reiker also asserted that during that time, AWC's shareholders have subsidized AWC's operations in the amount of more than $40 million (the estimated under-earnings for the period) and, further, that the shareholders in 2010 paid back two years' worth of dividends. (Tr. at 334-35.) Mr. Reiker acknowledged, however, that many factors play into a company's ability to cover its cost of service with its rates, including management decisions on controlling costs and filing rate cases, and that for the years 2005 and later, AWC's need to install a tremendous amount of plant for arsenic remediation significantly contributed to AWC's inability to cover its cost of service. (Tr. at 337-38.)

Neither RUCO nor Staff provided evidence contradicting the results of AWC's COSS.

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[76] SaddleBrooke Ranch had a negative rate base for the test year, and AWC has adopted Staff's recommendation to set SaddleBrooke Ranch's required operating income equal to $0 because of its negative rate base. (AWC Final Sched. G-1.)

[77] The policy of gradualism values bringing rates for each customer class closer to the class's cost of service through small steps over time rather than drastic changes. (Ex. A-2 at 23-24.) The policy of avoiding inter-system subsidies values not requiring one service area's residential customers to subsidize service for another service area's residential customers when the service areas are consolidated for ratemaking. (*Id.* at 24-25.) The policy of affordability values providing discounts to residential customers who use minimal water, without discrimination based on income or ability to pay. (*Id.*) The policy of cost recovery values assurance that AWC will recover its cost of service even with declining customer usage. (*Id.* at 24, 26.)

[78] Tr. at 239-40.

B. Adjustment for Reductions in Customer Usage

1. AWC

AWC proposes an adjustment to its TY billing determinants because of what it asserts to be a quantifiable and known and measurable decline in customer usage. To support AWC's position, Mr. Reiker provided a multiple regression analysis completed using actual monthly residential, commercial, and combined residential/commercial usage data from January 2001 through December 2010 and an "exponential trend model" that controlled for average monthly temperature, monthly precipitation, drought conditions, and seasonal variations unrelated to weather. (Ex. A-2 at 27, Tr. at 325.) Mr. Reiker testified that, per his analysis, residential and combined residential/commercial usage per customer is declining in each Eastern Group water system that had inverted tier rates in place at the beginning of the TY.[79] (Ex. A-2 at 27.) Mr. Reiker summarized the results for the Eastern Group systems individually and as a whole (except for SaddleBrooke Ranch) as follows:

Annual Growth/(Decline) in Usage Per Customer

	Residential	Commercial	Combined
Superstition	(1.376%)	(2.850%)	(1.732%)
Cochise	(2.708%)	2.443%	(1.484%)
San Manuel/Oracle/Winkelman	(3.093%)	(2.106%)	(2.805%)
Eastern Group as a Whole	(1.742%)	(1.633%)	(1.757%)

From these results, Mr. Reiker initially concluded that inverted tier rates result in customer water conservation and, further, that this results in AWC's inability to recover its costs. (*See id.* at 28-29.) In support, Mr. Reiker provided a graph comparing the reduction in revenues from residential customer consumption in the Superstition Division with the reduction in costs related to serving those customers and showing the resultant gap in cost recovery broadening as customer usage decreases. (*Id.* at 28-29, Ex. JMR-2.) The graph shows that with a 7-percent reduction in customer usage, revenues would be reduced by $734,244, while costs would be reduced by $552,144, leaving a gap of $182,100 in unrecovered costs. (*Id.* at 29, Ex. JMR-2.) Mr. Reiker later revised his position after reviewing third-party studies concluding that declines in residential water consumption are largely

[79] Mr. Reiker testified that this pattern of decline was not occurring in the White Tank system (not part of the Eastern Group) and that the Navajo and Verde Valley systems (Northern Group) did not have statistically significant results and also did not have inverted tier rates in effect during the period analyzed. (Ex. A-2 at 27-28.)

attributable to more efficient home appliances, including low-flow toilets, and to more conservation-oriented landscaping practices.[80] (Tr. at 220-21.) Mr. Reiker maintained, however, that adjustments should be made to ensure AWC can recover its cost of service in the face of declining customer consumption, regardless of the reason for the decline, and asserted that the Commission should rely on the study results as further evidence that the pattern of decline in customer usage is a known and measurable change that will continue during the period new rates are in effect. (Tr. at 219-21; Ex. A-4 at 40.)

AWC proposes to address the asserted gap in cost recovery by adjusting its TY billing determinants based on demand forecasting, a process it referred to as "demand normalization." (Ex. A-2 at 30.) Mr. Reiker asserted that the demand normalization held constant variables related to weather and seasonal variations not related to weather, factored in a net increase in customers and sales resulting from customer growth,[81] and adjusted the billing determinants for the Eastern Group systems in accordance with the annual growth/(decline) figures in the table shown above, for an overall net reduction in residential and commercial usage (at proposed rates) of 59,927.1 thousand gallons, or 1.69 percent. (*Id.* at 30-31.) The individual system graphs included with the multiple regression analysis data showed declining usage during the period from January 2001 through

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[80] In his rebuttal testimony, Mr. Reiker cited the following as studies finding a trend of decline in residential water usage: Water Research Foundation and U.S. Environmental Protection Agency, "North America Residential Water Usage Trends Since 1992" (2010) ("WRF/EPA Study") at xxi, xxvii; and Opflow, "Declining Residential Water Use Presents Challenges, Opportunities" (May 2011). (Ex. A-4 at 39.) The WRF/EPA Study found a decline of 0.44 percent in annual residential usage amongst U.S. households since 1975 and concluded that residential water usage will continue to decline. (*Id.*) Per Mr. Reiker, the WRF/EPA Study attributed the decline to smaller households and use of water-conserving appliances. (*Id.* at 39-40.)

[81] AWC showed the following changes in customer counts from TY average (per bill count) to end-of-TY, (Ex. A-3 at Sched. C-2 App):

System	Residential	Commercial	Overall
Superstition (Apache Junction)	+ 12.3	+ 7.1	+ 19.4
Superstition (Superior)	– 5.2	– 1.6	– 6.8
Superstition (Miami)	– 4.3	– 0.3	– 4.7
Cochise (Bisbee)	+ 8.8	+ 3.4	+ 12.3
Cochise (Sierra Vista)	+ 6.5	– 0.3	+ 6.2
San Manuel	– 7.5	– 0.8	– 8.3
Oracle	– 7.8	– 3.3	– 11.2
SaddleBrooke Ranch	+ 24.9	+ 1.3	+26.2
Winkelman	– 1.7	– 0.8	– 2.6
Eastern Group Total	**+ 26**	**+ 4.7**	**+ 30.5**

December 2010 for all customer classes in all Eastern Group systems other than the commercial customer class in the Cochise system.[82] (Ex. A-2 at Ex. JMR-1.) The adjustments to the billing determinants reduced gallons consumed at the third-tier level and the resulting average gallons per bill from the TY actual levels, but without reflecting the change as a reduction in TY revenue or changing the proposed revenue requirement. (Ex. A-2 at 31, Sched. H-5 at 3rd page for each system.) The adjusted billing determinants were then used to design AWC's proposed rates. (Ex. A-2 at 31.) Mr. Reiker acknowledged that the adjustments could result in over-recovery by AWC if customer consumption does not decline as projected, but stated that over-recovery is always a risk in ratemaking and that he believes the projected declines are known and measurable. (*See* Tr. at 222.)

2. RUCO

RUCO opposed AWC's proposed adjustment to TY billing determinants for declining customer usage because RUCO is not comfortable with AWC's method for adjusting those billing determinants. Mr. Rigsby testified as follows:

> I guess at the end of the day, what it boils down to is that in order to go along with the company's declining usage adjustment, which is going to make an adjustment to actual test year billing determinants, you've almost got to have total faith in the predictive abilities of Mr. Reiker's regression analysis model. And I know he's put a lot of work into it and I know that he feels very strongly about it, but at the end of the day, I just don't think that it's the -- the right way to go is to go ahead and make adjustments to, you know, billing determinants that are known and measurable.[83]

Mr. Rigsby also testified that he had no response to the other studies referenced by AWC but that he had not seen anything in those studies that caused him to question their validity. (Tr. at 839-40.) Mr. Rigsby asserted that he believes the TY billing determinants are "probably the best predictor of what you're going to be seeing in the future . . . on an annualized basis." (Tr. at 840.)

3. Staff

Staff initially recommended rejection of all of AWC's normalization adjustments based on declining customer usage because Mr. Erdwurm found Mr. Reiker's estimates of change in use per customer to be unstable, to vary with the time frame for analysis, and thus not to be known and

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[82] No data were provided for SaddleBrooke Ranch. (Ex. A-2 at Ex. JMR-1.)
[83] Tr. at 801-02.

measurable. (Ex. S-7 at 5.) On surrebuttal, Mr. Erdwurm modified Staff's position by asserting that although declining usage adjustments should be rejected for all other Eastern Group customers and systems, a declining usage adjustment should be made for commercial customers in the Superstition Division. (Ex. S-8 at 4-5.) Mr. Erdwurm testified that after evaluating the adjustments on a case-by-case basis, he had determined that the regression analysis data for the Superstition commercial customers was robust and statistically significant. (*Id.*) He also testified that he had confirmed the decline of Superstition commercial customer usage post-TY as predicted by the statistical models. (*Id.* at 6.) Mr. Erdwurm recommended that AWC's proposed adjustment for the Superstition Division be scaled back, however—by basing the adjustment on the upper bound of a 99-percent confidence interval constructed around the slope coefficient rather than on the slope coefficient itself and by multiplying the adjustment by a factor of 71.58 percent, representing the non-commodity portion of revenue—to a decrease of 0.717 percent (as opposed to AWC's proposed decrease of 2.888 percent). (*Id.* at 5-6.) Mr. Erdwurm contrasted the use of a regression analysis to determine an adjustment to billing determinants, which amounts to a statistical adjustment and he believes is appropriate, to the use of a regression analysis to determine an accounting adjustment. (Tr. at 1376-79.) Mr. Erdwurm stated that although he and Mr. Reiker had done all of the regressions the same way, Mr. Erdwurm did not feel comfortable with any of the other proposed adjustments based on declining usage. (Tr. at 1378.) Mr. Erdwurm asserted that "the public interest is bolstered" by offering utilities incentives encouraging their support of public policy objectives to conserve water and use water efficiently. (*Id.* at 6.) Mr. Erdwurm further testified that a utility should not be penalized for supporting a public policy objective that reduces its sales, such as conservation of water, and that it is good public policy to allow AWC a billing determinant adjustment for the Superstition Division commercial customers. (*Id.*; Tr. at 1376.) Although Mr. Erdwurm did not question the outcome of the studies showing that residential water usage is declining on a national basis, and is aware that this gradual decline in usage is occurring, he did not find that the statistical analysis completed by AWC supported the normalization adjustment proposed, except as to the Superstition Division commercial customers, and was uncertain how usage will change in the next few years while the rates set in this proceeding are effective. (*See* Tr. at 1401-03, 1404-08.)

4. Conclusion

AWC has performed an elaborate statistical analysis of actual Eastern Group data to support its request for a downward adjustment in its billing determinants. AWC is effectively requesting to have its rates set based on the assumption that its TY commodity sales (gallons sold) were lower than they actually were, because AWC believes that its commodity sales are declining with time and expects that decline to continue. RUCO is not confident that AWC's statistical analysis can be relied upon to support its requested adjustment, and Staff has expressed confidence in the results of the statistical analysis for only one customer class within one Eastern Group Division (Superstition Division commercial customers).[84] Additionally, Staff has made recommendations that would significantly reduce the adjustment even for that one class of customers, as described above. Although AWC initially attributed the asserted decline in consumption to a Commission-mandated inverted tier rate design, AWC later acknowledged that the change in customer consumption has been caused instead by a broader societal change in consumption patterns due to factors such as use of more efficient appliances and more conservation-oriented landscaping practices. AWC did not change its request, however.

Because AWC chose to make its adjustments to billing determinants rather than through revenues and expenses, we cannot be confident that the appropriate associated reductions to future operating costs, as reflected in the graph in Mr. Reiker's direct testimony,[85] have also been made. AWC's adjustment methodology also makes it difficult to identify the projected annual impact of the normalization adjustments (as opposed to the impact of the proposed changes in rate design),[86] although it appears that the normalization adjustment would impact annual revenue in an amount between $155,438.91 and $446,738.55 at AWC's proposed rates.[87]

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[84] During the TY, Superstition had a total of approximately 944 commercial customers. (Ex. A-2 at Sched. H-5.)

[85] *See* Ex. A-2 at 29, JRM-2.

[86] *See* Ex. A-2 at Sched. H-5. AWC did not provide total TY usage and revenues at proposed rates with customer growth before normalization.

[87] *See* Ex. A-2 at 31. This was estimated using 59,927.1 thousand gallons and the lowest AWC-proposed third-tier commodity rate of $2.5938 (Cochise-Sierra Vista) and the highest AWC-proposed third-tier commodity rate of $7.4547 (Oracle).

It is possible that, with more complete and transparent information as to the normalization adjustment methodology and its impacts, the Commission might find such an adjustment to be appropriate in the future. The Commission understands that a consistent pattern of declining usage, and the diminished revenues that follow, could jeopardize AWC's ability to recover its cost of service, which is contrary to the best interests of AWC, AWC's customers, and the Commission. However, the Commission will not approve such an adjustment without first being confident that the changes in usage are known and measurable, that any corresponding changes in costs have been factored into the normalization calculation so as to avoid mismatches and over-recovery, and that the Commission is aware of the actual impacts of the adjustment on proposed rates.

Based upon the evidence presented, and the preceding discussion, we deny AWC's requested downward adjustment of its TY billing determinants.

C. Rate Consolidation

1. AWC

AWC originally proposed that its San Manuel, Oracle, and SaddleBrooke Ranch systems be fully consolidated into a Division to be known as Falcon Valley. (Ex. A-2 at 7, 22.) This full consolidation would include consolidation of financial and operating data, billing records, and general service tariffs. (*Id.* at 7.) Mr. Harris asserted that full consolidation was appropriate because the systems are in close proximity to each other and share management, operational employees, and customer service. (Ex. A-10 at 9.) In addition, the Oracle and SaddleBrooke Ranch systems are physically interconnected and share water production and pumping resources. (*Id.*) Mr. Harris noted that Staff previously has taken the position that physically interconnected systems should have single tariff pricing. (*Id.* at 9-10.)

On rejoinder, AWC changed its position to request that only Oracle and SaddleBrooke Ranch be fully consolidated, with San Manuel to remain as a separate stand-alone system. (Ex. A-5, Harris, at 12-13.) The reason for the changed position was that AWC had, since its application, reached an agreement to reduce its purchased water costs in San Manuel by almost $69,000, resulting in a reduced cost of service for San Manuel, which would result in San Manuel customers' significantly subsidizing Oracle and SaddleBrooke Ranch customers if the three systems were fully consolidated

as originally proposed. (Tr. at 217.) Mr. Harris testified that the reduction in purchased water expense was due to AWC's reaching an agreement with BHP Copper, Inc. to reduce a cost increase in San Manuel. (Ex. A-5, Harris, at 13.) AWC still desires to have the newly combined Oracle and SaddleBrooke Ranch become known as the Falcon Valley Division. (Tr. at 304.)

AWC characterized its revised consolidation proposal as an adoption of RUCO's position on consolidation. (Ex. A-5, Harris, at 13.)

AWC found Staff's recommended denial of consolidation of any of the three systems "difficult to understand" as Staff had not elaborated about the perceived adverse impacts of consolidation, and Staff's recommended revenue increase for SaddleBrooke Ranch, on a stand-alone basis, was $126,586, or 108.10 percent. (Ex. A-5, Harris, at 13.) Mr. Reiker testified that both of Staff's alternative rate designs for SaddleBrooke Ranch would generate revenue resulting in a shortfall of approximately $69,000 and $75,000, respectively. (Ex. A-5, Reiker, at 11.) Mr. Reiker further asserted that Staff's proposed revenue increases for Oracle and SaddleBrooke Ranch (2.4 percent and 108.1 percent, respectively) support AWC's position that those two systems should be fully consolidated in this case. (*Id.*)

2. RUCO

RUCO initially supported full consolidation of the San Manuel, Oracle, and SaddleBrooke Ranch systems as originally proposed by AWC. (Ex. R-6 at 5-7; Ex. R-10 at 14-18.) In supporting consolidation, Mr. Mease cited the reasons provided by AWC: shared management, operating employees, and customer service; streamlining of administrative and regulatory processes, which should lower costs; and the existing physical interconnection between the Oracle and SaddleBrooke Ranch systems. (Ex. R-6 at 5-6.)

On surrebuttal, RUCO withdrew its recommendation for the San Manuel system to be included in Falcon Valley and asserted that the San Manuel system should instead remain as a stand-alone system. (Ex. R-8 at 5.) RUCO changed its position after determining that consolidating San Manuel into Falcon Valley would result in San Manuel customers paying approximately an additional $70,000 to subsidize Oracle and SaddleBrooke Ranch customers. (*Id.*) RUCO's final position was that only the Oracle and SaddleBrooke Ranch systems should be fully consolidated. (Tr. at 674.)

3. Staff

Staff's position is that the Oracle, SaddleBrooke Ranch, and San Manuel systems should not be consolidated at this time, although Staff believes that the Oracle and SaddleBrooke Ranch systems should eventually be fully consolidated due to their interconnection; thus, Staff proposed identical commodity rates for those systems, as a step toward consolidation. (Ex. S-7 at 3; S-8 at 4.) Mr. Erdwurm testified that consolidating San Manuel, SaddleBrooke Ranch, and Oracle now would adversely impact customers of San Manuel and SaddleBrooke Ranch. (*Id.*)

At hearing, Mr. Erdwurm explained that keeping San Manuel separate was the primary issue from his perspective, with Oracle and SaddleBrooke Ranch being only a secondary issue. (Tr. at 1384-85.) Mr. Erdwurm testified that although Oracle and SaddleBrooke Ranch should be consolidated in the next rate case, he felt it appropriate simply to move toward consolidation in this case, as the full consolidation of the three systems into Falcon Valley was not going to be completed in this case. (*Id.*) He asserted that the delay in consolidation would not cause the parties to exert much extra effort. (*Id.*) Mr. Erdwurm also testified that the question of consolidation is a policy issue and that "in my opinion as an economist or a statistician, there's no right or wrong answer on the consolidation issue," although he also stated that he supports the idea of consolidation and believes that consolidation can be beneficial. (Tr. at 1385-89.) Mr. Erdwurm clarified at hearing that the perceived shortfall in SaddleBrooke Ranch revenues from Staff's proposed rate designs was intentional and due to approximately $70,000 in subsidization of the SaddleBrooke Ranch system by the Superstition Division and the other Eastern Group systems. (Tr. at 1388-89, 1399-1402.) Mr. Erdwurm also explained that when moving toward consolidation, there is less focus on ensuring that each individual system recovers its own cost of service through its own rates and more focus on overall recovery. (*See id.*)

4. Conclusion

We find that Oracle and SaddleBrooke Ranch should be fully consolidated into the Falcon Valley Division in this case rather than the next and that San Manuel should, for the time being, remain as a separate stand-alone system. Although we understand concerns about gradualism, we find that it is in the public interest to consolidate fully the rates and operations for these two

interconnected systems at this time so that their customers, who are essentially served by the same system already, pay the same rates for service. SaddleBrooke Ranch customers are now paying outdated and artificially low rates, as is amply demonstrated by AWC's COSS, and equity dictates that those customers should pay under the same rate design as do the Oracle customers who are receiving the same water through the same public water system. We further find that the rate impact to the customers of Oracle and SaddleBrooke Ranch caused by such consolidation in this case is just and reasonable.

D. Rate Design; Allocation of Revenues; Bill Impacts

The current rates and the parties' final rate proposals for the two most common residential and commercial meter sizes in the Eastern Group systems are as follows:[88]

Superstition (AJ, Superior, Miami)	Present Rates	AWC Proposed	RUCO Proposed	Staff Proposed Alt. 1	Staff Proposed Alt. 2
Residential 5/8" x ¾" Meter					
Monthly minimum	$17.52	$23.00	$20.46	$17.48	$20.57
Commodity (per 1,000 gal)					
1 to 3,000 gallons	$2.2820	$2.8983	$2.5693	$1.7930	$1.3350
3,001 to 10,000 gallons	$2.8527	$3.6229	$3.2117	$3.6110	$3.0460
Over 10,000 gallons	$3.5663	$4.5286	$4.0147	$5.5900	$5.3700
Residential 1" Meter					
Monthly minimum	$43.80	$57.50	$51.15	$43.70	$51.43
Commodity (per 1,000 gal)					
1 to 10,000 gallons	$2.8527				
Over 10,000 gallons	$3.5663				
1 to 40,000 gallons		$3.6229	$3.2117		
Over 40,000 gallons		$4.5286	$4.0147		
1 to 22,500 gallons				$3.6110	$3.0460
Over 22,500 gallons				$5.5900	$5.3700
Commercial 5/8" x ¾" Meter					
Monthly minimum	$18.44	$23.00	$20.46	$17.48	$20.57
Commodity (per 1,000 gal)					
1 to 10,000 gallons	$2.8527	$3.6229	$3.2117	$3.6110	$3.0460
Over 10,000 gallons	$3.5663	$4.5286	$4.0147	$5.5900	$5.3700
Commercial 1" Meter					
Monthly minimum	$46.10	$57.50	$51.15	$43.70	$51.43
Commodity (per 1,000 gal)					
1 to 30,000 gallons	$2.8527				

[88] Sources are Ex. A-4 at Sched. H-3; AWC Final Sched. H-3; RUCO Final Sched. RD-1; Staff Final Sched. DBE-3A through DBE-3G, Staff Final Sched. DBE-4A through DBE-4G.

Over 30,000 gallons	$3.5663				
1 to 40,000 gallons		$3.6229	$3.2117		
Over 40,000 gallons		$4.5286	$4.0147		
1 to 22,500 gallons				$3.6110	$3.0460
Over 22,500 gallons				$5.5900	$5.3700
Cochise (Bisbee)	**Present Rates**	**AWC Proposed**	**RUCO Proposed**	**Staff Proposed Alt. 1**	**Staff Proposed Alt. 2**
Residential 5/8" x ¾" Meter					
Monthly minimum	$13.36	$20.00	$18.40	$13.52	$15.12
Commodity (per 1,000 gal)					
1 to 3,000 gallons	$3.6039	$3.5410	$3.1580	$2.6550	$2.3180
3,001 to 10,000 gallons	$4.5049	$4.4262	$3.9476	$4.8420	$4.5460
Over 10,000 gallons	$5.6312	$5.5328	$4.9338	$6.4550	$6.2620
Residential 1"Meter					
Monthly minimum	$33.39	$50.00	$46.00	$33.80	$37.80
Commodity (per 1,000 gal)					
1 to 10,000 gallons	$4.5049				
Over 10,000 gallons	$5.6312				
1 to 35,000 gallons		$4.4262	$3.9476		
Over 35,000 gallons		$5.5328	$4.9338		
1 to 20,000 gallons				$4.8420	$4.5460
Over 20,000 gallons				$6.4550	$6.2620
Commercial 5/8" x ¾" Meter					
Monthly minimum	$13.36	$20.00	$18.40	$13.52	$15.12
Commodity (per 1,000 gal)					
1 to 10,000 gallons	$4.5049	$4.4262	$3.9476	$4.8420	$4.5460
Over 10,000 gallons	$5.6312	$5.5328	$4.9338	$6.4550	$6.2620
Commercial 1" Meter					
Monthly minimum	$33.39	$50.00	$46.00	$33.80	$37.80
Commodity (per 1,000 gal)					
1 to 25,000 gallons	$4.5049				
Over 25,000 gallons	$5.6312				
1 to 35,000 gallons		$4.4262	$3.9476		
Over 35,000 gallons		$5.5328	$4.9338		
1 to 20,000 gallons				$4.8420	$4.5460
Over 20,000 gallons				$6.4550	$6.2620
Cochise (Sierra Vista)	**Present Rates**	**AWC Proposed**	**RUCO Proposed**	**Staff Proposed Alt. 1**	**Staff Proposed Alt. 2**
Residential 5/8" x ¾" Meter					
Monthly minimum	$13.36	$20.00	$18.40	$13.52	$14.56
Commodity (per 1,000 gal)					
1 to 3,000 gallons	$1.3626	$1.6600	$1.4707	$1.2070	$1.0870
3,001 to 10,000 gallons	$1.7032	$2.0750	$1.8384	$2.1050	$1.7730
Over 10,000 gallons	$2.1290	$2.5938	$2.2981	$2.8970	$3.0550

Residential 1"Meter					
Monthly minimum	$33.39	$50.00	$46.00	$33.80	$36.40
Commodity (per 1,000 gal)					
1 to 10,000 gallons	$1.7032				
Over 10,000 gallons	$2.1290				
1 to 35,000 gallons		$2.0750	$1.8384		
Over 35,000 gallons		$2.5938	$2.2981		
1 to 20,000 gallons				$2.1050	$1.7730
Over 20,000 gallons				$2.8970	$3.0550
Commercial 5/8" x ¾" Meter					
Monthly minimum	$13.36	$20.00	$18.40	$13.52	$14.56
Commodity (per 1,000 gal)					
1 to 10,000 gallons	$1.7480	$2.0750	$1.8384	$2.1050	$1.7730
Over 10,000 gallons	$2.1850	$2.5938	$2.2981	$2.8970	$3.0550
Commercial 1" Meter					
Monthly minimum	$33.39	$50.00	$46.00	$33.80	$36.40
Commodity (per 1,000 gal)					
1 to 25,000 gallons	$1.7480				
Over 25,000 gallons	$2.1850				
1 to 35,000 gallons		$2.0750	$1.8384		
Over 35,000 gallons		$2.5938	$2.2981		
1 to 20,000 gallons				$2.1050	$1.7730
Over 20,000 gallons				$2.8970	$3.0550
San Manuel	**Present Rates**	**AWC Proposed**	**RUCO Proposed**	**Staff Proposed Alt. 1**	**Staff Proposed Alt. 2**
Residential 5/8" x ¾" Meter					
Monthly minimum	$21.52	$25.00	$19.583	$21.24	$22.21
Commodity (per 1,000 gal)					
1 to 3,000 gallons	$2.7022	$3.9368	$4.1184	$2.8970	$2.2500
3,001 to 10,000 gallons	$3.3775	$4.9210	$5.1479	$4.1400	$3.9590
Over 10,000 gallons	$4.2221	$6.1513	$6.4350	$6.9130	$7.4740
Residential 1"Meter					
Monthly minimum	$53.80	$62.50	$48.9575	$53.10	$55.53
Commodity (per 1,000 gal)					
1 to 10,000 gallons	$3.3775		$5.1479		
Over 10,000 gallons	$4.2221		$6.4350		
1 to 30,000 gallons		$4.9210			
Over 30,000 gallons		$6.1513			
1 to 21,000 gallons				$4.1400	$3.9590
Over 21,000 gallons				$6.9130	$7.4740
Commercial 5/8" x ¾" Meter					
Monthly minimum	$21.52	$25.00	$19.5830	$21.24	$22.21
Commodity (per 1,000 gal)					
1 to 10,000 gallons	$3.3775	$4.9210	$5.1479	$4.1400	$3.9590
Over 10,000 gallons	$4.2221	$6.1513	$6.4350	$6.9130	$7.4740
Commercial 1" Meter					
Monthly minimum	$53.80	$62.50	$48.9575	$53.10	$55.53

Commodity (per 1,000 gal)					
1 to 40,000 gallons	$3.3775		$5.1479		
Over 40,000 gallons	$4.2221		$6.4350		
1 to 30,000 gallons		$4.9210			
Over 30,000 gallons		$6.1513			
1 to 21,000 gallons				$4.1400	$3.9590
Over 21,000 gallons				$6.9130	$7.4740
Oracle	**Present Rates**	**AWC Proposed**	**RUCO Proposed**	**Staff Proposed Alt. 1**	**Staff Proposed Alt. 2**
Residential 5/8" x ¾" Meter					
Monthly minimum	$19.83	$25.00	$21.85	$18.83	$21.00
Commodity (per 1,000 gal)					
1 to 3,000 gallons	$4.0922	$4.7710	$4.5959	$3.9590	$3.7170
3,001 to 10,000 gallons	$5.1151	$5.9637	$5.7449	$5.4860	$5.3110
Over 10,000 gallons	$6.3938	$7.4547	$7.1811	$7.8130	$7.0010
Residential 1"Meter					
Monthly minimum	$49.58	$62.50	$54.63	$47.08	$52.50
Commodity (per 1,000 gal)					
1 to 10,000 gallons	$5.1151				
Over 10,000 gallons	$6.3938				
1 to 30,000 gallons		$5.9637	$5.7449		
Over 30,000 gallons		$7.4547	$7.1811		
1 to 20,000 gallons				$5.4860	
Over 20,000 gallons				$7.8130	
1 to 21,000 gallons					$5.3110
Over 21,000 gallons					$7.0010
Commercial 5/8" x ¾" Meter					
Monthly minimum	$19.83	$25.00	$21.85	$18.83	$21.00
Commodity (per 1,000 gal)					
1 to 10,000 gallons	$5.1151	$5.9637	$5.7449	$5.4860	$5.3110
Over 10,000 gallons	$6.3938	$7.4547	$7.1811	$7.8130	$7.0010
Commercial 1" Meter					
Monthly minimum	$49.58	$62.50	$54.63	$47.08	$52.50
Commodity (per 1,000 gal)					
1 to 30,000 gallons	$5.1151	$5.9637	$5.7449		
Over 30,000 gallons	$6.3938	$7.4547	$7.1811		
1 to 20,000 gallons				$5.4860	
Over 20,000 gallons				$7.8130	
1 to 21,000 gallons					$5.3110
Over 21,000 gallons					$7.0010
SaddleBrooke Ranch	**Present Rates**	**AWC Proposed**	**RUCO Proposed**	**Staff Proposed Alt. 1**	**Staff Proposed Alt. 2**
Residential 5/8" x ¾" Meter					
Monthly minimum	$15.00	$25.00	$21.85	$16.90	$19.07
Commodity (per 1,000 gal)					

All usage	$4.10				
1 to 3,000 gallons		$4.7710	$4.5959	$3.9590	$3.7170
3,001 to 10,000 gallons		$5.9637	$5.7449	$5.4860	$5.3110
Over 10,000 gallons		$7.4547	$7.1811	$7.8130	$7.0010
Residential 1"Meter					
Monthly minimum	$37.50	$62.50	$54.63	$42.25	$47.68
Commodity (per 1,000 gal)					
All usage	$4.10				
1 to 30,000 gallons		$5.9637	$5.7449		
Over 30,000 gallons		$7.4547	$7.1811		
1 to 20,000 gallons				$5.4860	
Over 20,000 gallons				$7.8130	
1 to 21,000 gallons					$5.3110
Over 21,000 gallons					$7.0010
Commercial 5/8" x ¾" Meter					
Monthly minimum	$15.00	$25.00	$21.85	$16.90	$19.07
Commodity (per 1,000 gal)					
All usage	$4.10				
1 to 10,000 gallons		$5.9637	$5.7449	$5.4860	$5.3110
Over 10,000 gallons		$7.4547	$7.1811	$7.8130	$7.0010
Commercial 1" Meter					
Monthly minimum	$37.50	$62.50	$54.63	$42.25	$47.68
Commodity (per 1,000 gal)					
All usage	$4.10				
1 to 30,000 gallons		$5.9637	$5.7449		
Over 30,000 gallons		$7.4547	$7.1811		
1 to 20,000 gallons				$5.4860	
Over 20,000 gallons				$7.8130	
1 to 21,000 gallons					$5.3110
Over 21,000 gallons					$7.0010
Winkelman	**Present Rates**	**AWC Proposed**	**RUCO Proposed**	**Staff Proposed Alt. 1**	**Staff Proposed Alt. 2**
Residential 5/8" x ¾" Meter					
Monthly minimum	$14.84	$19.00	$16.91	$15.00	$16.50
Commodity (per 1,000 gal)					
1 to 3,000 gallons	$1.4458	$1.9133	$1.7362	$1.2500	$1.1110
3,001 to 10,000 gallons	$1.8074	$2.3916	$2.1703	$2.0000	$1.7510
Over 10,000 gallons	$2.2595	$2.9895	$2.7129	$3.0000	$3.0010
Residential 1"Meter					
Monthly minimum	$37.10	$47.50	$42.29	$37.50	$41.25
Commodity (per 1,000 gal)					
1 to 10,000 gallons	$1.8074				
Over 10,000 gallons	$2.2595				
1 to 30,000 gallons		$2.3916	$2.1703		
Over 30,000 gallons		$2.9895	$2.7129		
1 to 28,750 gallons				$2.0000	$1.7510
Over 28,750 gallons				$3.0000	$3.0010

Commercial 5/8" x ¾" Meter					
Monthly minimum	$14.84	$19.00	$16.91	$15.00	$16.50
Commodity (per 1,000 gal)					
1 to 10,000 gallons	$1.8074	$2.3916	$2.1703	$2.0000	$1.7510
Over 10,000 gallons	$2.2595	$2.9895	$2.7129	$3.0000	$3.0010
Commercial 1" Meter					
Monthly minimum	$37.10	$47.50	$42.28	$37.50	$41.25
Commodity (per 1,000 gal)					
1 to 40,000 gallons	$1.8074				
Over 40,000 gallons	$2.2595				
1 to 30,000 gallons		$2.3916	$2.1703		
Over 30,000 gallons		$2.9895	$2.7129		
1 to 28,750 gallons				$2.0000	$1.7510
Over 28,750 gallons				$3.0000	$3.0010

All Eastern Group Systems	**Present Rates**	**AWC & Staff Proposed**
Service Charges:		
Establishment	$16.00	$32.00
Guarantee Deposit	*	*
Reconnection for Delinquency	$16.00	$32.00
Re-Establishment	**	**
Service Call Out, Regular Hours	No Charge	No Charge
Service Call Out, After Hours[A]	$35.00	N/A
Returned Check	$25.00	N/A
Returned Payment for Insufficient Funds	N/A	$25.00
Meter Re-Read, Regular Hours	No Charge	$25.00
Meter Re-Read, After Hours[A]	$35.00	$25.00
Meter Test	***	****
Late Charge, after 15 days	1.5%	1.5%
After Hours Service Charge[A]	N/A	$35.00

* Residential maximum: Two times average customer class bill
Non-residential maximum: Two and one-half times that customer's estimated maximum monthly bill

** Eight times the customer's monthly minimum charge, or payment of the minimums since disconnection, whichever is less

*** No charge for the first test; for the second test for the same customer within a 12-month period, $50.00 or actual time and material, whichever is greater

**** No charge for the first test; for the second test for the same customer within a 12-month period, $25.00 or actual time and material, whichever is greater

A After Hours = after regular working hours, on Saturday or Sunday, or on a holiday

All Eastern Group Systems	**Present Rates**			**AWC & Staff Proposed**		
Service Line and Meter Installation Charges						
Meter Size	Service Line	Meter	Total	Service Line*	Meter	Total*
5/8" Meter	$ 445	$ 155	$ 600	$ 445	$ 155	$ 600
1" Meter	495	315	810	495	315	810

2" Turbine	830	1,045	1,875	830	1,045	1,875
2" Compound	830	1,890	2,720	830	1,890	2,720
3" Turbine	1,045	1,670	2,715	Cost	Cost	Cost
3" Compound	1,165	2,545	3,710	Cost	Cost	Cost
4" Turbine	1,490	2,670	4,160	Cost	Cost	Cost
4" Compound	1,670	3,645	5,315	Cost	Cost	Cost
6" Turbine	2,210	5,025	7,235	Cost	Cost	Cost
6" Compound	2,330	6,920	9,250	Cost	Cost	Cost
8" Turbine	2,210	5,025	7,235	Cost	Cost	Cost
8" Compound	2,330	6,920	9,250	Cost	Cost	Cost
10" Turbine	2,210	5,025	7,235	Cost	Cost	Cost
10" Compound	2,330	6,920	9,250	Cost	Cost	Cost
* Actual cost of service line if boring under roadway is required.						

The bill impacts resulting from each parties' proposed rates for a residential customer served by a 5/8" x ¾" meter using the average amount, the median amount, and a standardized amount are as follows:

Residential Customer 5/8" x 3/4" Meter	**Present Rates**	**AWC Proposed**	**RUCO Proposed**	**Staff Proposed Alt. 1**	**Staff Proposed Alt. 2**
Superstition					
Median: 4,594 gallons	$28.91	$37.47	$33.29	$28.61	$29.43
Average: 6,321 gallons	$33.84	$43.73	$38.83	$34.85	$34.69
Standardized: 7,500 gallons	$37.20	$48.00	$42.62	$39.11	$38.28
Cochise (Bisbee)					
Median: 3,308 gallons	$25.56	$31.99	$29.09	$22.98	$23.47
Average: 4,832 gallons	$32.42	$38.73	$35.11	$30.36	$30.40
Standardized: 7,500 gallons	$44.44	$50.54	$45.64	$43.27	$42.53
Cochise (Sierra Vista)					
Median: 5,610 gallons	$21.89	$30.40	$27.61	$22.64	$22.45
Average: 7,995 gallons	$25.96	$35.34	$31.99	$27.66	$26.68
Standardized: 7,500 gallons	$25.11	$34.32	$31.08	$26.61	$25.80
San Manuel					
Median: 5,426 gallons	$37.82	$48.75	$44.43	$39.97	$38.56
Average: 7,139 gallons	$43.61	$57.18	$53.25	$47.07	$45.35
Standardized: 7,500 gallons	$44.83	$58.95	$55.10	$48.56	$46.78
Oracle					
Median: 3,958 gallons	$37.01	$45.03	$41.14	$35.96	$37.24
Average: 5,140 gallons	$43.05	$52.08	$47.93	$42.45	$43.52
Standardized: 7,500 gallons	$55.12	$66.15	$61.49	$55.39	$56.05
SaddleBrooke Ranch					
Median: 2,567 gallons	$25.52	$37.25	$33.65	$27.06	$28.61
Average: 3,405 gallons	$28.96	$41.73	$37.96	$30.99	$32.37
Standardized: 7,500 gallons	$45.75	$66.15	$61.49	$53.46	$54.12
Winkelman					
Median: 6,635 gallons	$25.75	$33.43	$30.01	$26.02	$26.20
Average: 9,398 gallons	$30.74	$40.04	$36.00	$31.55	$31.04
Standardized: 7,500 gallons	$27.31	$35.50	$31.88	$27.75	$27.71

1. **AWC**

AWC asserted that its proposed rate design incorporates the same basic principles adopted by the Commission in the 2010 company-wide rate case, by using volumetric capacity relative to a 5/8" x ¾" meter to determine monthly minimum charges, by using a three-tiered block structure for 5/8" x ¾" meter residential customer commodity rates, by having commodity rates increase at a rate of 25 percent from tier to tier, by having tier break-over points scale higher based on meter size, and by having a single-tier commodity rate for industrial customers and customers purchasing water for resale. (AWC Br. at 2-3.)

AWC's proposed rate design would generate 49 percent of its revenues from fixed basic service charges and the remaining 51 percent of its revenues from commodity rates. (Ex. A-4 at 37-38.) Mr. Reiker asserted that this allocation of revenues is appropriate because it helps to mitigate the revenue volatility and uncertainty that AWC attributes to inverted tier rates. (*Id.*) According to AWC, this is especially important because of the significant infrastructure replacement projects AWC now faces. (AWC Br. at 53.) The Eastern Group does not have any large industrial customers, and AWC's proposed rate design offers industrial customers a lower commodity rate than is available to residential or commercial customers, which AWC believes may encourage industrial growth in the area, benefitting the community. (Tr. at 280, 281.)

AWC asserted that neither of Staff's two alternative rate designs should be adopted by the Commission, although of the two, AWC prefers the second alternative rate design because it collects a higher percentage of revenue from basic service charges than does the first alternative. (Tr. at 276; Ex. S-8 at 2.) According to AWC, Staff's second alternative rate design allocates approximately 47 percent of revenues to the fixed basic service charge, as opposed to the approximately 41 percent allocated to the fixed basic service charge in Staff's originally proposed rate design. (AWC Br. at 53; Ex. A-4 at 37.)

As discussed previously, AWC also took issue with both of Staff's recommended alternative rate designs for SaddleBrooke Ranch because the recommended rates for SaddleBrooke Ranch are not designed to generate SaddleBrooke Ranch's Staff-recommended revenue requirement. (*See* Ex. A-10 at 10; Ex. A-5, Reiker, at 11.)

AWC agreed with and has accepted Staff's recommended miscellaneous service charges, including service line and meter installation charges, which are the same as those adopted in the 2012 Western Group rate case. (*See* Ex. A-4 at 38.)

2. RUCO

Mr. Mease testified that RUCO's rate design differs from AWC's in that RUCO's rate design reflects a lower revenue requirement, but otherwise is consistent with the rate design proposed by AWC.[89] (Tr. at 673-74.)

3. Staff

Staff opposed AWC's and RUCO's allocation of revenue and has proposed two different rate design alternatives: Alternative 1, which most closely follows Staff's originally proposed rate design in this matter and was designed to mitigate impact on low- and no-usage customers by keeping the monthly minimum charge low and the first-tier commodity charge low; and Alternative 2, which has higher monthly minimum charges than Alternative 1 and was designed to mitigate the increase for first-tier consumption and thus the percentage increases for customers with consumption slightly below mean and median levels. (Ex. S-8 at 1-2.) Mr. Erdwurm stated that both alternatives make residential service for basic needs available at a low cost while promoting efficient water usage. (*Id.* at 2.) Mr. Erdwurm further testified that the Commission could accept an Alternative 1 rate design for some systems and an Alternative 2 rate design for others, provided that the rate designs would not impede future consolidation efforts. (*Id.* at 3.) Staff asserted that either of its alternative rate designs would provide an allocation of revenue acceptably balancing the goals of rate stability and efficient use of water. (Staff Reply Br. at 25.) Mr. Erdwurm also offered his own preference for Alternative 2, which he characterized as a "win-win" for the parties. (Tr. at 1412.) Mr. Erdwurm further volunteered that it would be appropriate for all industrial customers in the Eastern Group to pay the

[89] A review of RUCO's final rate design schedules reveals that portions of its rate design differ from that proposed by AWC. Specifically, RUCO has omitted rates for 1.5" meters throughout its rate design and, for the San Manuel system only, has proposed commodity rate tier break-over points different than those proposed by AWC and almost wholly consistent with the San Manuel system's current tier break-over points. Mr. Mease's testimony suggests that these differences may have been inadvertent.

same rates, particularly because there currently is not a great deal of industrial load in the Eastern Group and thus not many ratepayers to be impacted by any changes. (*See* Tr. at 1413-14.)

4. Conclusion

AWC and RUCO have both proposed rate designs that would generate 49 percent of Eastern Group revenues from fixed basic service charges, thereby increasing the revenue stability for the Eastern Group, as its current rates generate approximately 41 percent of overall revenues from fixed basic service charges. Staff's second alternative rate design would also increase revenue stability, as it would generate 47 percent of Eastern Group revenues from fixed basic service charges. As Mr. Erdwurm explained it, Staff's second alternative rate design would be a win-win for the parties because it would protect below-average water usage customers while increasing revenue stability and also requiring higher water usage customers to pay significantly more for that higher usage.

In their final rate design schedules, all of the parties use a three-tier rate design for 5/8" x ¾" meter residential customers, with break-overs at 3,000 and 10,000 gallons, and use a two-tiered rate design for all other residential and commercial customers. AWC and RUCO use the same commodity tier break-overs for construction (2" to 4") meters as for the same size residential and commercial meters and use a flat commodity rate for all industrial and resale usage. Staff uses a two-tier design with consistent break-over points across customer classes except for large meter (6" and up) industrial customers and all sales for resale, for which a flat commodity rate is used. AWC and RUCO's proposed tier break-over points are significantly higher than those used by Staff. For the Superstition Division, AWC and RUCO's proposed break-over points are the same as or slightly higher than those currently in effect, while those recommended by Staff are approximately half or less than half of the current break-over points. For the Cochise systems, AWC and RUCO's proposed break-over points are roughly one-third higher than those currently in effect, while Staff's recommended break-over points are roughly 25-percent lower.[90] For San Manuel, AWC's proposed break-over points are roughly 22-percent to 32-percent lower than those currently in effect, while Staff's recommended break-over points are at least 50-percent lower than those currently in effect.

[90] RUCO included a different break-over point for the 8" residential meter, but we believe that this was done inadvertently.

For Oracle and SaddleBrooke Ranch, the AWC- and RUCO-proposed tier break-over points are the same as or slightly higher than those currently in place for Oracle, while Staff's recommended tier break-over points are significantly (roughly 30-percent to 50-percent) lower than those currently in place. SaddleBrooke Ranch currently has a flat commodity rate of $4.10 for all usage, so the adoption of any tier break-over point is a significant change for that system. As stated previously, however, Staff's recommended rate design is intended to mitigate the financial impact on SaddleBrooke Ranch customers by subsidizing those customers with revenue from other systems.

Because we find it appropriate to consolidate the Oracle and SaddleBrooke Ranch systems in this case, and because of our other decisions made herein, the Commission is not fully adopting any party's proposed rate design. Rather, after taking into consideration all of the evidence and arguments provided by the parties, we adopt the rate design set forth in Exhibit B, attached hereto and incorporated herein, which will produce the revenue requirement authorized herein; will provide enhanced revenue stability to AWC's Eastern Group; will provide affordable rates to Eastern Group residential customers who have lower than average water usage; will impose a higher burden on water users who put more stress on the Eastern Group systems with their higher than average water usage; and will adopt a current and conservation-oriented rate design for the customers of SaddleBrooke Ranch, who have been paying outdated rates since the inception of their service. In addition, the rate design adopted herein moves the Eastern Group systems closer to uniformity, which is intended to ease future transition to a more consolidated rate design for the Eastern Group, and to make the Eastern Group systems' rate designs more similar to the rate designs recently approved for the Western Group systems.

VIII. OTHER ISSUES

A. Distribution System Improvement Charge ("DSIC")

The most contentious issue in this case concerned whether AWC's request for approval of a DSIC should be granted. AWC has presented the DSIC as a mechanism that will allow it to recover, through abbreviated proceedings between general rate cases, the costs of the infrastructure necessary to replace its aging infrastructure and ensure the continued reliability of its service in the Eastern Group. AWC presented the infrastructure replacement as necessary to enable AWC to come into

compliance with a Commission directive to reduce its water loss to an acceptable level and has compared the Commission's water loss directive to the EPA's adoption of the reduced MCL for arsenic that predicated the ACRM.

1. **AWC**

Water Loss Reduction Program

On August 1, 2011, Mr. Schneider completed a report detailing the "Water Loss Reduction Program for Water Systems in the Eastern Group" ("Program Report"), to comply with the directive (from the 2010 company-wide rate case) for AWC, if it has not reduced its water loss to less than 10 percent by July 1, 2011, to prepare a report demonstrating how AWC plans to reduce water loss to less than 10 percent or why it is not cost effective to do so. (Ex. A-28 at FKS-13.) The Program Report evaluates all three Superstition Division systems, the Oracle system, and the Bisbee system and concludes that water main and service line leaks and breaks are increasing in the Eastern Group, that water loss in the Eastern Group is primarily caused by aging water mains and service lines, that AWC cannot control the water loss through repair and maintenance efforts alone and instead must begin replacing infrastructure on an accelerated basis, and that AWC should install at least $3.1 million in replacement water mains and service lines each year to replace aging and failing water mains and service lines in Eastern Group systems.

The Program Report details the resources and processes AWC uses in its efforts to control water loss in the Eastern Group systems[91] and details the composition of the mains and service lines in the Eastern Group, the causes and processes of corrosion and breakage, and the quantitative breakdown of mains by diameter[92] and by decade of installation.

AWC used a "Nessie Curve" analysis (based on installation date and expected useful life) to estimate annual water main replacement needs for the Superstition Division and projected that

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[91] This includes full-time service personnel who work on detecting, locating, and repairing leaks and breaks; service vehicles and other heavy equipment used to repair leaks and breaks; meter reading personnel who perform regular visual inspections to detect leaks; three different types of leak detection equipment used to detect and locate leaks; regular recordkeeping to identify problem areas and determine appropriate timing for maintenance and replacement work; a meter maintenance program that includes criteria for meter maintenance and replacement; and meter selection review by engineering personnel to minimize apparent losses by ensuring appropriate meter selection.

[92] The Program Report states that mains with diameters of 6 inches or smaller (76 percent of the mains in the Eastern Group) are more susceptible to breakage than are mains of larger diameters. (Ex. A-28 at FKS-13.)

approximately 160,000 linear feet ("LF") of water main need to be replaced within the next 10 years, at an estimated cost of $41.6 million. Historical replacement rates in the Superstition Division have been approximately 4,100 LF per year. Turning to the leak and break history for the Superstition Division, AWC determined that approximately 1,400 leaks and breaks had been recorded from 2005 to 2010, 349 in 2010 alone (119 in mains and 230 in service lines), and that the annual number of leaks and breaks had been increasing. AWC projected that the increase would continue and asserted that the cause of the increase must be addressed to mitigate the costs caused by these leaks and breaks. At hearing, AWC provided updated figures for the Superstition Division that bore out its expectations: In 2011 alone, the Superstition Division had a total of 500 leaks and breaks (155 in mains and 345 in service lines). (*See* Ex. A-36.) In the Program Report, AWC also showed that water loss for the Miami system had increased to 11.54 percent in 2010, after having been in the range of 7.26 to 7.97 percent for 2007 through 2009; that the Superior system had experienced water loss ranging from 7.74 percent to 14.40 percent from 2007 through 2010, and had water loss of 9.77 percent for 2010; and that the Apache Junction system had had water loss below 10 percent consistently from 2007 through 2010, but had experienced what AWC characterized as a trend of increasing unsold water (more than 170 million gallons in 2010). AWC asserted that because the Miami water system had the highest number of reported leaks per square mile in the Superstition Division, it will require a greater level of water main and service line replacements and will be the first Superstition Division system to be addressed, followed by the Superior system and the Apache Junction system.

AWC has already completed three separate projects designed to reduce water losses in the Superstition Division, including replacement of 1,645 LF of pipe and installation of a 12-inch in-line high pressure isolation valve for the Superior transmission line and of approximately 270 8-inch pipe gaskets on the transmission line between two tanks. AWC has also prepared a three-year plan for replacement of aging infrastructure in the Superstition Division, including 36 projects to be completed at an estimated total cost of $7,285,858. This three-year plan is attached hereto and incorporated herein as Exhibit A-1.

For the Oracle system (including SaddleBrooke Ranch), AWC concluded from its "Nessie

Curve" analysis that approximately 10,500 LF of water main and 450 service lines need to be replaced within the next 10 years, at an estimated cost of $1.8 million. Historical replacement rates in the Oracle system have been approximately 140 LF per year. Approximately 139 leaks and breaks have been recorded for the Oracle system since 2005, although only 2 main leaks and 21 service line leaks were reported for the TY.[93] However, 2011 figures for the Oracle system showed an increase, with 109 total leaks and breaks (6 in mains and 103 in service lines). (*See* Ex. A-36.) The Program Report showed that the Oracle system had water loss of 11.76 percent in 2007 and in excess of 12 percent in 2008 through 2010, peaking at 15.48 percent in 2008. AWC stated that because failing polybutylene ("PB") and polyethylene ("PE") service lines cause most of Oracle's water loss, the main focus of the replacement program in Oracle will be to replace service lines.

AWC has already completed three separate projects designed to reduce water losses in the Oracle system, including replacement of approximately 1,810 LF of pipe and 20 service connections in three different areas. AWC has also prepared a three-year plan to replace service lines in Oracle to reduce water losses, including six projects to be completed at an estimated total cost of $508,729. This three-year plan is attached hereto and incorporated herein as Exhibit A-2.

For the Bisbee system, AWC concluded from its "Nessie Curve" analysis that approximately 140,000 LF of water mains already need to be replaced and that another 40,000 LF of water mains will need to be replaced within the next 10 years, all at an estimated cost of $23.5 million. Historical replacement rates in the Bisbee system have been approximately 2,200 LF per year. Approximately 718 leaks and breaks have been recorded for the Bisbee system since 2005, with 106 main leaks and 39 service line leaks during the TY. At hearing, AWC provided updated figures for the Bisbee system showing that in 2011 alone, the Bisbee system had a total of 190 leaks and breaks (137 main leaks and 53 service line leaks). (*See* Ex. A-36.) The Program Report showed that the Bisbee system had water loss between 15.99 and 17.23 percent each year for 2007 through 2010 and stated that Bisbee's water loss has exceeded 10 percent for the past 20 years.

AWC has already completed two separate projects designed to reduce water losses in the

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[93] The table did not show, either for mains or service lines, that the leaks and breaks were increasing over time. (*See* Ex. A-28 at FKS-13 at 68.)

Bisbee system, including replacement of approximately 3,100 LF of pipe and 62 service connections in two different areas. AWC has also prepared a three-year plan to replace water mains and service lines in Bisbee to reduce water losses, including 10 projects to be completed at an estimated total cost of $1,578,440. This three-year plan is attached hereto and incorporated herein as Exhibit A-3.

At hearing, Mr. Garfield emphasized the importance of looking at the factual basis behind water loss percentages, and at system infrastructure, rather than just looking at percentage of water loss, because the percentages can be misleading. (*See* Tr. at 67-68, 165-66.) For example, Mr. Garfield testified that although the Superior system may appear to have its water loss under control, the reduction in percentage of water loss is attributable to AWC's selling more water in Superior, not due to a decrease in the amount of water lost. (*See* Tr. at 67.) Mr. Garfield added that the Apache Junction system also needs to have a great deal of infrastructure replaced, in spite of its acceptable level of water loss on a percentage basis. (*See* Tr. at 69-70.)

Mr. Garfield acknowledged that AWC has not been "ambushed" by the need to replace its aging infrastructure and asserted that it has been replacing infrastructure all along, as limited by its ability to fund capital improvements each year. (Tr. at 81-82.) He testified that the cumulative amount of infrastructure that needs to be replaced has reached a crisis level because AWC does not have adequate funds to replace it all. (*See* Tr. at 171.)

Mr. Schneider testified to his belief that AWC and the U.S. water utility industry as a whole face an emergency need to replace infrastructure because the current rate structure and process locally and nationally is insufficient to cover the amount of infrastructure replacement that is going to be needed. (Tr. at 585-86.) Mr. Schneider stated that his opinion is supported by a Congressional Budget Office analysis. (*Id.*) Mr. Garfield and Mr. Harris further testified that if AWC does not receive authorization for the DSIC, AWC could fund only a limited amount of infrastructure replacement, not nearly all of the more than $60 million in infrastructure replacement that needs to be completed.[94] (*See* Tr. at 153-54; 370.) According to Mr. Harris, part of the reason for that is that

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[94] Mr. Harris indicated that AWC could issue approximately $7 million worth of long-term debt based on the TY financial statements. (Tr. at 370.) This assumes that there has not been either a rate increase or an additional infusion of equity.

costs for infrastructure have increased dramatically over time, going from a dollar a foot to more than $100 dollars per foot, which has a significant impact on how much plant can be replaced at any one time. (Tr. at 402.) Mr. Garfield also pointed out that neither RUCO nor Staff had challenged the need for AWC to replace the plant as identified. (Tr. at 176.) Mr. Garfield asserted that the replacements would benefit customers in the future because they would have more reliable, safer, more adequate water service. (Tr. at 166-67.)

To support its asserted infrastructure needs, AWC also presented maps of the Apache Junction, Oracle, Miami, Superior, and Bisbee systems on which leaks occurring during the 2006 to 2011 time period were marked. (*See* Ex. A-11; Ex. A-12; Ex. A-13; Ex. A-14; A-15.) These maps show that while leaks occurred throughout each system during this period, the leaks tend to cluster repeatedly in specific areas. The maps for the Miami and Bisbee systems in particular had areas in which large numbers of leaks (200 to 300) had concentrated during this period. (*See* Ex. A-13; Ex. A-15.) AWC also presented photographs, taken by field staff during AWC's normal course of business, showing recent (2011 and 2012) examples of leaks and of pipes that have been replaced or repaired within the Bisbee, Superior, and Apache Junction systems. (*See* Ex. A-16; Ex. A-17; Ex. A-18; Ex. A-19; Ex. A-20; Ex. A-21; Ex. A-22; Tr. at 507-20.) AWC also presented numerous physical examples of pipe from the Oracle, Miami, Bisbee, and Apache Junction systems, which were admitted into evidence as memorialized in photographic form after having been inspected by the parties. (*See* Ex. A-23a; Ex. A-23b; Ex. A-24a; Ex. A-24b; Ex. A-25a; Ex. A-25b; Ex. A-26a; Ex. A-26b; Ex. A-27a; Ex. A-27b; Ex. A-30a.) These physical examples of pipe, all recently replaced, and ranging in age from 1908 to 1980, demonstrated the extent of the corrosion that exists in some areas of AWC's Eastern Group systems and some of the ways in which pipe breaks. (*See* Ex. A-35; Tr. at 491-506.)

RUCO did not provide any expert engineering testimony. (*See* Tr. at 806-08, 862-64.)

Ms. Stukov reviewed AWC's Program Report and its proposed three-year plans as to the Miami, Oracle, and Bisbee systems (attached and incorporated as Exhibits A-1, A-2, and A-3 herein) and concluded that the plant facilities proposed to replace aging infrastructure and the estimated total

cost of $4,002,617 were reasonable and appropriate.[95] (Ex. S-1 at 36; Tr. at 616-17.) Ms. Stukov further testified that although the completion of the three-year plan would have only a "very minimal effect" on water loss, "you need to start somewhere, and this probably would be appropriate replacement of infrastructure." (Tr. at 624-25.) Ms. Stukov also testified that while ideally, it would have been desirable (and she would have preferred) for AWC to have replaced more of the Bisbee system's pipe before it reached the condition shown at hearing, she was not surprised to see the sample pipe's condition in light of its age and the complexity of the Bisbee system. (Tr. at 626-27.)

DSIC Study and Proposed DSIC

AWC's DSIC Study, completed as a compliance item for the 2010 company-wide rate case and provided in an amended form as an exhibit in this case, asserts that both the United States as a whole and AWC's Eastern Group are approaching a "crisis" because of the need for capital improvement to aging drinking water infrastructure. (Ex. A-9 at 13-14, JDH-3.) The DSIC Study recounts that the American Society of Civil Engineers ("ASCE") has given the country's drinking water system infrastructure a grade of D- and that the EPA has projected a 20-year capital improvement funding need for U.S. drinking water infrastructure of $334.8 billion and for Arizona drinking water infrastructure of $7.4 billion. (Ex. A-9 at JDH-3.) AWC asserts that the concept of the DSIC grew out of the approaching crisis, first having been approved by the Pennsylvania Public Utility Commission ("PPUC") in 1996 in the face of Philadelphia Suburban Water Company's ("PSWC's") need to replace more than 3,100 miles of transmission and distribution mains, estimated otherwise to take approximately 212 years at PSWC's established infrastructure replacement pace. (*Id.* at JDH-3 at 2, att. C.) The PPUC described the DSIC as a "proposed automatic adjustment clause." (*Id.* at JDH-3 att. C at 2-3.) In conceptually approving a DSIC,[96] the PPUC stated:

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[95] Staff specified that no "used and useful" determination of the proposed plant items had been made and that no conclusions should be inferred for ratemaking or rate base purposes in the future. (Ex. S-1 at 36.) Ms. Stukov limited her review to the Miami system in the Superstition Division and thus did not make any determination regarding whether the proposed three-year plan projects for Apache Junction and Superior were reasonable and should be done, although she opined that the costs for those projects would probably be justifiable if she were to review them and stated that she had not seen anything that seemed unreasonable when she looked at them. (Tr. at 617-18, 621-23, 629.)

[96] The PPUC did not approve the DSIC Tariff proposed by PSWC, but invited PSWC to file a new tariff supplement consistent with sample tariff language included in the PPUC's Opinion and Order. (Ex. A-9 at JDH-3 att. C at 6.) Among other things, the PPUC's sample tariff specified the plant accounts eligible for DSIC inclusion, required quarterly updates, prescribed the formula for calculating the DSIC surcharge, imposed a cap at 5 percent of the amount billed to

> [W]ater companies face the daunting challenge of rehabilitating their existing distribution infrastructure before the property reaches the end of its service life to avoid serious public health and safety risks.
>
> In the Commission's judgment, the establishment of a DSIC along the lines proposed by PSWC can substantially aid the water company in meeting these challenges on behalf of the water consuming public. We agree with the company that the establishment of a DSIC would enable the company to address, in an orderly and comprehensive manner, the problems presented by its aging water distribution system, and would have a direct and positive effect upon water quality, water pressure and service reliability. For these reasons, we endorse the concept of using an automatic adjustment clause to address this regulatory problem for the water industry in Pennsylvania and, in particular, the type of DSIC proposed by PSWC.[97]

The PPUC determined that the DSIC was "appropriately limited and narrowly tailored to recover a specific category of utility costs—the incremental fixed costs (depreciation and pre-tax return) associated with nonrevenue producing, nonexpense reducing distribution system improvement projects completed and placed in service between base rate cases" and further that the DSIC would not "'disassemble' the traditional ratemaking process" because it would recover only a narrow subset of total cost of service, would be capped to prevent "long-term evasion" of review of the plant costs recovered in rate base; and would reflect only the costs of used and useful plant placed into service during the three-month period before each DSIC surcharge update. (Ex. A-9 at JDH-3 att. C at 5.)

AWC recounted that the public utility commissions of California, Connecticut, Delaware, Illinois, Indiana, Missouri, New Hampshire, New Jersey, New York, and Ohio have also adopted DSIC-type mechanisms and that the National Association of Regulatory Utility Commissioners ("NARUC") has endorsed DSIC mechanisms (in 1999) and adopted a resolution identifying DSIC mechanisms as a Regulatory Policy Best Practice (in 2005). (*See* Ex. A-9 at JDH-3 at 2-3; *Id.* at att. D; Ex. A-34 at 20, PMA-4.) According to AWC, PPUC Commissioners have characterized the DSIC as an important regulatory tool that includes numerous consumer safeguards and that has resulted in increased infrastructure investment. (Ex. A-9 at JDH-3 at 3.) Additionally, AWC related that both Moody's and Standard & Poors consider DSIC mechanisms to be credit supportive. (*See* Ex. A-34 at

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customers, required annual reconciliation and refund/recoupment, and required that the surcharge be reset to zero upon the effective date of new base rates or if the utility earned a rate of return exceeding its allowable rate of return. (Ex. A-9 at JDH-3 att. C at 9.

[97] Ex. A-9 at JDH-3 att. C at 3-4.

21-26.) AWC also cited a recent survey[98] concluding that two-thirds of American voters would be willing to pay an average of $6.20 more per month toward water system upgrades to ensure long-term access to clean water. (Ex. A-1 at 17, WMG-6.) AWC has estimated that the surcharge from its proposed DSIC would be approximately $1.00 per customer per month. (Tr. at 382.)

According to AWC, the Commission has never approved a DSIC mechanism, although it has previously adopted a surcharge to provide funding for fire flow improvements, including replacement of undersized and inadequate water mains in the Town of Paradise Valley, in the form of a Public Safety Surcharge approved for Arizona-American Water Company ("Arizona-American") in Docket No. W-01303A-05-0405. (*See* Tr. at 105; Ex. A-9 at JDH-3 at 3.) AWC acknowledged, however, that the Public Safety Surcharge was used to collect funds in advance of construction, whereas the DSIC is more similar to the ACRM in that the funds would be collected after construction. (*Id.*)

In this case, AWC originally proposed a DSIC that would:

- Allow recovery of fixed costs associated with DSIC-eligible utility plant additions (net of retirements) placed in service between rate cases;
- Limit eligible plant additions to the following NARUC Uniform System of Accounts ("USOA") classifications:
    - 343 Transmission and Distribution Mains,
    - 344 Fire Mains,
    - 345 Services,
    - 346 Meters,
    - 347 Meter Installations,
    - 348 Hydrants, and
    - 398 Miscellaneous Equipment (Leak Detection Equipment);
- Require AWC to file with the Commission semi-annual DSIC updates (for step increases) reflecting the eligible plant placed in service during the six-month periods of November 1 through April 30 and May 1 through October 31, with the updates (step increases) to become effective, respectively, on July 1 and January 1;
- Require AWC to file, at least 30 days before the effective date of each DSIC update, supporting data for the update, to include the following for each system affected:
    - A balance sheet;
    - An income statement;
    - An earnings test schedule;
    - A rate review schedule showing the effects of the step increase on the income statement and earnings test;
    - A revenue requirement schedule showing the calculation of the required increase;
    - A schedule showing the surcharge calculation, which would be broken down 50/50 between monthly fixed surcharge and volumetric surcharge and would be scaled to

[98] ITT Value of Water Survey: Americans on the U.S. Water Crisis. Although no date was provided on the excerpt of the survey included in AWC's exhibit, the excerpt referenced data from the 2010 U.S. Census.

meter size based on equivalent capacity ratio;
  - A rate base schedule;
  - A Construction Work in Progress ledger showing monthly charges for construction of eligible DSIC facilities;
  - A schedule showing the calculation of the general plant allocation methodology; and
  - A typical bill analysis for 5/8" x ¾" meter customers;
- Require AWC to show the DSIC surcharge as a separate line item on each customer bill and, at least twice each year, to print a message on each customer bill explaining the DSIC surcharge and indicating the progress made in replacing aging infrastructure;
- Cap the DSIC at 7.5 percent of the annual amount billed to customers under otherwise applicable rates and charges;
- Require the DSIC to be reset to zero on the effective date of each new general rate case by including the DSIC-eligible plant in rate base; and
- Prohibit AWC from making a DSIC update filing for any system for which the rate of return earned in the applicable six-month period exceeded the rate of return that would be used to calculate the revenue requirement under the DSIC.[99]

AWC's proposal for the DSIC has evolved during this matter, with AWC accepting most of Staff's recommendations for any DSIC that would be adopted by the Commission (although Staff continues to oppose the adoption of any DSIC). (*See* Ex. A-5, Harris, at 5-8; Tr. at 271-76.) Currently, AWC proposes a DSIC that differs from its original proposal in that the DSIC would:

- Be reviewed and modified annually rather than semi-annually;
- Require a Staff prudency and cost review before any plant costs could be included in the DSIC calculation;
- Require full Commission approval for the initial DSIC to take effect;
- Limit any annual DSIC adjustment to two percent of system revenues;
- Cap the total DSIC surcharge at six percent of system revenues;
- Require a second prudency review before DSIC-related plant costs could be included in rate base during a subsequent permanent rate case; and
- Require a true-up with refund (and interest) payments to ratepayers if it were determined during the subsequent rate case that over-collection had occurred.[100]

AWC does not believe that applicability of any DSIC or DSIC-like mechanism should be limited to water systems that have water loss in excess of 10 percent because water loss can be attributable to factors other than failing infrastructure, and a system with significant infrastructure replacement needs can still have water loss lower than 10 percent due to the volume of water sold (such as in Superior, which has historically had water loss in excess of 10 percent but did not for the

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[99] Ex. A-9 at JDH-3 at 7-9.
[100] Ex. A-5, Harris, at 7; Tr. at 103, 445-46.

TY due to increased sales, and Apache Junction, which had water loss below 10 percent during the TY but has lost in excess of 200 million gallons of water each year from 1998 through 2009). (Ex. A-5, Scheider, at 7-10; Tr. at 65-67.) AWC also suggested that having excessive water loss as a prerequisite for DSIC eligibility could incentivize companies to ignore increasing water loss so that they will become eligible for DSIC treatment. (Ex. A-5, Schneider, at 7-8.)

AWC acknowledged that its need to replace its aged infrastructure is not due to a legal mandate such as the revised EPA MCL for arsenic, but drew a parallel between the EPA MCL for arsenic and the Commission's order for AWC to reduce its water loss below 10 percent.[101] (Tr. at 72-73.) AWC has also consistently pointed out the similarities between the DSIC and the ACRM, after which AWC ultimately modeled its proposed DSIC and without which, according to Mr. Garfield, AWC would not have been able to complete its arsenic remediation infrastructure. (*See, e.g.,* AWC Br. at 23; Tr. at 92.)

AWC acknowledged that its infrastructure replacement needs have been developing for a long time (for example, in Bisbee, since AWC took over the system approximately 60 years ago) and that AWC has not been "ambushed" by the need to replace its aging infrastructure, but maintains that AWC has been replacing infrastructure as it has been able to do so, limited by its ability to fund capital improvements each year, by the increasing costs of infrastructure (from only $1 per foot to more than $100 per foot), and by considerations of the rate shock that would occur due to the "lumpy" nature of the replacement needs (i.e., much infrastructure to be replaced at a time). (*See* Tr. at 81-82, 400-02.) AWC did not argue that its need, as a water utility, to replace mains and other infrastructure is unusual, but did argue that the extent to which it needs to replace its aging infrastructure, i.e., the sheer volume of replacement needed, is extraordinary.[102] (*See* Tr. at 87-88,

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[101] Mr. Garfield acknowledged that the Commission did not order AWC to reduce its water loss to below 10 percent even if it would not be cost-effective to do so. (Tr. at 115-16.)

[102] When asked what made AWC's situation extraordinary and warranted an adjustor mechanism, Mr. Reiker responded:

> From my perspective, I'm a finance person. The extraordinary nature is the shear [sic] magnitude of the investment. We've put evidence in the record, in Mr. Schneider's direct testimony, of massive amounts of investment that need to occur. That's extraordinary. We can't go out tomorrow and find an insurance company that will loan us $60 million. That's not going to happen.

(Tr. at 276.) Mr. Reiker also acknowledged, however, that the need to replace the infrastructure was not a surprise, that AWC knew that it was going to have to be done at some point. (*Id.*)

275-76.) While the DSIC would not alleviate AWC's need to fund the costs of the infrastructure replacement up front, AWC has asserted that the DSIC would enable AWC to seek recovery of those costs in between rate cases and thus would strengthen AWC's ability to obtain the financing necessary to cover those up-front costs. (*Id.* at 90-91, 370, 381.) Mr. Garfield dismissed RUCO's characterization of the DSIC as an incentive for AWC to replace infrastructure that it is already responsible to replace in order to provide service, asserting that the DSIC is not an incentive, just a means to allow AWC to replace more of the infrastructure that it could not otherwise currently replace. (*See* Tr. at 94-95.) AWC also asserted that in the absence of a DSIC, it would take AWC more than several hundred years (longer than the life of new infrastructure) to replace the infrastructure that needs to be replaced. (Tr. at 152-53.) Mr. Garfield also pointed out that the approximately $66 million in infrastructure replacements now needed is almost twice as much as the entire arsenic treatment remediation program that AWC had to undertake and for which it was able to obtain authorization of an ACRM. (*See* Tr. at 95-96.)

AWC acknowledged that it will benefit from the DSIC, but denied that its desire for the DSIC is motivated by a belief that the DSIC will ensure AWC's long-term profitability. (Tr. at 123-24; 398-99.) Mr. Harris testified that the ACRM has not made AWC profitable, so he is not convinced that the DSIC will either. (*Id.* at 398-99.) According to AWC, ratepayers will be benefitted by the DSIC because AWC will be able to accelerate its infrastructure replacement program, thereby improving service, reliability, safety,[103] and in some cases flows. (Tr. at 98, 166.) AWC does not agree that ratepayers have experienced any more risk as a result of the ACRM process and does not believe that ratepayers would experience any more risk as a result of the proposed DSIC process. (Tr. at 98.) Mr. Garfield testified that ratepayers will benefit more from the DSIC—and ensuing gradualism—than they would from having a utility, "flush with cash," make a $38 million investment in one of AWC's water systems and then file a rate case after the infrastructure is completed, as that

[103] Mr. Garfield testified that AWC's water is safe, but that each main break and disruption causes a breach in the antiseptic barrier protecting the water supply, potentially exposing the water to soil and whatever else is in the environment. (Tr. at 166-67.) Mr. Garfield also testified that main breaks are almost a daily occurrence, something that could be changed through the authorization of a DSIC to allow recovery of the costs of infrastructure replacement. (Tr. at 168.)

would result in a very large increase in rate base and rates. (*See* Tr. at 108.)

Although AWC did not factor into its DSIC proposal any reduction in operating expenses to reflect increased operating efficiencies, Mr. Garfield allowed that "there's some room for that to be considered . . . and probably some merit to that,"[104] although he also asserted that no other states have made such reductions in their DSIC mechanisms and suggested that operating and maintenance expenses could actually increase due to the level of replacements. (Tr. at 98-99, 114.) AWC characterized as arbitrary and unsupported the 15-percent reduction in operating and maintenance expenses proposed by RUCO for any approved DSIC, suggesting that any such expense offset should be based on an objective standard such as the amount of main replaced. (Tr. at 112-13.)

AWC also objected to Staff's proposed Sustainable Water Improvement Program ("SWIP"), presented as an alternative to the DSIC, which would defer costs and apply an AFUDC. (Tr. at 117-18.) Mr. Garfield stated that the SWIP would "negate the benefits of a DSIC by not having gradual changes in rates," would effectively raise the costs of the projects,[105] and would result in higher rates and even rate shock. (Tr. at 117-18; AWC Br. At 17.) Mr. Garfield agreed that the SWIP would subject the deferred amounts to full regulatory scrutiny, but asserted that the SWIP would not be effective:

> Sure, and it wouldn't give the utility any revenues to support – it's like a – it's not even an IOU. It's a promise that at a future proceeding the Commission will review, in a full regulatory rate setting, the investments; were they necessary, was it reasonable, what are the impacts, and that doesn't provide the utility with any revenues prior to a Commission decision after the fact. That would not have worked under an ACRM and it won't work under a DSIC.[106]

Mr. Garfield also disagreed with characterization of a proposed DSIC proceeding as a mini rate case, stating that an ACRM filing is not a mini rate case because more limited supporting data is provided, and there is not as much scrutiny. (Tr. at 119-20.)

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[104] Mr. Garfield compared an old piece of pipe to a 1962 dump truck, which he believed would require much more maintenance than a 2012 dump truck. (Tr. at 109-10.) But Mr. Garfield could not say how the replacement of infrastructure would impact the cost of operating and maintaining a whole system, particularly a system like Bisbee that needs a great deal of infrastructure replaced. (*Id.* at 109-11.)

[105] According to Mr. Garfield, applying an AFUDC to the capital investments would effectively increase the cost of the projects and thus the rate base, which would result in increased rates. (Tr. at 118.)

[106] Tr. at 118-19.

Ms. Ahern asserted that both a DSIC and a sufficient ROE are necessary to enable AWC to improve its cash flow, its creditworthiness, and its ability to improve its retained earnings balance, thereby allowing it to issue less long-term debt than would otherwise be needed. (Ex. A-34 at 29.) Ms. Ahern asserted that AWC will be unable to undertake its infrastructure replacement program unless it gets both a sufficient ROE and the requested DSIC. (*Id.* at 30.) According to AWC, the revenues generated by the DSIC would enable AWC to satisfy the interest coverage requirements of its bond indenture and thus to issue long-term debt to fund its infrastructure replacement program, and AWC will not be able to complete the infrastructure replacements needed unless the DSIC is granted because the capital investment necessary cannot be supported fully without a DSIC.[107] (*See* AWC Br. At 17; Tr. at 153, 272-73, 329-33, 381.)

2. RUCO

RUCO opposes the DSIC because it considers the proposed infrastructure replacement projects to be routine in nature and appropriately recovered through a general rate case, considers the DSIC to be a one-sided mechanism that works to the advantage of only the shareholder, believes that there is no federal or state requirement mandating the infrastructure replacement projects proposed by AWC, believes that AWC has not proven that it cannot ensure safe and reliable water service or cost recovery unless the DSIC is approved, and believes that the DSIC raises "legal concerns." (Ex. R-10 at 4-5.) RUCO's position is that the infrastructure replacements needed should be covered through normal regulatory procedures allowing cost recovery because they are "routine plant improvements" rather than something extraordinary. (Tr. at 780, 784; Ex. R-10 at 5.) RUCO asserted that, unlike with the ACRM, there is no federal or state mandate for the infrastructure improvements to be made,

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[107] Mr. Garfield stated:

> The company is a tightly held company. The stock is tightly held. We are not publicly traded. The investors of the company infused just over $10 million of equity into the company before the end of 2010. Our equity component of our capital structure had dropped from 75 percent to 45 percent, and at a time that we were not recovering our cost of service, we were not making our return, the shareholders are sort of the last one to get paid. The bondholders get paid. They want their interest payment. You have to make the interest payment. So the stockholders wait to see what is left after all of those payments have been made. So to answer your question, $10 million was infused into the company that helped shore up the company's capital structure, but I don't think you can count on the shareholders, if the returns aren't high enough, to continue making those types of infusions of capital to the company.

(Tr. at 153-54.)

and it is not appropriate to create an exception for regular ratemaking methodologies in the absence of extraordinary circumstances. (Ex. A-10 at 6-7.) Mr. Rigsby asserted that the plant degradation "isn't something that just happens overnight," and that AWC can plan for the necessary line replacements and come to the Commission every few years to obtain recovery through the regular ratemaking process. (Tr. at 781-85.) Mr. Rigsby also expressed skepticism about AWC's asserted inability to attract the capital needed to make the infrastructure improvements and replacements that AWC has identified as necessary. (Tr. at 774-75.) In addition, Mr. Rigsby testified that the costs of the repairs and replacements may go down with time, through the development of more cost-effective methodologies. (Tr. at 777-79.) Mr. Rigsby also offered that AWC is fortunate in that it is a regulated monopoly that can come to the Commission for a rate increase when needed, rather than a participant in a competitive environment, and that "sometimes you got to do what you got to do; and so it's up to the company's management to take the steps necessary to make sure that the company is a viable entity." (Tr. at 788.) RUCO would consider it especially inappropriate to grant a DSIC without taking into account savings in operating expenses that RUCO believes would result from replacing aging plant with new plant. (Ex. A-10 at 6.)

RUCO provided a copy of a June 1999 National Association of State Utility Consumer Advocates ("NASUCA") Resolution "Discouraging State Regulatory Commissions from Adopting Automatic Adjustment Charges for Water Company Infrastructure Costs." (Ex. A-10 at att. A.) NASUCA "strongly recommended[ed]" that DSIC-type mechanisms not be authorized because NASUCA believes that the DSIC-type mechanisms (1) contradict sound rate of return ratemaking principles, including the matching principle; (2) circumvent regulatory review of rate base items for prudence and reasonableness; (3) create bad public policy by eliminating the incentive to control costs between rate cases and incentivizing increased spending; (4) reduce rate stability and distort proper price signals by causing frequent rate increases; (5) are unnecessary to ensure adequate water quality, pressure, and continuity of service; (6) inappropriately reward water companies that imprudently fall behind in infrastructure improvements; and (7) shift business risk away from water companies and toward consumers. (Ex. A-10 at att. A; Tr. at 85-86.) RUCO also cited a report on cost trackers published in September 2009 by a principal with the National Regulatory Research

Institute, which asserted that cost trackers result in higher utility costs and undercut the positive effects of regulatory lag, and April 2009 testimony opposing a DSIC-type mechanism made by the Consumer Advocate for the Commonwealth of Pennsylvania before the Pennsylvania House Consumer Affairs Committee. (Ex. A-10 at 8-10.) In addition, RUCO stated that the Commission had recently rejected a DSIC-type mechanism for Arizona-American (in Decision No. 72047 (January 6, 2011)) because it would have covered routine investments in plant and thus "d[id] not warrant the extraordinary ratemaking device of an adjuster mechanism."[108] (Ex. A-10 at 10-11 (quoting Decision No. 72047 at 92).)

Although RUCO opposes adoption of a DSIC, RUCO asserted that any DSIC approved by the Commission should:

- Only apply to those Eastern Group systems that have water loss in excess of 10.00 percent—specifically Miami, Oracle/SaddleBrooke Ranch, and Bisbee;
- Be limited to one filing per year;
- Include an Operations & Maintenance ("O&M") expense offset of 15.00 percent, to ensure that ratepayers benefit from reductions in O&M expense resulting from the replacement of aging infrastructure; and
- Be capped at 4.00 percent over three years subject to an annual earnings test.[109]

Mr. Rigsby explained that the O&M expense offset would be a proxy for his original recommendation that a specified monetary credit be applied to each foot of replacement line recovered through the DSIC, which would be difficult to apply because certain of the plant assets proposed to be included in a DSIC cannot be measured in linear feet. (*See* Ex. A-13 at 4-5; Ex. A-10 at 12-13.) RUCO asserted that the O&M offset would address RUCO's concerns that ratepayers will not benefit from the DSIC even though replacement of aging infrastructure should result in reduced O&M expenses. (*Id.*)

3. Staff

Staff also opposes the proposed DSIC, for reasons similar to those described by RUCO. Specifically, Staff expressed concern that a DSIC alters the balance of ratemaking lag by reducing lag

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[108] The Infrastructure Investment Surcharge proposed by Arizona-American for its Sun City Water District is strikingly similar to the DSIC proposed by AWC in this matter both in structure and asserted purpose. (*See* Decision No. 72047 at 90-92.)

[109] Ex. R-13 at i, 3-6; Tr. at 752, 768-71.

time for recovery of depreciation and return on plant investments, to the benefit of AWC and the detriment of its ratepayers; that allowing recovery of capital improvement costs between regular rate cases results in less scrutiny of plant investments both as to prudency and the used and usefulness of the plant; and that the DSIC, like the ACRM, may "consume significant regulatory resources" because of the guidelines that will need to be established regarding the capital improvements to which the DSIC would apply, the frequency and limitations on rate modifications, and requirements for customer notice and reporting. (Ex. S-3 at 33-34.) Staff acknowledged that the DSIC would present benefits as well—to AWC in the form of quicker recovery of depreciation and returns on capital improvements as well as improved cash flow, and to ratepayers in the form of gradualism, potentially fewer future rate cases, and improved service and reliability (resulting from AWC's increased replacement of aging and deteriorating plant and reductions in water loss). (*Id.* at 34) Staff acknowledged that the benefits of the DSIC "may offset any disruption to the balance of regulatory lags and imposition on regulatory resources," but ultimately recommended denial of the DSIC because its particulars and consequences have not been sufficiently resolved and need further consideration. (*Id.* at 35.)

Staff views the DSIC as an adjustor mechanism, the use of which should be limited to "extraordinary circumstance[s]," and asserted that AWC's proposed use of the DSIC is for routine expenditures and therefore unjustified. (Ex. S-3 at 35.) Staff does not consider AWC's Eastern Group infrastructure replacement needs, even assuming a $67 million cost estimate, to be extraordinary. (Tr. at 1332-33.)

In response to AWC's evidence supporting the DSIC, Staff observed that the DSIC's adoption in only 11 states suggests that its costs outweigh its benefits. (Ex. S-4 at 2.) Staff also cited NASUCA's opposition to DSIC-type mechanisms and an advocacy organization's October 2011 "Fact Sheet" describing the DSIC as a "Rip-Off for Consumers."[110] (*Id.* at 2, att. A.) In addition, Staff pointed out that Arizona water utilities are all obligated to provide safe and reliable drinking

[110] The "Fact Sheet" was published by Food & Water Watch, a non-profit organization that promotes, among other things, "clean, publicly controlled water." (*See* Ex. S-4 at att. A, Ex. A-37.)

water, with or without a DSIC, and that the proposed DSIC raises the element of single issue ratemaking. (Ex. S-4 at 3.)

Staff recommended that instead of approving a DSIC, the Commission approve a Sustainable Water Loss Improvement Program ("SWIP") that would:

- Apply only to the Miami and Bisbee systems;
- Apply only to replacements of transmission and distribution mains;
- Allow deferral of depreciation expense on qualified plant for 24 months after placed into service or until rates take effect for which the plant is included in rate base, whichever comes sooner;
- Allow recording and deferral of cost of money using Allowance for Funds Used During Construction ("AFUDC") rate on qualified plant for 24 months after placed into service or until rates take effect for which the plant is included in rate base, whichever comes sooner;
- Require full regulatory review of depreciation and cost of money deferrals for compliance with traditional ratemaking conditions (*e.g.,* prudency, used and usefulness, excess capacity) in the rate case following the plant in-service date;
- Require amortization of allowed combined depreciation and cost of money deferrals over a 10-year period;
- Condition depreciation and cost of money deferrals during the amortization period upon (1) AWC's maintenance of records correlating depreciation and cost of money deferrals with associated plant and (2) AWC's demonstrating (during rate cases) that the plant replacements contributed to reduced water loss; and
- Disallow depreciation and cost of money deferrals, wholly or in part, for deficiencies in records or deficiencies in demonstrating reduced water loss tied to plant replacements.[111]

In spite of its primary recommendation to deny the DSIC and approve the SWIP, Staff also recommended conditions to be imposed for any DSIC that the Commission may decide to approve for AWC's Eastern Group. (Ex. S-4 at 3-6.) Specifically, Staff recommended that:

- The DSIC be limited to Eastern Group subsystems with water loss over 10 percent (i.e., Oracle/SaddleBrooke, Bisbee, and Miami;
- AWC be required to submit quarterly filings for the first year, semi-annual filings thereafter, and cumulative annual reports;
- DSIC charges be revised and become effective on a yearly basis, 30 days after each annual filing;
- Staff be required to review AWC's initial annual filing and to prepare a memorandum and recommended order to be approved by the Commission before the initial DSIC surcharge can be implemented;
- Staff be permitted to review subsequent DSIC filings at Staff's discretion (no later than AWC's next rate case);

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[111] Ex. S-3 at 36.

- Any over-collections of surcharges (for improperly calculated DSICs after the initial year) be refunded with interest at the WACC authorized in AWC's most recent rate case, with the refund to be implemented as determined by the Commission in a future rate case;
- Each annual increase (initial and subsequent) in DSIC charges be limited to 2 percent of the Commission-authorized revenue by subsystem;
- Cumulative annualized DSIC revenue by subsystem be limited to 6 percent;
- Plant items eligible for the DSIC be restricted to the following NARUC USOA plant accounts:
    - 343—Transmission and Distribution Mains,
    - 344—Fire Mains,
    - 345—Services,
    - 346—Meters,
    - 347—Meter Installations, and
    - 348—Hydrants;
- AWC be required to record replacement of plant items in accordance with the NARUC USOA;
- AWC be required to include in each DSIC filing the total amount of plant built during the applicable period, reconciled to the amounts recorded by USOA plant account, along with supporting documentation and any required regulatory permits;
- DSIC revenue be reduced by 10 percent to account for any cost savings (such as reduced operating expenses due to plant improvements);
- DSIC revenue be subjected to an earnings test, performed each time Staff reviews an AWC DSIC filing, to limit DSIC revenue when operating income (rate base x WACC) exceeds authorized WACC, with the earnings test to be:
    - Based on the most recent available operating income adjusted for any operating revenue and expense adjustments adopted in this rate case, and
    - Based on the rate base adopted in this rate case, updated to recognize changes in plant, accumulated depreciation, contributions in aid of construction ("CIAC"), advances in aid of construction ("AIAC"), and accumulated deferred income taxes ("ADIT") through the most recently available financial statements (no less than quarterly);
- AWC be required to notify customers of changes in the DSIC by including appropriate explanatory information on the first bill to be received following any change in the DSIC rate and on the first bill to be received following the effective date of the rates established in this rate case;
- DSIC eligibility be restricted to replacement facility costs (from prescribed USOA accounts) to serve existing customers;
- Plant projects funded through federal, state, and other non-investor sources be ineligible for DSIC treatment;
- The DSIC charge for each customer be calculated as a percentage (carried to two decimal places) of the total amount billed to the customer under AWC's otherwise applicable rates and charges; and

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...

- DSIC charges collected be subject to refund to customers if AWC cannot demonstrate a reduction in water loss.[112]

Staff disagreed with AWC's characterization of the DSIC as equivalent to an ACRM, not because of distinctions in how the DSIC would operate in practice as compared to an ACRM, but because of the justification for and plant additions that would be supported by the DSIC as opposed to the ACRM. (Ex. S-4 at 7.) Mr. Michlik pointed out that while a water company has no control over the amount of arsenic in its ground water supply, it can impact its water loss and, further, that the ACRM was implemented both to address the "extraordinary financial burden" that utilities would face as a result of the new arsenic MCL and the "overwhelming regulatory burden" to the Commission expected to result from receiving many nearly simultaneous urgent filings caused by the arsenic MCL. (*Id.*) Staff also recounted the history of the Commission's adoption of the ACRM, which included numerous meetings over approximately a two-year period. (Tr. at 1423-25.)

Mr. Fox testified concerning the similarities and distinctions among the ACRM, AWC's proposed DSIC, and Staff's recommended SWIP. Mr. Fox observed that Staff's review of ACRM filings generally involves at least three distinct members of Staff, generally takes longer than the originally anticipated 60 days, occasionally takes up to or even more than a year, and is limited to the two steps prescribed for each approved ACRM. (Tr. at 1419-22, 1432-39.) Mr. Fox testified that the DSIC review process would be virtually the same.[113] (*See, e.g.,* Tr. at 1455.) Mr. Fox also stated that Staff resources are one reason for Staff's recommendation of a SWIP rather than a DSIC because Staff currently has very limited personnel available in general and also specifically with any experience reviewing ACRM filings. (Tr. at 1419-23.) Staff believes that the DSIC could result in numerous filings for increases, although it is likely (due to the overall cap proposed) that there would be only three distinct filings in between rate cases, each resulting in a relatively minimal rate

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[112] Ex. S-4 at 3-6.

[113] Mr. Fox stated:

> So I think the process is essentially the same. I have an engineer do an evaluation of whether or not the plant went into service and whether it's used and useful. We'll review the supporting documentation, the invoices, the contracts, overheads, et cetera, accumulate the cost, and any - - and, you know, calculate a revenue requirement and use whatever rate design is approved and look at what the impact is on the typical customer and prepare a recommendation, and, of course, if RUCO submits a report, we would include that analysis in preparing our memorandum and recommended opinion and order.

(Tr. at 1456.)

increase. (Tr. at 1440-41, 1447-48.) Additionally, Mr. Fox pointed out that the DSIC proposal does not require a full permanent rate case application within a specified brief period of time, while the ACRM does. (Tr. at 1448.) Mr. Fox also confirmed that the schedules AWC has proposed to include in its DSIC filing are the same schedules required in an ACRM application. (Tr. at 1425-26.) Mr. Fox added that any DSIC should include deduction of ADIT from the cost of plant additions included in the DSIC, something that Staff now believes should have been required for the ACRM. (Tr. at 1451-54, 1460.)

With the SWIP, Mr. Fox explained, there would be no rate changes or rate proceedings in between rate cases. (Tr. at 1446.) In addition, Mr. Fox stated, recovery under the SWIP would be slightly higher than recovery under the DSIC because the SWIP would involve AFUDC and the need to compensate AWC for the time value of money.[114] (Tr. at 1445-46, 1458, 1461-63.) Staff asserted that the SWIP would permit AWC to realize all the financial benefits of new plant, such as depreciation, until its next rate case while maintaining balance in regulatory lag and the principles of the historical test year. (Staff Br. at 25.)

4. Conclusion

AWC has provided plentiful evidence that its Eastern Group systems, most notably the Miami and Bisbee systems, have areas in which the pipes have corroded or otherwise degraded so as to become very fragile and to have leaks and breaks occurring at excessive rates. AWC has also established that the frequency of leaks and breaks in Eastern Group systems is generally increasing and that AWC needs to begin, and arguably already should have been, replacing infrastructure at a much faster rate than it has historically done.

Although we will not authorize a DSIC herein, today, we are supportive of the DSIC type mechanism and therefore we will leave this Docket open to allow the parties the opportunity to enter into discussions regarding AWC's DSIC proposal and other DSIC like proposals Staff may wish to introduce.

In order to allow other parties that may be interested in this issue the ability to have input, we

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[114] The analogy provided was that with the DSIC, a customer would pay a dollar today, versus instead paying a dollar and ten cents a year from today with the SWIP. (*See* Tr. at 1464.)

will allow such parties the opportunity to request late intervention in this Docket for the specific and limited purpose of participating in proceedings addressing the two proposals referenced in the previous paragraph. Requests to intervene shall be filed no later than February 20, 2013. The Hearing Division shall rule on the requests to intervene by February 28, 2013, and shall schedule a Procedural Conference no later than March 8, 2013, to set up a schedule to govern further proceedings in this matter. The parties may enter into settlement discussions any time after February 28, 2013. Staff should provide the Commission an update on the progress of negotiations no later than the Commission's Open Meeting of April 9 and 10, 2013. The Hearing Division shall issue a proposed Order on this matter such that it may be considered by the Commission no later than its Open Meeting on June 11 and 12, 2013.

B. Off-Site Facilities Fee

The parties have agreed that AWC should be permitted to collect an off-site facilities fee for new service connections, starting at $1,500 for 5/8" x ¾" meter connections and graduating in amount for larger meter sizes. (*See* Ex. A-5, Harris, at 13; Ex. S-3 at 37; Staff Reply Br. at 26.) We agree and will approve collection of off-site facilities fees using the specific tariff language and charges included in Attachment A to Ms. Stukov's testimony.

C. Continuation of Arsenic Cost Recovery Mechanism ("ACRM")

The parties have agreed that AWC's ACRM authorization should be continued such that AWC is eligible to apply for an ACRM surcharge for each new arsenic treatment facility, with review from Staff and approval from the Commission to be obtained before any new ACRM surcharge may be implemented. (Staff Br. at 24; Ex. S-3 at 37; Staff Reply Br. at 55.) We agree and will approve continuation of AWC's ACRM, with the proviso that AWC shall apply to the Commission for approval before any new ACRM surcharge can be implemented.

D. Recovery of Increased Costs of Implementing BMPs

Although AWC included in its initial schedules an expense adjustment to allow recovery of the increased costs of implementing required BMPs in the Superstition Division, (*see* Ex. A-3 at Sched. C-2 App.), AWC subsequently accepted Staff's adjustment that removed the entire adjustment for additional BMP expenses from the operating expenses for the Superstition Division, (*see* Tr. at

215). RUCO also adopted Staff's adjustment. (*See* Tr. at 656.) During the hearing, there was no dispute and very little testimony provided regarding the removal of this BMP expense adjustment. Staff had also recommended that AWC be allowed to defer its BMP costs for consideration of recovery in a future rate case. (Ex. S-3 at 24.) This recommendation was not discussed at hearing and did not appear to be in dispute. However, in its initial post-hearing brief, AWC has asserted that the increased cost of implementing BMPs should be authorized and approved for recovery in this proceeding. (*See* AWC Br. At 56.) In Staff's Reply Brief, Staff reiterated that AWC had accepted Staff's adjustment, stating that the parties are in agreement to the extent that AWC is seeking to have the BMP expenses authorized and approved for recovery in its next rate case, but that Staff opposes inclusion of the BMP expenses in this case and urges the Commission to adopt its expense adjustment. (Staff Reply Br. at 26.) We believe that the statement in AWC's Brief was made in error, and we will adopt Staff's recommendation for deferral of actual BMP expenses for consideration in AWC's next rate case.

* * * * * * * * * *

Having considered the entire record herein and being fully advised in the premises, the Commission finds, concludes, and orders that:

FINDINGS OF FACT

1. On August 5, 2011, AWC filed with the Commission a permanent rate application for its Eastern Group systems, using a 2010 TY and requesting a permanent rate increase; authorization for a Distribution System Improvement Charge, an Arsenic Cost Recovery Mechanism, and an Off-Site Facilities Fee; and authorization to create a new Falcon Valley Division through consolidation of the San Manuel, Oracle, and SaddleBrooke Ranch systems. AWC subsequently requested not to have the San Manuel system included in the Falcon Valley Division.

2. On September 6, 2011, Staff issued a Letter of Sufficiency for AWC's rate application.

3. On September 14, 2011, RUCO filed an Application to Intervene, which was granted at a procedural conference held in Phoenix on September 19, 2011.

4. On September 19, 2011, a Procedural Order was issued scheduling the hearing in this

matter to commence on May 14, 2012, and establishing other procedural requirements and deadlines.

5. On October 20 and November 3, 2011, Kathie Wyatt, a commercial and residential AWC customer, filed an original and amended Motion to Intervene, which was granted by a Procedural Order issued on November 14, 2011.

6. Notice of this matter was published in the *Bisbee Daily Review* and the *Sierra Vista Herald* on October 4, 2011; in the *Arizona Silver Belt*, *San Carlos Apache Moccasin*, *San Manuel Miner*, *Copper Basin News*, and *Superior Sun* on October 5, 2011; and in the *Apache Junction Independent* on October 12, 2011. Notice was also mailed to each AWC customer as a billing insert for the October 3, 2011, billing cycle, for which mailing was completed on October 28, 2011.

7. On April 23, 2012, Staff filed a Notice of Settlement Discussions and Request for Modifications to the Procedural Schedule, proposing scheduling modifications agreed upon by the parties and including separate tracks for settlement and litigation.

8. On April 24, 2012, AWC filed a Notice of Scheduling of Settlement Conference, stating that a settlement meeting for all parties had been scheduled for April 27, 2012.

9. On April 25, 2012, a Procedural Order was issued modifying the procedural schedule for this matter by establishing dual tracks for settlement and litigation and extending the Commission's time frame by 7 days.

10. On May 11, 2012, a prehearing conference was held at the Commission's offices in Phoenix, Arizona, with AWC, RUCO, and Staff appearing through counsel. Ms. Wyatt did not appear.

11. On May 14, 16, 17, 18, 21, 23, and 24, 2012, a full evidentiary hearing was held before a duly authorized Administrative Law Judge of the Commission at the Commission's offices in Phoenix, Arizona. Testimony and exhibits were presented by AWC, RUCO, and Staff. Ms. Wyatt did not appear. Public comment was received at hearing from the Director of the Water Utility Association of Arizona and the Director of Rates for EPCOR Water, both of whom spoke in support of AWC's requested DSIC mechanism. No other public comment was received at hearing.

12. Final schedules were filed by RUCO on June 4, 2012, and by AWC and Staff on June 8, 2012. The parties filed initial closing briefs on June 26, 2012, and reply briefs on July 11, 2012.

13. Between October 13, 2011, and February 2, 2012, written comments were received representing five customer accounts, all in opposition to AWC's requested rate increase.

14. AWC's Eastern Group consists of the consolidated Superstition Division (including the Apache Junction, Superior, and Miami systems); the partially consolidated Cochise Division (including the Sierra Vista and Bisbee systems); the San Manuel system; the Oracle system; the SaddleBrooke Ranch system; and the Winkelman system. The Oracle and SaddleBrooke Ranch systems are physically interconnected and are regulated by ADEQ as one public water system.

15. During the TY, the Eastern Group systems had the following levels of water loss, with the water loss levels for Miami, Bisbee, and Oracle/SaddleBrooke Ranch exceeding, and the Superior system reaching, the acceptable threshold for water loss of 10 percent:

System	Water Loss
Apache Junction	7.3 percent
Superior	10.0 percent
Miami	11.6 percent
Sierra Vista	5.7 percent
Bisbee	15.6 percent
San Manuel	6.2 percent
Oracle/SaddleBrooke Ranch	12.6 percent
Winkelman	4.8 percent

16. Main leaks and service line leaks are increasing in the Superstition Division and the Bisbee and Oracle systems, as demonstrated by the following data for the TY and the year following the TY:

Division/System	LF of Mains	Main Leaks		Service Connections	Service Leaks	
		2010	2011		2010	2011
Superstition	2,633,158	119	155	23,792	230	345
Bisbee	379,419	106	137	3,429	39	53
Oracle	313,472	2	6	1,521	21	103

17. It is just and reasonable to consolidate fully the interconnected Oracle and SaddleBrooke Ranch systems into a new Falcon Valley Division, with the full consolidation to include consolidation of financial and operating data, billing records, and general service tariffs.

18. The FVRB for the Eastern Group as a whole is $63,253,911.

19. The FVRB for the Superstition Division is $50,174,504.

20. The FVRB for the Cochise Division is $8,377,277.

21. The FVRB for the San Manuel system is $2,029,061.

22. The FVRB for the Falcon Valley Division is $2,368,367.

23. The FVRB for the Winkelman system is $304,702.

24. A FVROR of 8.72 percent is just and reasonable for the Eastern Group's Divisions and systems.

25. The Eastern Group Divisions and systems had the following adjusted TY revenues, operating expenses, and operating incomes:

	Adjusted TY Revenue	Operating Expense	Operating Income
Superstition	$15,056,166	$12,364,347	$2,691,819
Cochise	$3,303,549	$2,864,427	$439,122
San Manuel	$947,528	$909,787	$37,741
Falcon Valley	$1,107,212	$1,008,821	$98,391
Winkelman	$102,098	$88,836	$13,262

26. The rate design adopted herein, which is set forth in Exhibit B to this Decision, is just and reasonable.

27. The gross revenues of the Eastern Group Divisions and systems should increase as follows:

	Revenue Increase	Percent Increase
Superstition	$2,792,757	18.55%
Cochise	$481,238	14.57%
San Manuel	$230,587	24.34%
Falcon Valley	$178,621[115]	16.13%
Winkelman	$22,307	21.85%

28. Under the rates adopted herein, including full consolidation of the Oracle and SaddleBrooke Ranch systems into the Falcon Valley Division, residential customers served by 5/8" x ¾" meters with average, median, and standardized usage would experience the following monthly bill impacts:

Superstition	**Present Rates**	**Adopted Rates**	**$ Change**	**% Change**
Median: 4,594 gallons	$28.91	$32.47	$3.56	12.31%
Average: 6,321 gallons	$33.84	$38.21	$4.37	12.91%

[115] Combining the Oracle and SaddleBrooke Ranch systems into the Falcon Valley Division results in a lower consolidated revenue increase, by $14,082, due to the net impact of consolidating the rate bases and income statement amounts.

Standardized: 7,500 gallons	$37.20	$42.13	$4.93	13.26%
Cochise (Bisbee)				
Median: 3,308 gallons	$25.56	$23.65	($1.91)	-7.47%
Average: 4,832 gallons	$32.43	$31.88	($0.55)	-1.70%
Standardized: 7,500 gallons	$44.44	$46.30	$1.86	4.19%
Cochise (Sierra Vista)				
Median: 5,610 gallons	$21.89	$25.64	$3.75	17.13%
Average: 7,995 gallons	$25.95	$30.25	$4.30	16.57%
Standardized: 7,500 gallons	$25.11	$29.29	$4.18	16.65%
San Manuel				
Median: 5,426 gallons	$37.82	$44.31	$6.49	17.16%
Average: 7,139 gallons	$43.61	$51.94	$8.33	19.10%
Standardized: 7,500 gallons	$44.83	$53.54	$8.71	19.42%
Oracle				
Median: 3,958 gallons	$37.00	$39.99	$2.99	8.08%
Average: 5,140 gallons	$43.05	$46.45	$3.40	7.90%
Standardized: 7,500 gallons	$55.12	$59.35	$4.23	7.67%
SaddleBrooke Ranch				
Median: 2,567 gallons	$25.53	$33.63	$8.10	31.73%
Average: 3,405 gallons	$28.96	$36.97	$8.01	27.66%
Standardized: 7,500 gallons	$45.75	$59.35	$13.60	29.73%
Winkelman				
Median: 6,635 gallons	$25.75	$29.25	$3.50	13.59%
Average: 9,398 gallons	$30.74	$33.81	$3.07	9.99%
Standardized: 7,500 gallons	$27.31	$30.68	$3.37	12.32%

29. With the exception of San Manuel, each of the systems in the Eastern Group has adequate production and storage facilities. The San Manuel system has adequate storage facilities and purchases all of its water from BHP Copper, Inc.'s water system.

30. All of the water systems in the Eastern Group are in compliance with ADEQ requirements and delivering water meeting the water quality standards required by Arizona Administrative Code Title 18, Chapter 4.

31. All of the water systems in the Eastern Group are in compliance with ADWR requirements governing water providers and/or community water systems.

32. AWC has an approved curtailment plan and an approved backflow prevention tariff.

33. The Docket shall remain open to allow the parties to enter into settlement discussions regarding the AWC's DSIC proposal and other DSIC like proposals Staff may wish to introduce.

34. We will allow interested parties the opportunity to request late intervention in this Docket for the specific and limited purpose of participating in proceedings addressing AWC's DSIC proposal, other DSIC like proposals, and the possibility of achieving a settlement/compromise on the

two. Requests to intervene shall be filed no later than February 20, 2013.

35. The Hearing Division shall rule on the requests to intervene by February 28, 2013, and shall schedule a Procedural Conference no later than March 8, 2013, to govern further proceedings in this matter.

36. The parties may enter into settlement discussions any time after February 28, 2013.

37. Approval of an off-site facilities fee for new service connections, consistent with the specific tariff language and charges included in Attachment A to Ms. Stukov's testimony, is just and reasonable and in the public interest.

38. Approval of continuing ACRM authority for AWC's Eastern Group, which will allow AWC to apply for an ACRM surcharge for each new arsenic treatment facility, with review from Staff and approval from the Commission to be obtained before any new ACRM surcharge can be implemented, is just and reasonable and in the public interest.

39. It is just and reasonable and in the public interest to allow AWC to defer its actual costs associated with implementing and performing BMPs in its Eastern Group systems, for recovery in a future general rate case.

40. As we recognized previously in the 2012 Western Group rate case, the 2010 Company-Wide rate case required AWC, in future annual reports and rate filings, to continue reporting information (including but not limited to water use and plant description data) separately for each of its public water systems, as defined by ADEQ, and this requirement remains in effect. (*See* Decision No. 73144 at 42; Decision No. 71845 at 93.) Additionally, consistent with the 2012 Western Group rate case, we find that it is reasonable and appropriate for AWC to report on its BMPs by public water system. (*See* Decision No. 73144 at 42.)

CONCLUSIONS OF LAW

1. AWC is a public service corporation within the meaning of Article XV of the Arizona Constitution and A.R.S. §§ 40-250, 40-251, and 40-367.

2. The Commission has jurisdiction over AWC and the subject matter of the application.

3. Notice of the proceeding was provided in accordance with the law.

4. The FVRB for the Superstition Division is $50,174,504, and applying an 8.72 percent

FVROR on this FVRB produces rates and charges that are just and reasonable.

5. The FVRB for the Cochise Division is $8,377,277, and applying an 8.72 percent FVROR on this FVRB produces rates and charges that are just and reasonable.

6. The FVRB for the San Manuel system is $2,029,061, and applying an 8.72 percent FVROR on this FVRB produces rates and charges that are just and reasonable

7. The FVRB for the Falcon Valley Division is $2,368,367, and applying an 8.72 percent FVROR on this FVRB produces rates and charges that are just and reasonable.

8. The FVRB for the Winkelman system is $304,702, and applying an 8.72 percent FVROR on this FVRB produces rates and charges that are just and reasonable.

9. The rates and charges approved herein, which are set forth in Exhibit B to this Decision, are just and reasonable and in the public interest.

10. It is just and reasonable and in the public interest to deny a DSIC mechanism for the Eastern Group at this time.

11. Approval of an off-site facilities fee for new service connections, consistent with the specific tariff language and charges included in Attachment A to Ms. Stukov's testimony, is just and reasonable and in the public interest.

12. Approval of continuing ACRM authority for AWC's Eastern Group, which will allow AWC to apply for an ACRM surcharge for each new arsenic treatment facility, with review from Staff and approval from the Commission to be obtained before any new ACRM surcharge can be implemented, is just and reasonable and in the public interest.

13. It is just and reasonable and in the public interest to authorize AWC to defer its actual costs associated with implementing and performing BMPs in its Eastern Group systems, for recovery in a future general rate case.

ORDER

IT IS THEREFORE ORDERED that Arizona Water Company is hereby authorized and directed to file with the Commission, on or before March 1, 2013, revised schedules of its rates and charges and conditions of service consistent with Exhibit B, attached hereto and incorporated herein, the findings made herein, and the specific requirements included in the ordering paragraphs below.

IT IS FURTHER ORDERED that the rates and charges and conditions of service adopted herein shall be effective for all service rendered on or after March 1, 2013.

IT IS FURTHER ORDERED that Arizona Water Company shall notify its affected customers of the revised schedules of rates and charges authorized herein by means of an insert in its next regularly scheduling billing, and by posting a notice on its website, in a form and manner acceptable to the Commission's Utilities Division Staff.

IT IS FURTHER ORDERED that Arizona Water Company is authorized to assess an off-site facilities fee for each new service connection, consistent with the specific tariff language and charges included in Attachment A to Ms. Stukov's testimony, which AWC shall adopt and incorporate into AWC's service tariffs.

IT IS FURTHER ORDERED that Arizona Water Company is authorized to apply for an ACRM surcharge for each new arsenic treatment facility in the Eastern Group, subject to compliance with the requirements established in Decision No. 66400, with review from Staff and approval from the Commission to be obtained before any new ACRM surcharge can be implemented.

IT IS FURTHER ORDERED that this Docket shall remain open to allow the parties the opportunity to enter into discussions regarding AWC's DSIC proposal and other DSIC like proposals.

IT IS FURTHER ORDERED that interested parties shall be allowed the opportunity to request late intervention in this Docket for the specific and limited purpose of discussing Arizona Water Company's DSIC proposal, other DSIC like proposals, and the possibility of achieving a settlement/compromise on the two.

IT IS FURTHER ORDERED that requests to intervene shall be filed no later than February 20, 2013, and that the Hearing Division shall rule on the requests to intervene by February 28, 2013, and shall schedule a Procedural Conference no later than March 8, 2013, to set up a schedule to govern further proceedings in this matter.

IT IS FURTHER ORDERED that the parties may enter into settlement discussions any time after February 28, 2013.

IT IS FURTHER ORDERED that Staff should provide the Commission an update on the progress of negotiations no later than the Commission's Open Meeting of April 9 and 10, 2013.

IT IS FURTHER ORDERED that the Hearing Division shall issue a proposed Order on this matter such that it may be considered by the Commission no later than its Open Meeting on June 11 and 12, 2013.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

BY ORDER OF THE ARIZONA CORPORATION COMMISSION.

CHAIRMAN COMMISSIONER

COMMISSIONER COMMISSIONER COMMISSIONER

IN WITNESS WHEREOF, I, JODI JERICH, Executive Director of the Arizona Corporation Commission, have hereunto set my hand and caused the official seal of the Commission to be affixed at the Capitol, in the City of Phoenix, this 20th day of February 2013.

JODI JERICH
EXECUTIVE DIRECTOR

DISSENT _____

DISSENT _____

SERVICE LIST FOR: ARIZONA WATER COMPANY

DOCKET NO.: W-01445A-11-0310

Steven A. Hirsch
Stanley B. Lutz
BRYAN CAVE, LLP
Two North Central Avenue, Suite 2200
Phoenix, AZ 85004-4406
Attorneys for Arizona Water Company

Robert Geake
ARIZONA WATER COMPANY
P.O. Box 29006
Phoenix, AZ 85038

Daniel W. Pozefsky
RESIDENTIAL UTILITY CONSUMER OFFICE
1110 West Washington Street, Suite 220
Phoenix, AZ 85007

Kathie Wyatt
1940 North Monterey Drive
Apache Junction, AZ 85120

Janice Alward, Chief Counsel
Legal Division
ARIZONA CORPORATION COMMISSION
1200 West Washington Street
Phoenix, AZ 85007

Steven M. Olea, Director
Utilities Division
ARIZONA CORPORATION COMMISSION
1200 West Washington Street
Phoenix, AZ 85007

Table 5-8 Summary of Three-Year Plan to Replace Aging Infrastructure - Superstition Division

PROJECT NUMBER	STREET NAME	NEW PIPE LENGTH (LF)	NEW PIPE DIAMETER (IN)	NEW PIPE MATERIAL	# OF SERVICES TO BE REPLACED	REPLACED PIPE DIAMETER (IN)	REPLACED PIPE MATERIAL	RECORDED FITTING LEAKS	RECORDED MAIN LEAKS	RECORDED SERVICE LEAKS	TOTAL LEAKS	ESTIMATED TOTAL COST
1	PERALTA ESTATES UNIT 2				126			0	0	25	25	$523,827
2	BOISE STREET & AVALON	1,350	6	DI	88	4	CA	1	0	21	22	$544,964
3	114TH STREET	650	6	DI	102			1	3	18	22	$432,978
4	DELAWARE DRIVE				87			0	0	22	22	$346,461
5	GLOBE AVENUE				10			0	0	22	22	$42,274
6	GREASEWOOD DRIVE				25			1	0	19	20	$102,008
7	CHISOLM AVENUE				22			0	0	20	20	$92,818
8	RANCH ROAD	600	6	DI		2	PVC	0	18	2	20	$57,240
9	HIDALGO STREET	4,700	6	DI	32	1, 1.5, 2	GS	1	12	6	19	$563,475
10	SUGAR CREEK DRIVE				46			0	0	19	19	$191,151
11	PINYON DRIVE				101			0	0	18	18	$416,305
12	PERALTA ESTATES				44			0	0	17	17	$182,880
13	RUSSELL AVENUE	1,050	6	DI	23			0	0	17	17	$190,232
14	COPPER DRIVE				121			0	1	15	16	$509,123
15	MCKINNEY AVENUE				18			0	0	16	16	$74,439
16	MONROE STREET	250	6	DI	6	2	PVC, GS	0	12	4	16	$46,212
17	SLEEPY HOLLOW & LAZY				25			0	0	15	15	$102,927
18	HIDEAWAY LANE				21			0	0	14	14	$84,548
19	STONE AVENUE	1,350	6	DI	25	2, 4	CI, CA	0	2	12	14	$222,528
20	CENTRAL AVENUE	550	6	DI	25	6	ST	0	1	13	14	$154,785
21	ORPHAN STREET	1,700	6	DI	33	1, 2	CA, GS	0	4	10	14	$280,425
22	FREDRIC STREET	2,750	6	DI	53	2, 4	GS, CA	0	10	3	13	$464,224
23	GLENDALE AVENUE				17			0	1	12	13	$69,844
24	STORY STREET	600	6	DI	11			0	0	12	12	$98,595
25	MOUNTAIN ROAD				48			0	0	11	11	$193,908
26	YOUNG STREET	800	6	DI	17	1,2	ST, CU, PVC	0	9	2	11	$138,506
27	EMERALD DRIVE	500	6	DI	8	2	ST	0	10	0	10	$78,640
28	SLEEPY HOLLOW TRAIL				30			0	0	10	10	$121,307
29	WASHBORN ROAD	1,600	6	DI		6	HDPE	0	9	0	9	$142,838
30	LOOMIS AVENUE	500	6	DI	5	1	GS	0	9	0	9	$63,017
31	HUMMINGBIRD LANE				14			0	0	7	7	$57,897
32	BROADWAY AVENUE	600	6	DI	3	6	CA	0	7	0	7	$67,349
33	BOISE STREET	1,400	6	DI	13	2	PVC	0	7	0	7	$176,447
34	HILL STREET				28			0	0	7	7	$114,874
35	ALHAMBRA WAY				14			0	0	6	6	$57,897
36	GARROT AVENUE	1,250	6	DI	31	1,2,6	CA,CU	0	0	6	6	$278,915
											Total	$7,285,858

DECISION NO. 73736

Project 1

Replace 126 service connections in Peralta Estates Unit Two. The existing water mains have 25 recorded service line leaks. The cost to complete this project is estimated to be $523,827. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 2

Install approximately 1,350 LF of 6-inch DI replacement pipe with polywrap and replace 87 service connections between Boise Street and Avalon Street. This project will replace approximately 800 LF of 4-inch CA water main installed in 1970 in an alley between 113th Way and 114th Street. The existing 4-inch CA water main has 21 recorded service line leaks and 1 fitting leak. The cost to complete this project is estimated to be $544,964. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 3

Install approximately 650 LF of 6-inch DI replacement pipe with polywrap and replace 102 service connections between 114th Street and Meridian Road. The existing water mains have 18 recorded service line leaks, 3 water main leaks, and 1 fitting leak. The cost to complete this project is estimated to be $432,978. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 4

Replace 87 service connections along Delaware and Lawther Drives. The existing water mains have 22 recorded service line leaks. The cost to complete this project is estimated to be $346,461. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 5

Replace 10 service connections along Globe Avenue. The existing water main has 22 recorded service line leaks. The cost to complete this project is estimated to be $42,274. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 6

Replace 25 service connections along Greasewood Drive and Escondido Court. The existing water main has 19 recorded service line leaks and 1 fitting leak. The cost to complete this project is estimated to be $102,008. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 7

Replace 22 service connections along Chisolm Avenue. The existing water main has 20 recorded service line leaks. The cost to complete this project is estimated to be $92,818. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 8

Install approximately 600 LF of 6-inch DI replacement pipe with polywrap and replace 1 service connection along Ranch Road. This project will replace approximately 600 LF of 2-inch

PVC water main installed in 1984 on Ranch Road. The existing water main to be replaced has 2 recorded service line leaks and 18 water main leaks. The cost to complete this project is estimated to be $57,240. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 9

Install approximately 4,700 LF of 6-inch DI replacement pipe with polywrap and replace 32 service connections along Hidalgo Street and Concho Street. This project will replace approximately 2,950 LF of 1.5-inch and 2-inch GS water main installed in 1959 and 1960 along Hidalgo Street and will also replace approximately 2,350 LF of 1-inch and 2-inch GS water main installed in 1960 along Concho Street. These existing water mains have 6 recorded service line leaks, 12 water main leaks, and 1 fitting leak. The cost to complete this project is estimated to be $563,475. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 10

Replace 47 service connections along Sugar Creek Drive, Pleasant Place and Breathless Drive. The existing water mains have 19 recorded service line leaks. The cost to complete this project is estimated to be $191,151. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 11

Replace 101 service connections along Pinyon Drive and Virginia, Scenic, Cactus Wren, and Gregory Streets. The existing water mains have 18 recorded service line leaks. The cost to complete this project is estimated to be $416,305. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 12

Replace 44 service connections in Peralta Estates Unit Two. The existing water main has 17 recorded service line leaks. The cost to complete this project is estimated to be $182,880. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 13

Install approximately 1,050 LF of 6-inch DI replacement pipe with polywrap and replace 23 service connections along Snedden Avenue east of Russell Avenue. This project will replace approximately 650 LF of 2-inch CA water main installed in 1949, approximately 200 LF of 1-inch GS water main installed in 1950, and approximately 200 LF of 3-inch CA water main installed in 1965. The existing water mains to be replaced have 17 recorded service line leaks. The cost to complete this project is estimated to be $190,232. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 14

Replace 17 service connections along Glendale Avenue from Braley Street to Hill Street. The existing water main has 12 recorded service line leaks and 1 water main leak. The cost to complete this project is estimated to be $69,844. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 15

Replace 18 service connections along McKinney Avenue from Braley Street to Hill Street. The existing water main has 16 recorded service line leaks. The cost to complete this project is estimated to be $74,439. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 16

Install approximately 250 LF of 6-inch DI replacement pipe with polywrap and replace 6 service connections along Monroe Street from Miami Street to Marion Street. This project will replace approximately 400 LF of 2-inch PVC water main installed in 1976 and 2-inch GS water main installed in 1936 on Monroe Street. The existing water mains to be replaced have 4 recorded service line leaks and 12 water main leaks. The cost to complete this project is estimated to be $46,212. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 17

Replace 25 service connections along Sleepy Hollow Trail and Lazy Lane. The existing water mains have 15 recorded service line leaks. The cost to complete this project is estimated to be $102,927. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 18

Replace 21 service connections along Hideaway Lane, Lazy Lane, and Breathless Drive. The existing water mains have 14 recorded service line leaks. The cost to complete this project is estimated to be $84,548. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 19

Install approximately 1,350 LF of 6-inch DI replacement pipe with polywrap and replace 25 service connections along Stone Avenue from Kiser Street to Mofatt Street. This project will replace approximately 950 LF of 4-inch CI water main installed in 1937 along Stone Avenue and approximately 400 LF of 2-inch CA water main installed in 1942 along Kiser Street. The existing water mains to be replaced have 12 recorded service line leaks and 2 water main leaks. The cost to complete this project is estimated to be $222,528. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 20

Install approximately 550 LF of 6-inch DI replacement pipe with polywrap and replace 25 service connections along Central Avenue from Braley Street to Monroe Street. This project will replace approximately 550 LF of 6-inch ST water main installed in 1955 on Central Avenue. The existing water mains to be replaced have 13 recorded service line leaks and 1 water main leak. The cost to complete this project is estimated to be $154,785. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 21

Install approximately 1,700 LF of 6-inch DI replacement pipe with polywrap and replace 33 service connections along Orphan Street and Kenzie Avenue. This project will replace approximately 1,050 LF of 2-inch CA water main installed in 1949 on Orphan Avenue, and will replace approximately 650 LF of 1-inch and 2-inch GS water mains installed in 1932 on Kenzie Avenue. The existing water mains to be replaced have 10 recorded service line leaks and 4 water main leaks. The cost to complete this project is estimated to be $280,425. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 22

Install approximately 2,750 LF of 6-inch DI replacement pipe with polywrap and replace 53 service connections along Fredric Street and Bird Street. This project will replace approximately 1,450 LF of 2-inch GS water main installed in 1930 and 1936 on Fredric Street and approximately 1,300 LF of 2-inch GS and 4-inch CA water main installed in 1930 and 1949, respectively, and in 1949 on Bird Street. The existing water mains to be replaced have 3 recorded service line leaks and 10 water main leaks. The cost to complete this project is estimated to be $464,224. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 23

Install approximately 600 LF of 6-inch DI replacement pipe with polywrap and replace 11 service connections along Story Street east of Russell Avenue. This project will replace approximately 600 LF of 2-inch GS water main installed in 1956. The existing water mains to be replaced have 12 recorded service line leaks. The cost to complete this project is estimated to be $98,595. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 24

Replace 121 service connections along Copper, Gold and Silver Drives. The existing water mains have 15 recorded service line leaks and 1 water main leak. The cost to complete this project is estimated to be $509,123. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 25

Replace 48 service connections along Mountain Road, Elmont Drive and Malcolm Drive. The existing water mains have 11 recorded service line leaks. The cost to complete this project is estimated to be $193,908. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 26

Install approximately 800 LF of 6-inch DI replacement pipe with polywrap and replace 17 service connections along Young Street, Second Avenue, Hill Street, and Third Avenue. This project will replace approximately 300 LF of 1-inch ST water main installed in 1975, approximately 350 LF of 1-inch PVC water main installed in 1979, and approximately 100 LF of 2-inch PVC water main installed in 1975. The existing water mains to be replaced have 2 recorded service line leaks and 9 water main leaks. The cost to complete this project is estimated

to be $138,506. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 27

Replace 30 service connections along Sleepy Hollow Trail, Breathless Drive and Tum Tum Court. The existing water mains have 10 recorded service line leaks. The cost to complete this project is estimated to be $121,307. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 28

Install approximately 500 LF of 6-inch DI replacement pipe with polywrap and replace 8 service connections along South Emerald Drive. This project will replace approximately 500 LF of 2-inch ST water main installed in 1955 along South Emerald Drive. The existing water main to be replaced has 10 recorded water main leaks. The cost to complete this project is estimated to be $78,640. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 29

Install approximately 1,600 LF of 6-inch DI replacement pipe with polywrap along Washborn Road. This project will replace approximately 1,600 LF of 6-inch HDPE water main along Washborn Road. The existing water main to be replaced has 9 recorded water main leaks. The cost to complete this project is estimated to be $142,838. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 30

Install approximately 500 LF of 6-inch DI replacement pipe with polywrap and replace 5 service connections east of Loomis Avenue. This project will replace approximately 500 LF of 1-inch GS water main installed in 1935 east of Loomis Avenue. The existing water main to be replaced has 9 recorded water main leaks. The cost to complete this project is estimated to be $63,017. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 31

Replace 14 service connections along Hummingbird Lane. The existing water main has 7 recorded service line leaks. The cost to complete this project is estimated to be $57,897. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 32

Replace 28 service connections along Hill Street from Church Avenue to Terrance Drive. The existing water main has 7 recorded service line leaks. The cost to complete this project is estimated to be $114,874. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 33

Install approximately 600 LF of 6-inch DI replacement pipe with polywrap and replace 3 service connections along Broadway Avenue from Tomahawk Road to Vista Road. This project

will replace approximately 600 LF of 6-inch CA water main installed in 1960 and 1984 along Broadway Avenue. The existing water main to be replaced has 7 recorded water main leaks. The cost to complete this project is estimated to be $67,349. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 34

Install approximately 1,400 LF of 6-inch DI replacement pipe with polywrap and replace 13 service connections along Boise Street and 105th Place. This project will replace approximately 1,100 LF of 2-inch PVC water main installed in 1966 along Boise Street and approximately 300 LF of 2-inch PVC water main installed in 1966 along 105th Place. The existing water mains to be replaced have 7 recorded water main leaks. The cost to complete this project is estimated to be $176,447. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 35

Replace 14 service connections along Hummingbird Avenue and Alhambra Way. The existing water main has 6 recorded service line leaks. The cost to complete this project is estimated to be $57,897. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Project 36

Install approximately 1,250 LF of 6-inch DI replacement pipe with polywrap and replace 31 service connections along Garrot Avenue and Stansberry Avenue. This project will replace approximately 650 LF of 2-inch CA water main installed in 1939 in the alley west of Garrot Avenue and approximately 600 LF of 6-inch CA water main installed in 1930 on Stansberry Avenue. The existing water mains to be replaced have 6 recorded service line leaks. The cost to complete this project is estimated to be $278,915. See Appendix 9.4.1 for the map depicting the project limits and the detailed cost estimate.

Table 6-7 Summary of Three-Year Plan to Replace Aging Infrastructure - Oracle water system

PROJECT NUMBER	STREET NAME	NEW PIPE LENGTH (LF)	NEW PIPE DIAMETER (IN)	NEW PIPE MATERIAL	# OF SERVICES TO BE REPLACED	REPLACED PIPE DIAMETER (IN)	REPLACED PIPE MATERIAL	RECORDED FITTING LEAKS	RECORDED MAIN LEAKS	RECORDED SERVICE LEAKS	TOTAL LEAKS	ESTIMATED TOTAL COST
37	BEVERLY CIRCLE				61			0	0	36	36	$170,671
38	SONBERG DRIVE				35			0	0	21	21	$95,182
39	CAMINO SECO				19			0	0	9	9	$53,499
40	ADAMS STREET				27			0	1	7	8	$78,771
41	TWO O'CLOCK HILLS ROAD				24			0	0	8	8	$65,971
42	CEDAR RIDGE DRIVE				16			0	0	6	6	$44,637
											Total	$508,729

Project 37

Replace 61 service connections along Beverly Circle. The existing water mains have 36 recorded service line leaks. The cost to complete this project is estimated to be $170,671. See Appendix 9.4.2 for the map depicting the project limits and the detailed cost estimate.

Project 38

Replace 35 service connections along Sonberg Drive, Harold Drive and Rockcliff Boulevard. The existing water mains have 21 recorded service line leaks. The cost to complete this project is estimated to be $95,182. See Appendix 9.4.2 for the map depicting the project limits and the detailed cost estimate.

Project 39

Replace 19 service connections along Camino Seco and Calle Valencia. The existing water mains have 9 recorded service line leaks. The cost to complete this project is estimated to be $53,499. See Appendix 9.4.2 for the map depicting the project limits and the detailed cost estimate.

Project 40

Replace 27 service connections along Adams Street, Howard Street and Logan Street. The existing water mains have 7 recorded service line leaks and 1 water main leak. The cost to complete this project is estimated to be $78,771. See Appendix 9.4.2 for the map depicting the project limits and the detailed cost estimate.

Project 41

Replace 24 service connections along North Two O'clock Hills Road and Chaparral Street. The existing water mains have 8 recorded service line leaks. The cost to complete this project is estimated to be $65,971. See Appendix 9.4.2 for the map depicting the project limits and the detailed cost estimate.

Project 42

Replace 16 service connections along North Cedar Ridge Drive. The existing water main has 6 recorded service line leaks. The cost to complete this project is estimated to be $44,637. See Appendix 9.4.2 for the map depicting the project limits and the detailed cost estimate.

Table 7-6 Summary of Three-Year Plan to Replace Aging Infrastructure - Bisbee water system

PROJECT NUMBER	STREET NAME	NEW PIPE LENGTH (LF)	NEW PIPE DIAMETER (IN)	NEW PIPE MATERIAL	# OF SERVICES TO BE REPLACED	REPLACED PIPE DIAMETER (IN)	REPLACED PIPE MATERIAL	RECORDED FITTING LEAKS	RECORDED MAIN LEAKS	RECORDED SERVICE LEAKS	TOTAL LEAKS	ESTIMATED TOTAL COST
43	BOWERS STREET	1,900	6	DI	22	2, 4	ST, GS	0	76	4	80	$232,374
44	OCOTILLO AVENUE	700	6	DI	11	1,2,4	PVC, GS, CU, ST	0	34	1	35	$94,656
45	LEDGE AVENUE	2,450	6	DI	41	1, 2, 4	ST, GS	0	22	13	35	$318,891
46	HIGHWAY 80	900	6	DI	0	1	PVC	0	22	0	22	$84,679
47	LEDGE AVENUE	1,650	6	DI	20	1, 2, 3	GS, PVC	0	19	2	21	$192,464
48	TERAN STREET	2,900	6	DI	22	1, 2, 6	ST, GS	0	20	0	20	$312,721
49	PARK AVENUE	700	6	DI	12	2, 4, 6	GS, ST	0	16	0	16	$98,070
50	BROPHY AVENUE	600	6	DI	11	1, 2	CU, GS	0	13	2	15	$76,802
51	COLE AVENUE	1,000	6	DI	7	6, 8	ST	0	8	6	14	$112,905
52	CHURCH STREET	400	6	DI	7	4, 6	ST	0	11	1	12	$54,877
											Total	$1,578,440

Project 43

Install approximately 1,900 LF of 6-inch DI replacement pipe with polywrap and replace 22 service connections along Bowers Street from Marie Street to McDonald Street. This project will replace approximately 1,250 LF of 4-inch ST water main installed in 1958 and approximately 150 LF of 1-inch GS water main installed in 1961 on Bowers Street; and approximately 500 LF of 2-inch GS water main installed in 1958 on Marie Street. The existing water mains to be replaced have 4 recorded service line leaks and 76 recorded water main leaks. The cost to complete this project is estimated to be $244,847. See Appendix 9.4.3 for the map depicting the project limits and the detailed cost estimate.

Project 44

Install approximately 700 LF of 6-inch DI replacement pipe with polywrap and replace 11 service connections along Ocotillo Street. This project will replace approximately 600 LF of 1-inch GS water main installed in 1945, 1947, and 1950, approximately 250 LF of 1-inch PVC water main installed in 1980, approximately 150 LF of 4-inch ST water main installed in 1960, and approximately 100 LF of 2-inch CU water main installed in 2007 on Ocotillo Street. The existing water mains to be replaced have 1 recorded service line leaks and 34 recorded water main leaks. The cost to complete this project is estimated to be $94,656. See Appendix 9.4.3 for the map depicting the project limits and the detailed cost estimate.

Project 45

Install approximately 1,650 LF of 6-inch DI replacement pipe with polywrap and replace 20 service connections along Ledge Avenue, Quality Road and Alleys. This project will replace approximately 150 LF of 1-inch GS water main installed in 1939, approximately 100 LF of 1-inch PVC water main installed in 1976, approximately 750 LF of 2-inch GS water main installed in 1939 and 1947; and approximately 350 LF of 3-inch GS water main installed in 1932 and 1952. The existing water mains to be replaced have 2 recorded service line leaks and 19 recorded water main leaks. The cost to complete this project is estimated to be $192,464. See Appendix 9.4.3 for the map depicting the project limits and the detailed cost estimate.

Project 46

Install approximately 900 LF of 6-inch DI replacement pipe with polywrap along Highway 80 and Winwood Road. This project will replace approximately 900 LF of 1-inch PVC water main installed in 1980 on Winwood Road. The existing water main to be replaced has 22 recorded water main leaks. The cost to complete this project is estimated to be $84,617. See Appendix 9.4.3 for the map depicting the project limits and the detailed cost estimate.

Project 47

Install approximately 2,450 LF of 6-inch DI replacement pipe with polywrap and replace 41 service connections along Ledge Avenue and Quality Road. This project will replace approximately 1,050 LF of 1-inch GS water main installed in 1937, 1939, 1958, and 1962; approximately 100 LF of 2-inch ST water main installed in 2002; approximately 1,000 LF of 2-inch GS water main installed in 1932 and 1947; and approximately 200 LF of 3-inch GS water main installed in 1947. The existing water mains to be replaced have 13 recorded service line leaks and 22 recorded water main leaks. The cost to complete this project is estimated to be

$318,891. See Appendix 9.4.3 for the map depicting the project limits and the detailed cost estimate.

Project 48

Install approximately 2,900 LF of 6-inch DI replacement pipe with polywrap and replace 22 service connections along Teran Street, Aruizu Street, Carbajal Street, and Vargas Street. This project will replace approximately 700 LF of 1-inch GS water main installed in 1938, approximately 800 LF of 2-inch GS water main installed in 1938, and approximately 1,300 LF of 6-inch ST water main installed in 1908 and 1976. The existing water mains to be replaced have 20 recorded water main leaks. The cost to complete this project is estimated to be $312,721. See Appendix 9.4.3 for the map depicting the project limits and the detailed cost estimate.

Project 49

Install approximately 700 LF of 6-inch DI replacement pipe with polywrap and replace 12 service connections along Park Avenue. This project will replace approximately 650 LF of 2-inch GS water main installed in 1920 and 1967; approximately 300 LF of 4-inch GS water main installed in 1922; and approximately 250 LF of 6-inch ST water main installed in 1922 on Second Street. The existing water mains to be replaced have 16 recorded water main leaks. The cost to complete this project is estimated to be $98,070. See Appendix 9.4.3 for the map depicting the project limits and the detailed cost estimate.

Project 50

Install approximately 600 LF of 6-inch DI replacement pipe with polywrap and replace 11 service connections along Brophy Avenue. This project will replace approximately 400 LF of 1-inch GS water main installed in 1944 and approximately 200 LF of 2-inch CU water main installed in 1980 on Brophy Avenue. The existing water mains to be replaced have 2 recorded service line leaks and 13 recorded water main leaks. The cost to complete this project is estimated to be $76,802. See Appendix 9.4.3 for the map depicting the project limits and the detailed cost estimate.

Project 51

Install approximately 1,000 LF of 6-inch DI replacement pipe with polywrap and replace 7 service connections along Cole Avenue. This project will replace approximately 800 LF of 6-inch ST water main installed in 1908 and approximately 150 LF of 8-inch ST water main installed in 1908 on Cole Avenue. The existing water mains to be replaced have 6 recorded service line leaks and 8 recorded water main leaks. The cost to complete this project is estimated to be $112,905. See Appendix 9.4.3 for the map depicting the project limits and the detailed cost estimate.

Project 52

Install approximately 400 LF of 6-inch DI replacement pipe with polywrap and replace 7 service connections along Church Street from Clawson Avenue to Sowels Avenue. This project will replace approximately 300 LF of 4-inch ST water main installed in 1930, 1975, and 1978 and approximately 100 LF of 6-inch ST water main installed in 1908 on Church Street. The existing water mains to be replaced have 1 recorded service line leak and 11 recorded water main

leaks. The cost to complete this project is estimated to be $57,503. See Appendix 9.4.3 for the map depicting the project limits and the detailed cost estimate.

Superstition (Apache Junction, Superior, & Miami)

Monthly Minimums

Residential	
5/8 x 3/4-inch Meter	$ 22.26
1-inch Meter	55.65
1 1/2-inch Meter	111.30
2-inch Meter	178.08
3-inch Meter	356.16
4-inch Meter	556.50
6-inch Meter	1,113.00
8-inch Meter	1,780.80
10-inch Meter	2,559.90
Commercial	
5/8 x 3/4-inch Meter	$ 22.26
1-inch Meter	55.65
1 1/2-inch Meter	111.30
2-inch Meter	178.08
3-inch Meter	356.16
4-inch Meter	556.50
6-inch Meter	1,113.00
8-inch Meter	1,780.80
10-inch Meter	2,559.90
Industrial	
5/8 x 3/4-inch Meter	$ 28.07
1-inch Meter	70.17
1 1/2-inch Meter	140.33
2-inch Meter	224.54
3-inch Meter	449.07
4-inch Meter	701.67
6-inch Meter	1,403.35
8-inch Meter	2,245.36
10-inch Meter	3,227.70
Construction	
5/8 x 3/4-inch Meter	$ 22.26
1-inch Meter	55.65
1 1/2-inch Meter	111.30
2-inch Meter	178.08
3-inch Meter	356.16
4-inch Meter	556.50
6-inch Meter	1,113.00
8-inch Meter	1,780.80
10-inch Meter	2,559.90
Sales for Resale	
5/8 x 3/4-inch Meter	$ 22.26
1-inch Meter	55.65
1 1/2-inch Meter	111.30
2-inch Meter	178.08
3-inch Meter	356.16
4-inch Meter	556.50
6-inch Meter	1,113.00
8-inch Meter	1,780.80
10-inch Meter	2,559.90
Private Fire Service	
All	$ 28.00

Superstition (Apache Junction, Superior, & Miami)

Commodity Rates	Block	(per 1,000 gallons)
Residential		
5/8 x 3/4-inch Meter	0 to 3,000 Gallons	$ 1.6340
	3,001 to 10,000 Gallons	$ 3.3270
	Over 10,000 Gallons	$ 4.7970
1-inch Meter	0 to 30,000 Gallons	$ 3.3270
	Over 30,000 Gallons	$ 4.7970
1 1/2-inch Meter	0 to 65,000 Gallons	$ 3.3270
	Over 65,000 Gallons	$ 4.7970
2-inch Meter	0 to 100,000 Gallons	$ 3.3270
	Over 100,000 Gallons	$ 4.7970
3-inch Meter	0 to 220,000 Gallons	$ 3.3270
	Over 220,000 Gallons	$ 4.7970
4-inch Meter	0 to 350,000 Gallons	$ 3.3270
	Over 350,000 Gallons	$ 4.7970
6-inch Meter	0 to 725,000 Gallons	$ 3.3270
	Over 725,000 Gallons	$ 4.7970
8-inch Meter	0 to 1,175,000 Gallons	$ 3.3270
	Over 1,175,000 Gallons	$ 4.7970
10-inch Meter	0 to 1,700,000 Gallons	$ 3.3270
	Over 1,700,000 Gallons	$ 4.7970
Commercial		
5/8 x 3/4-inch Meter	0 to 10,000 Gallons	$ 3.3270
	Over 10,000 Gallons	$ 4.7970
1-inch Meter	0 to 30,000 Gallons	$ 3.3270
	Over 30,000 Gallons	$ 4.7970
1 1/2-inch Meter	0 to 65,000 Gallons	$ 3.3270
	Over 65,000 Gallons	$ 4.7970
2-inch Meter	0 to 100,000 Gallons	$ 3.3270
	Over 100,000 Gallons	$ 4.7970
3-inch Meter	0 to 220,000 Gallons	$ 3.3270
	Over 220,000 Gallons	$ 4.7970
4-inch Meter	0 to 350,000 Gallons	$ 3.3270
	Over 350,000 Gallons	$ 4.7970
6-inch Meter	0 to 725,000 Gallons	$ 3.3270
	Over 725,000 Gallons	$ 4.7970
8-inch Meter	0 to 1,175,000 Gallons	$ 3.3270
	Over 1,175,000 Gallons	$ 4.7970
10-inch Meter	0 to 1,700,000 Gallons	$ 3.3270
	Over 1,700,000 Gallons	$ 4.7970

Industrial			
All	All	$	2.7500
Construction			
5/8 x 3/4-inch Meter	0 to 10,000 Gallons	$	3.3270
	Over 10,000 Gallons	$	4.7970
1-inch Meter	0 to 30,000 Gallons	$	3.3270
	Over 30,000 Gallons	$	4.7970
1 1/2-inch Meter	0 to 65,000 Gallons	$	3.3270
	Over 65,000 Gallons	$	4.7970
2-inch Meter	0 to 100,000 Gallons	$	3.3270
	Over 100,000 Gallons	$	4.7970
3-inch Meter	0 to 220,000 Gallons	$	3.3270
	Over 220,000 Gallons	$	4.7970
4-inch Meter	0 to 350,000 Gallons	$	3.3270
	Over 350,000 Gallons	$	4.7970
6-inch Meter	0 to 725,000 Gallons	$	3.3270
	Over 725,000 Gallons	$	4.7970
8-inch Meter	0 to 1,175,000 Gallons	$	3.3270
	Over 1,175,000 Gallons	$	4.7970
10-inch Meter	0 to 1,700,000 Gallons	$	3.3270
	Over 1,700,000 Gallons	$	4.7970
Sales for Resale			
All	All	$	3.3270

Coin Machine

Gallons Per Quarter ($0.25): 68

Cochise (Bisbee & Sierra Vista)

Monthly Minimums

Residential		
5/8 x 3/4-inch Meter	$	17.00
1-inch Meter		42.50
1 1/2-inch Meter		85.00
2-inch Meter		136.00
3-inch Meter		272.00
4-inch Meter		425.00
6-inch Meter		850.00
8-inch Meter		1,360.00
10-inch Meter		1,955.00
Commercial		
5/8 x 3/4-inch Meter	$	17.00
1-inch Meter		42.50
1 1/2-inch Meter		85.00
2-inch Meter		136.00
3-inch Meter		272.00
4-inch Meter		425.00
6-inch Meter		850.00
8-inch Meter		1,360.00
10-inch Meter		1,955.00
Industrial		
5/8 x 3/4-inch Meter	$	24.65
1-inch Meter		61.63
1 1/2-inch Meter		123.25
2-inch Meter		197.20
3-inch Meter		394.40
4-inch Meter		616.25
6-inch Meter		1,232.50
8-inch Meter		1,972.00
10-inch Meter		2,834.75
Construction		
5/8 x 3/4-inch Meter	$	17.00
1-inch Meter		42.50
1 1/2-inch Meter		85.00
2-inch Meter		136.00
3-inch Meter		272.00
4-inch Meter		425.00
6-inch Meter		850.00
8-inch Meter		1,360.00
10-inch Meter		1,955.00
Sales for Resale		
5/8 x 3/4-inch Meter	$	17.00
1-inch Meter		42.50
1 1/2-inch Meter		85.00
2-inch Meter		136.00
3-inch Meter		272.00
4-inch Meter		425.00
6-inch Meter		850.00
8-inch Meter		1,360.00
10-inch Meter		1,955.00
Private Fire Service		
All	$	28.00

Cochise (Bisbee only)

Commodity Rates	Block	(per 1,000 gallons)
Residential		
5/8 x 3/4-inch Meter	0 to 3,000 Gallons	$ 1.6600
	3,001 to 10,000 Gallons	$ 5.4050
	Over 10,000 Gallons	$ 6.5280
1-inch Meter	0 to 30,000 Gallons	$ 5.4050
	Over 30,000 Gallons	$ 6.5280
1 1/2-inch Meter	0 to 65,000 Gallons	$ 5.4050
	Over 65,000 Gallons	$ 6.5280
2-inch Meter	0 to 100,000 Gallons	$ 5.4050
	Over 100,000 Gallons	$ 6.5280
3-inch Meter	0 to 220,000 Gallons	$ 5.4050
	Over 220,000 Gallons	$ 6.5280
4-inch Meter	0 to 350,000 Gallons	$ 5.4050
	Over 350,000 Gallons	$ 6.5280
6-inch Meter	0 to 725,000 Gallons	$ 5.4050
	Over 725,000 Gallons	$ 6.5280
8-inch Meter	0 to 1,175,000 Gallons	$ 5.4050
	Over 1,175,000 Gallons	$ 6.5280
10-inch Meter	0 to 1,700,000 Gallons	$ 5.4050
	Over 1,700,000 Gallons	$ 6.5280
Commercial		
5/8 x 3/4-inch Meter	0 to 10,000 Gallons	$ 5.4050
	Over 10,000 Gallons	$ 6.5280
1-inch Meter	0 to 30,000 Gallons	$ 5.4050
	Over 30,000 Gallons	$ 6.5280
1 1/2-inch Meter	0 to 65,000 Gallons	$ 5.4050
	Over 65,000 Gallons	$ 6.5280
2-inch Meter	0 to 100,000 Gallons	$ 5.4050
	Over 100,000 Gallons	$ 6.5280
3-inch Meter	0 to 220,000 Gallons	$ 5.4050
	Over 220,000 Gallons	$ 6.5280
4-inch Meter	0 to 350,000 Gallons	$ 5.4050
	Over 350,000 Gallons	$ 6.5280
6-inch Meter	0 to 725,000 Gallons	$ 5.4050
	Over 725,000 Gallons	$ 6.5280
8-inch Meter	0 to 1,175,000 Gallons	$ 5.4050
	Over 1,175,000 Gallons	$ 6.5280
10-inch Meter	0 to 1,700,000 Gallons	$ 5.4050
	Over 1,700,000 Gallons	$ 6.5280

Industrial			
All	All	$	5.7500
Construction			
5/8 x 3/4-inch Meter	0 to 10,000 Gallons	$	5.4050
	Over 10,000 Gallons	$	6.5280
1-inch Meter	0 to 30,000 Gallons	$	5.4050
	Over 30,000 Gallons	$	6.5280
1 1/2-inch Meter	0 to 65,000 Gallons	$	5.4050
	Over 65,000 Gallons	$	6.5280
2-inch Meter	0 to 100,000 Gallons	$	5.4050
	Over 100,000 Gallons	$	6.5280
3-inch Meter	0 to 220,000 Gallons	$	5.4050
	Over 220,000 Gallons	$	6.5280
4-inch Meter	0 to 350,000 Gallons	$	5.4050
	Over 350,000 Gallons	$	6.5280
6-inch Meter	0 to 725,000 Gallons	$	5.4050
	Over 725,000 Gallons	$	6.5280
8-inch Meter	0 to 1,175,000 Gallons	$	5.4050
	Over 1,175,000 Gallons	$	6.5280
10-inch Meter	0 to 1,700,000 Gallons	$	5.4050
	Over 1,700,000 Gallons	$	6.5280
Sales for Resale			
All	All	$	5.4050

Cochise (Sierra Vista only)

Commodity Rates	Block	(per 1,000 gallons)
Residential		
5/8 x 3/4-inch Meter	0 to 3,000 Gallons	$ 1.2000
	3,001 to 10,000 Gallons	$ 1.9320
	Over 10,000 Gallons	$ 3.0550
1-inch Meter	0 to 30,000 Gallons	$ 1.9320
	Over 30,000 Gallons	$ 3.0550
1 1/2-inch Meter	0 to 65,000 Gallons	$ 1.9320
	Over 65,000 Gallons	$ 3.0550
2-inch Meter	0 to 100,000 Gallons	$ 1.9320
	Over 100,000 Gallons	$ 3.0550
3-inch Meter	0 to 220,000 Gallons	$ 1.9320
	Over 220,000 Gallons	$ 3.0550
4-inch Meter	0 to 350,000 Gallons	$ 1.9320
	Over 350,000 Gallons	$ 3.0550
6-inch Meter	0 to 725,000 Gallons	$ 1.9320
	Over 725,000 Gallons	$ 3.0550
8-inch Meter	0 to 1,175,000 Gallons	$ 1.9320
	Over 1,175,000 Gallons	$ 3.0550
10-inch Meter	0 to 1,700,000 Gallons	$ 1.9320
	Over 1,700,000 Gallons	$ 3.0550
Commercial		
5/8 x 3/4-inch Meter	0 to 10,000 Gallons	$ 1.9320
	Over 10,000 Gallons	$ 3.0550
1-inch Meter	0 to 30,000 Gallons	$ 1.9320
	Over 30,000 Gallons	$ 3.0550
1 1/2-inch Meter	0 to 65,000 Gallons	$ 1.9320
	Over 65,000 Gallons	$ 3.0550
2-inch Meter	0 to 100,000 Gallons	$ 1.9320
	Over 100,000 Gallons	$ 3.0550
3-inch Meter	0 to 220,000 Gallons	$ 1.9320
	Over 220,000 Gallons	$ 3.0550
4-inch Meter	0 to 350,000 Gallons	$ 1.9320
	Over 350,000 Gallons	$ 3.0550
6-inch Meter	0 to 725,000 Gallons	$ 1.9320
	Over 725,000 Gallons	$ 3.0550
8-inch Meter	0 to 1,175,000 Gallons	$ 1.9320
	Over 1,175,000 Gallons	$ 3.0550
10-inch Meter	0 to 1,700,000 Gallons	$ 1.9320
	Over 1,700,000 Gallons	$ 3.0550

Industrial			
All	All	$	5.7500
Construction			
5/8 x 3/4-inch Meter	0 to 10,000 Gallons	$	1.9320
	Over 10,000 Gallons	$	3.0550
1-inch Meter	0 to 30,000 Gallons	$	1.9320
	Over 30,000 Gallons	$	3.0550
1 1/2-inch Meter	0 to 65,000 Gallons	$	1.9320
	Over 65,000 Gallons	$	3.0550
2-inch Meter	0 to 100,000 Gallons	$	1.9320
	Over 100,000 Gallons	$	3.0550
3-inch Meter	0 to 220,000 Gallons	$	1.9320
	Over 220,000 Gallons	$	3.0550
4-inch Meter	0 to 350,000 Gallons	$	1.9320
	Over 350,000 Gallons	$	3.0550
6-inch Meter	0 to 725,000 Gallons	$	1.9320
	Over 725,000 Gallons	$	3.0550
8-inch Meter	0 to 1,175,000 Gallons	$	1.9320
	Over 1,175,000 Gallons	$	3.0550
10-inch Meter	0 to 1,700,000 Gallons	$	1.9320
	Over 1,700,000 Gallons	$	3.0550
Sales for Resale			
All	All	$	1.9320

San Manuel

Monthly Minimums

Residential		
5/8 x 3/4-inch Meter	$	27.00
1-inch Meter		67.50
1 1/2-inch Meter		135.00
2-inch Meter		216.00
3-inch Meter		432.00
4-inch Meter		675.00
6-inch Meter		1,350.00
8-inch Meter		2,160.00
10-inch Meter		3,105.00
Commercial		
5/8 x 3/4-inch Meter	$	27.00
1-inch Meter		67.50
1 1/2-inch Meter		135.00
2-inch Meter		216.00
3-inch Meter		432.00
4-inch Meter		675.00
6-inch Meter		1,350.00
8-inch Meter		2,160.00
10-inch Meter		3,105.00
Industrial		
5/8 x 3/4-inch Meter	$	27.00
1-inch Meter		67.50
1 1/2-inch Meter		135.00
2-inch Meter		216.00
3-inch Meter		432.00
4-inch Meter		675.00
6-inch Meter		1,350.00
8-inch Meter		2,160.00
10-inch Meter		3,105.00
Construction		
5/8 x 3/4-inch Meter	$	27.00
1-inch Meter		67.50
1 1/2-inch Meter		135.00
2-inch Meter		216.00
3-inch Meter		432.00
4-inch Meter		675.00
6-inch Meter		1,350.00
8-inch Meter		2,160.00
10-inch Meter		3,105.00
Sales for Resale		
5/8 x 3/4-inch Meter	$	27.00
1-inch Meter		67.50
1 1/2-inch Meter		135.00
2-inch Meter		216.00
3-inch Meter		432.00
4-inch Meter		675.00
6-inch Meter		1,350.00
8-inch Meter		2,160.00
10-inch Meter		3,105.00
Private Fire Service		
All	$	27.00

San Manuel

Commodity Rates	**Block**	**(per 1,000 gallons)**
Residential		
5/8 x 3/4-inch Meter	0 to 3,000 Gallons	$ 2.1700
	3,001 to 10,000 Gallons	$ 4.4520
	Over 10,000 Gallons	$ 6.2370
1-inch Meter	0 to 30,000 Gallons	$ 4.4520
	Over 30,000 Gallons	$ 6.2370
1 1/2-inch Meter	0 to 65,000 Gallons	$ 4.4520
	Over 65,000 Gallons	$ 6.2370
2-inch Meter	0 to 100,000 Gallons	$ 4.4520
	Over 100,000 Gallons	$ 6.2370
3-inch Meter	0 to 220,000 Gallons	$ 4.4520
	Over 220,000 Gallons	$ 6.2370
4-inch Meter	0 to 350,000 Gallons	$ 4.4520
	Over 350,000 Gallons	$ 6.2370
6-inch Meter	0 to 725,000 Gallons	$ 4.4520
	Over 725,000 Gallons	$ 6.2370
8-inch Meter	0 to 1,175,000 Gallons	$ 4.4520
	Over 1,175,000 Gallons	$ 6.2370
10-inch Meter	0 to 1,700,000 Gallons	$ 4.4520
	Over 1,700,000 Gallons	$ 6.2370
Commercial		
5/8 x 3/4-inch Meter	0 to 10,000 Gallons	$ 4.4520
	Over 10,000 Gallons	$ 6.2370
1-inch Meter	0 to 30,000 Gallons	$ 4.4520
	Over 30,000 Gallons	$ 6.2370
1 1/2-inch Meter	0 to 65,000 Gallons	$ 4.4520
	Over 65,000 Gallons	$ 6.2370
2-inch Meter	0 to 100,000 Gallons	$ 4.4520
	Over 100,000 Gallons	$ 6.2370
3-inch Meter	0 to 220,000 Gallons	$ 4.4520
	Over 220,000 Gallons	$ 6.2370
4-inch Meter	0 to 350,000 Gallons	$ 4.4520
	Over 350,000 Gallons	$ 6.2370
6-inch Meter	0 to 725,000 Gallons	$ 4.4520
	Over 725,000 Gallons	$ 6.2370
8-inch Meter	0 to 1,175,000 Gallons	$ 4.4520
	Over 1,175,000 Gallons	$ 6.2370
10-inch Meter	0 to 1,700,000 Gallons	$ 4.4520
	Over 1,700,000 Gallons	$ 6.2370

Industrial			
All	All	$	4.4520
Construction			
5/8 x 3/4-inch Meter	0 to 10,000 Gallons	$	4.4520
	Over 10,000 Gallons	$	6.2370
1-inch Meter	0 to 30,000 Gallons	$	4.4520
	Over 30,000 Gallons	$	6.2370
1 1/2-inch Meter	0 to 65,000 Gallons	$	4.4520
	Over 65,000 Gallons	$	6.2370
2-inch Meter	0 to 100,000 Gallons	$	4.4520
	Over 100,000 Gallons	$	6.2370
3-inch Meter	0 to 220,000 Gallons	$	4.4520
	Over 220,000 Gallons	$	6.2370
4-inch Meter	0 to 350,000 Gallons	$	4.4520
	Over 350,000 Gallons	$	6.2370
6-inch Meter	0 to 725,000 Gallons	$	4.4520
	Over 725,000 Gallons	$	6.2370
8-inch Meter	0 to 1,175,000 Gallons	$	4.4520
	Over 1,175,000 Gallons	$	6.2370
10-inch Meter	0 to 1,700,000 Gallons	$	4.4520
	Over 1,700,000 Gallons	$	6.2370
Sales for Resale			
All	All	$	4.4520

Falcon Valley (Oracle/SaddleBrooke Ranch)

Monthly Minimums

Residential		
5/8 x 3/4-inch Meter	$	26.94
1-inch Meter		67.35
1 1/2-inch Meter		134.70
2-inch Meter		215.52
3-inch Meter		431.04
4-inch Meter		673.50
6-inch Meter		1,347.00
8-inch Meter		2,155.20
10-inch Meter		3,098.10
Commercial		
5/8 x 3/4-inch Meter	$	26.94
1-inch Meter		67.35
1 1/2-inch Meter		134.70
2-inch Meter		215.52
3-inch Meter		431.04
4-inch Meter		673.50
6-inch Meter		1,347.00
8-inch Meter		2,155.20
10-inch Meter		3,098.10
Industrial		
5/8 x 3/4-inch Meter	$	26.94
1-inch Meter		67.35
1 1/2-inch Meter		134.70
2-inch Meter		215.52
3-inch Meter		431.04
4-inch Meter		673.50
6-inch Meter		1,347.00
8-inch Meter		2,155.20
10-inch Meter		3,098.10
Construction		
5/8 x 3/4-inch Meter	$	26.94
1-inch Meter		67.35
1 1/2-inch Meter		134.70
2-inch Meter		215.52
3-inch Meter		431.04
4-inch Meter		673.50
6-inch Meter		1,347.00
8-inch Meter		2,155.20
10-inch Meter		3,098.10
Sales for Resale		
5/8 x 3/4-inch Meter	$	26.94
1-inch Meter		67.35
1 1/2-inch Meter		34.70
2-inch Meter		215.52
3-inch Meter		431.04
4-inch Meter		673.50
6-inch Meter		1,347.00
8-inch Meter		2,155.20
10-inch Meter		3,098.10
Private Fire Service		
All	$	27.00

Falcon Valley (Oracle/SaddleBrooke Ranch)

Commodity Rates	Block	(per 1,000 gallons)
Residential		
5/8 x 3/4-inch Meter	0 to 3,000 Gallons	$ 2.6050
	3,001 to 10,000 Gallons	$ 5.4650
	Over 10,000 Gallons	$ 7.2460
1-inch Meter	0 to 30,000 Gallons	$ 5.4650
	Over 30,000 Gallons	$ 7.2460
1 1/2-inch Meter	0 to 65,000 Gallons	$ 5.4650
	Over 65,000 Gallons	$ 7.2460
2-inch Meter	0 to 100,000 Gallons	$ 5.4650
	Over 100,000 Gallons	$ 7.2460
3-inch Meter	0 to 220,000 Gallons	$ 5.4650
	Over 220,000 Gallons	$ 7.2460
4-inch Meter	0 to 350,000 Gallons	$ 5.4650
	Over 350,000 Gallons	$ 7.2460
6-inch Meter	0 to 725,000 Gallons	$ 5.4650
	Over 725,000 Gallons	$ 7.2460
8-inch Meter	0 to 1,175,000 Gallons	$ 5.4650
	Over 1,175,000 Gallons	$ 7.2460
10-inch Meter	0 to 1,700,000 Gallons	$ 5.4650
	Over 1,700,000 Gallons	$ 7.2460
Commercial		
5/8 x 3/4-inch Meter	0 to 10,000 Gallons	$ 5.4650
	Over 10,000 Gallons	$ 7.2460
1-inch Meter	0 to 30,000 Gallons	$ 5.4650
	Over 30,000 Gallons	$ 7.2460
1 1/2-inch Meter	0 to 65,000 Gallons	$ 5.4650
	Over 65,000 Gallons	$ 7.2460
2-inch Meter	0 to 100,000 Gallons	$ 5.4650
	Over 100,000 Gallons	$ 7.2460
3-inch Meter	0 to 220,000 Gallons	$ 5.4650
	Over 220,000 Gallons	$ 7.2460
4-inch Meter	0 to 350,000 Gallons	$ 5.4650
	Over 350,000 Gallons	$ 7.2460
6-inch Meter	0 to 725,000 Gallons	$ 5.4650
	Over 725,000 Gallons	$ 7.2460
8-inch Meter	0 to 1,175,000 Gallons	$ 5.4650
	Over 1,175,000 Gallons	$ 7.2460
10-inch Meter	0 to 1,700,000 Gallons	$ 5.4650
	Over 1,700,000 Gallons	$ 7.2460

Industrial			
All	All	$	5.4650
Construction			
5/8 x 3/4-inch Meter	0 to 10,000 Gallons	$	5.4650
	Over 10,000 Gallons	$	7.2460
1-inch Meter	0 to 30,000 Gallons	$	5.4650
	Over 30,000 Gallons	$	7.2460
1 1/2-inch Meter	0 to 65,000 Gallons	$	5.4650
	Over 65,000 Gallons	$	7.2460
2-inch Meter	0 to 100,000 Gallons	$	5.4650
	Over 100,000 Gallons	$	7.2460
3-inch Meter	0 to 220,000 Gallons	$	5.4650
	Over 220,000 Gallons	$	7.2460
4-inch Meter	0 to 350,000 Gallons	$	5.4650
	Over 350,000 Gallons	$	7.2460
6-inch Meter	0 to 725,000 Gallons	$	5.4650
	Over 725,000 Gallons	$	7.2460
8-inch Meter	0 to 1,175,000 Gallons	$	5.4650
	Over 1,175,000 Gallons	$	7.2460
10-inch Meter	0 to 1,700,000 Gallons	$	5.4650
	Over 1,700,000 Gallons	$	7.2460
Sales for Resale			
All	All	$	5.4650

Winkelman

Monthly Minimums

Residential		
5/8 x 3/4-inch Meter	$	21.00
1-inch Meter		52.50
1 1/2-inch Meter		105.00
2-inch Meter		168.00
3-inch Meter		336.00
4-inch Meter		525.00
6-inch Meter		1,050.00
8-inch Meter		1,680.00
10-inch Meter		2,415.00
Commercial		
5/8 x 3/4-inch Meter	$	21.00
1-inch Meter		52.50
1 1/2-inch Meter		105.00
2-inch Meter		168.00
3-inch Meter		336.00
4-inch Meter		525.00
6-inch Meter		1,050.00
8-inch Meter		1,680.00
10-inch Meter		2,415.00
Industrial		
5/8 x 3/4-inch Meter	$	21.00
1-inch Meter		52.50
1 1/2-inch Meter		105.00
2-inch Meter		168.00
3-inch Meter		336.00
4-inch Meter		525.00
6-inch Meter		1,050.00
8-inch Meter		1,680.00
10-inch Meter		2,415.00
Construction		
5/8 x 3/4-inch Meter	$	21.00
1-inch Meter		52.50
1 1/2-inch Meter		105.00
2-inch Meter		168.00
3-inch Meter		336.00
4-inch Meter		525.00
6-inch Meter		1,050.00
8-inch Meter		1,680.00
10-inch Meter		2,415.00
Sales for Resale		
5/8 x 3/4-inch Meter	$	21.00
1-inch Meter		52.50
1 1/2-inch Meter		105.00
2-inch Meter		168.00
3-inch Meter		336.00
4-inch Meter		525.00
6-inch Meter		1,050.00
8-inch Meter		1,680.00
10-inch Meter		2,415.00
Private Fire Service		
All	$	27.00

Winkelman

Commodity Rates	Block	(per 1,000 gallons)
Residential		
5/8 x 3/4-inch Meter	0 to 3,000 Gallons	$ 0.7500
	3,001 to 10,000 Gallons	$ 1.6500
	Over 10,000 Gallons	$ 3.0000
1-inch Meter	0 to 30,000 Gallons	$ 1.6500
	Over 30,000 Gallons	$ 3.0000
1 1/2-inch Meter	0 to 65,000 Gallons	$ 1.6500
	Over 65,000 Gallons	$ 3.0000
2-inch Meter	0 to 100,000 Gallons	$ 1.6500
	Over 100,000 Gallons	$ 3.0000
3-inch Meter	0 to 220,000 Gallons	$ 1.6500
	Over 220,000 Gallons	$ 3.0000
4-inch Meter	0 to 350,000 Gallons	$ 1.6500
	Over 350,000 Gallons	$ 3.0000
6-inch Meter	0 to 725,000 Gallons	$ 1.6500
	Over 725,000 Gallons	$ 3.0000
8-inch Meter	0 to 1,175,000 Gallons	$ 1.6500
	Over 1,175,000 Gallons	$ 3.0000
10-inch Meter	0 to 1,700,000 Gallons	$ 1.6500
	Over 1,700,000 Gallons	$ 3.0000
Commercial		
5/8 x 3/4-inch Meter	0 to 10,000 Gallons	$ 1.6500
	Over 10,000 Gallons	$ 3.0000
1-inch Meter	0 to 30,000 Gallons	$ 1.6500
	Over 30,000 Gallons	$ 3.0000
1 1/2-inch Meter	0 to 65,000 Gallons	$ 1.6500
	Over 65,000 Gallons	$ 3.0000
2-inch Meter	0 to 100,000 Gallons	$ 1.6500
	Over 100,000 Gallons	$ 3.0000
3-inch Meter	0 to 220,000 Gallons	$ 1.6500
	Over 220,000 Gallons	$ 3.0000
4-inch Meter	0 to 350,000 Gallons	$ 1.6500
	Over 350,000 Gallons	$ 3.0000
6-inch Meter	0 to 725,000 Gallons	$ 1.6500
	Over 725,000 Gallons	$ 3.0000
8-inch Meter	0 to 1,175,000 Gallons	$ 1.6500
	Over 1,175,000 Gallons	$ 3.0000
10-inch Meter	0 to 1,700,000 Gallons	$ 1.6500
	Over 1,700,000 Gallons	$ 3.0000

Industrial			
All	All	$	4.9210
Construction			
5/8 x 3/4-inch Meter	0 to 10,000 Gallons	$	1.6500
	Over 10,000 Gallons	$	3.0000
1-inch Meter	0 to 30,000 Gallons	$	1.6500
	Over 30,000 Gallons	$	3.0000
1 1/2-inch Meter	0 to 65,000 Gallons	$	1.6500
	Over 65,000 Gallons	$	3.0000
2-inch Meter	0 to 100,000 Gallons	$	1.6500
	Over 100,000 Gallons	$	3.0000
3-inch Meter	0 to 220,000 Gallons	$	1.6500
	Over 220,000 Gallons	$	3.0000
4-inch Meter	0 to 350,000 Gallons	$	1.6500
	Over 350,000 Gallons	$	3.0000
6-inch Meter	0 to 725,000 Gallons	$	1.6500
	Over 725,000 Gallons	$	3.0000
8-inch Meter	0 to 1,175,000 Gallons	$	1.6500
	Over 1,175,000 Gallons	$	3.0000
10-inch Meter	0 to 1,700,000 Gallons	$	1.6500
	Over 1,700,000 Gallons	$	3.0000
Sales for Resale			
All	All	$	1.6500

EASTERN GROUP (All Divisions & Systems)

Service Charges

Establishment	$32.00
Guarantee Deposit	Residential- maximum: Two (2) times average customer class bill.
	Non-Residential-maximum: Two and one-half (2 1/2) times that customer's estimated maximum monthly bill.
Reconnection for Delinquency	$32.00
Re-Establishment	Eight (8) times the customer's monthly minimum charge, or payment of the minimums since disconnection, whichever is less.
Service Call Out	During regular working hours- No charge.
	After regular working hours, on Saturdays, Sundays, or holidays - $35.00
Returned Payment for Insufficient Funds	$25.00
Meter Re-read	$25.00 All Meter Re-reads
Meter Test	No charge for the first test; for the second test for the same customer within any twelve (12) month period, $25.00, or actual time and material, whichever is greater.

Service Line and Meter Installation Charges

Meter Size	Service Line*	Meter	Total*
5/8 Inch	$ 445	$ 155	$ 600
1 Inch	$ 495	$ 315	$ 810
2 Inch turbine	$ 830	$ 1,045	$ 1,875
2 Inch compound	$ 830	$ 1,890	$ 2,720
3 Inch turbine	Actual Cost	Actual Cost	Actual Cost
3 Inch compound	Actual Cost	Actual Cost	Actual Cost
4 Inch turbine	Actual Cost	Actual Cost	Actual Cost
4 Inch compound	Actual Cost	Actual Cost	Actual Cost
6 Inch turbine	Actual Cost	Actual Cost	Actual Cost
6 Inch compound	Actual Cost	Actual Cost	Actual Cost
8 Inch turbine	Actual Cost	Actual Cost	Actual Cost
8 Inch compound	Actual Cost	Actual Cost	Actual Cost
10 Inch turbine	Actual Cost	Actual Cost	Actual Cost
10 Inch compound	Actual Cost	Actual Cost	Actual Cost

* Actual Cost of Service line if boring under roadway is required