

ORIGINAL



0000143150

BEFORE THE ARIZONA CORPORATION COMMISSION

RECEIVED

COMMISSIONERS

2013 MAR -1 P 3: 52

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

AZ CORP COMMISSION
DOCKET CONTROL

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

DOCKET NO. W-01303A-10-0448

DECISION NO. 73145

NOTICE OF COMPLIANCE FILING

In compliance with Decision No. 73145, EPCOR Water Arizona, Inc. hereby files the attached five year plans to determine the most cost-effective approach to address non-revenue water in the Mohave and Havasu Water Districts.

RESPECTFULLY SUBMITTED on March 1, 2013.

Arizona Corporation Commission

DOCKETED

MAR 1 2013

Sandra L. Murrey

Sandra L. Murrey
Rate Analyst
EPCOR Water Arizona, Inc.
2355 W. Pinnacle Peak Road, Suite 300
Phoenix, AZ 85027

DOCKETED BY

JM

1 Original and 13 copies **filed**
2 on March 1, 2013, with:

3
4 Docket Control
5 Arizona Corporation Commission
6 1200 West Washington
7 Phoenix, Arizona 85007

8
9 Copies of the foregoing **emailed**
10 on March 1, 2013 to:

11
12 Brian K. Bozzo
13 Compliance and Enforcement Manager
14 Utilities Division
15 1200 West Washington Street
16 Phoenix, AZ 85007



Non Revenue Water Program – Mohave District

Introduction

The Mohave District ended the year 2012 with a Non-revenue water (NRW) ratio of 11% overall. The Arizona Corporation Commission (ACC) has ordered that this district reduce NRW to below 10%. Currently the Mohave District uses water auditing as a routine business practice using a method that has clearly defined terms and meaningful performance indicators. The Non-revenue Water (“NRW”) program assists the District in indentifying where water losses are occurring and also expresses, by volume and percentage, how much water is lost.

What follows is the District plan to reduce non account water to below 10% in each water system.

Non-revenue Water Program

The NRW program was supplemented in April 2009 with the launch of a local Unaccounted For Water (UFW) Committee whose purpose is to solve NRW variances. This Committee is made up of 7 supervisory and operations persons with the experience and knowledge to investigate and resolve water loss issues.

Our primary focus is to reduce the variance between net system delivery (NSD) and net water sales (NWS) as non-revenue water (NRW) to a level below ten percent. There are many uses that are authorized and unbilled (AUB), i.e. main flushing, fire fighting, etc., we believe these components are significant enough to be one of our areas of focus at this time.

The Mohave district is committed to implementing best management practices to minimize and reduce lost and unaccounted for water. Our effort is being driven not only by the emphasis on water conservation, but also for economic reasons. Some of the components of unaccounted-for water (UFW) include meter inaccuracies, undocumented main flushing, undocumented unmetered water use, and undocumented water leakage. Past and present programs have addressed the areas of meter accuracy and unmetered water use. The following paragraphs detail the Company’s plan activities to mitigate water loss in the Mohave district.

Production Meter Testing

The Mohave district implemented a program to test and calibrate each production meter in all of its service areas on an annual basis. The first component of any good NRW program is to be certain that you are reporting the amount of water you are producing correctly, and our concentrated efforts in this area to test and calibrate production meters and identify meters that require repair or replacement is the foundation upon which further efforts are built. The Mohave district has completed this program and will continue the testing of production meters annually. Any meters not meeting standard requirements will be repaired, calibrated and or replaced immediately with Endress + Hauser meters as the standard.

Periodic Sales Meter Change-Outs

The Mohave district has a periodic meter change-out program that replaces meters aged 15 years and older in its water service areas. Based on our internal testing and industry publications, we recognize that meters tend to under register water sales as they age. A new or replacement meter improves accuracy of reported water consumption. This is an ongoing activity and we have set a goal of 10 % of aged meters are to be replaced annually. Under this program, the oldest meters in the district will be changed out first. At the conclusion of the initial 15-year period, each meter will be replaced on an ongoing basis when their age reaches 15 years old. In addition, manual read meters are being replaced by automated radio read meters at the time of their change out.

Zero Consumption Meter Edit Report

EPCOR produces a report of all meters that have recorded zero consumption at the time of each billing period. This report is analyzed by billing analysts to identify which accounts require field investigation and is then forwarded to the local field office. Under the NRW program all premises showing up on the zero consumption report will be physically inspected by a Field Customer Service Representative (FCSR) and, if necessary, the meter will be changed if found to be stuck.

Low Usage Meter Edit Report

EPCOR produces a report of all meters that have registered low usage. Low usage is defined as being 50% below that of the past month. This report is forwarded on a monthly basis to the local field office. Under the NRW program all premises showing up on the Low Usage report will be reviewed by a FCSR and, if necessary, the meter will be changed if found to be under registering. Larger meters registering a 50% lower than normal usage will be investigated and tested if necessary within 30 days.

Leak and Break Response Time Monitoring

The Operations manager will review service orders each month to determine the amount of time that is elapsing between a leak service order being created and subsequently closed. At no time should this time interval span longer than five days, and only this duration for small leaks (e.g. ball valve leaks, etc.). If the time interval between leak service order creation and repair becomes too long the Operations Manager will readjust work priorities to get leak repairs made in a timely fashion.

Water Line replacements

During the years of 2010, 2011, and 2012 we replaced all the Vanguard and Drisco brand service lines in the Desert Foothills subdivision of the Mohave service territory. These service lines have shown high failure rates and are contributing to the NRW percentage for this District. This service line replacement work has reduced the NRW in the Mohave District and service line replacement work will be prominent activity in 2013. There is \$912,000 budgeted for service line replacements in the Mohave District for 2013. Areas where additional Drisco service line materials are located will be targeted along with the older sections of the service territory for 2013 service line replacements. The five year budget for service line replacement in the Mohave District is listed below.

2013	2014	2015	2016	2017
\$912,000	\$949,000	\$989,000	\$1,089,000	\$1,236,000

Large Sales Meter Testing

Currently there is only one 4-inch meter in this service area. Since inaccuracies of large meters could create a large component of under-reporting of sales, this sales meter will have semi annual testing and recalibration, rather than being included in the 15 year replacement timetable for smaller meters.

Automatic Meter Reading

Automatic Meter Reading ("AMR") is the remote collection of consumption data from customers' water meters using telephony, radio frequency, power-line and satellite communication. EPCOR began implementation of a new AMR program in 2008 in which meters are replaced under the periodic meter change-out program and other meters needing replacement (i.e. stuck and damaged meters) are replaced with meters with AMR transmitters installed in them. The Mohave district has been employing AMR technology for new construction installations and replacement since 2008. The program's goal is to ensure 100% accuracy of each meter read, and to increase the productivity of the meter reading work force.

The Mohave district has historically used direct read meters that required each water meter to be manually read by a meter reader each month. Under this program, the Mohave district will upgrade to new encoder (AMR) meters with radio frequency technology that are read with a hand held automatic data collection system, allowing the Division to increase its meter read accuracy and efficiency, reductions in estimated bills and administrative adjustments, and a decrease in the number of special reads (repeat visits). The AMR program will also increase consumption accuracy which directly affects the NWS component of the NRW calculation. The program was launched in 2008 and continues in 2013. The five year meter replacement budget for the Mohave District is listed below.

2013	2014	2015	2016	2017
\$451,000	\$552,000	\$676,000	\$828,000	\$1,000,000

Employee Incentive Program

Recognizing that employees are the Company's "eyes and ears" to our systems and our customers, EPCOR initiated the following program to reduce water loss, prevent unnecessary repairs, and promote system security. The Recovered Water Incentive Program was designed to encourage employees to identify and report incidents of water theft or water loss. Employees are encouraged to question contractors or others working in areas served by EPCOR and who might be taking water from hydrants or other unmetered locations. While employees are encouraged to be inquisitive, they are told to not put themselves in a situation where their personal safety is at risk.

Program Specifics: Up to four \$25 gift certificates are awarded each month to employees who find and report incidents of water theft, tampering or vandalism involving EPCOR equipment (including meters) or facilities, or illegal or undocumented services or hook-ups. If an employee reports an unauthorized customer hook-up to a hydrant or an inactive account with consumption, he/she is eligible to receive a \$25 gift card.

Internal Data Consistency

Customer billing issues may also affect non revenue water. Company employees are working to ensure that internal data sources are used consistently and any inconsistencies are researched and corrected. This generally involves verifying meter sizes, verifying the application of the correct tariff, verifying the number of meter dials coded in the billing system, and verifying that the correct district / system ID / meter route fields are used. For example, if a meter has more reading dials than is coded into the billing system, then the meter reader could under-read the meter. If the customer account is coded to a tariff for an incorrect geographic area or is coded to an incorrect district /system ID / meter route, this can result in water sales attributed to one district while water production is attributed to another district, thereby causing an understatement of NRW in the former district and an overstatement of NRW in the latter district. This is an on-going activity being enhanced through additional system reporting which more easily highlights inconsistencies.

Acoustic Leak Detection

Our previous efforts to detect and mitigate water leaks have included water audits including a leak detection survey employing mobile acoustic technology and/or acoustic leak detection equipment with very little success. Due to the depth of lines and soil conditions, in 2011 we implemented a pressure testing method utilizing line pressure and isolating sections of water mains at a time. This method provided a much more accurate audit and made pinpointing leaks much easier.

Staff has been fully trained in this method and we will continue to check areas where service lines have not been replaced (Drisco 5100 brand) every 90 days with results being updated on the NRW progress file. Through 2012 EPCOR has performed acoustic leak detection activities encompassing 396,000 linear feet of main.

Sub metering to pinpoint NRW issues

We have installed a sub meter between the Desert Foothills subdivision and the Laughlin Ranch subdivision allowing us to correlate water usage in each subdivision

separately. This has proven effective in helping us accurately target service line replacements to improve NRW levels. We are continuing to identify locations where sub metering and be used to improve NRW targeting throughout the Mohave District.

Water Main Replacement:

The Bullhead service area ranges in age from 10 to over 60 years in age. There are varying types and materials of water mains in the system which is a function of the development and expansion of the service territory over several decades. There are many sections of the service territory where galvanized and thin walled PVC water mains are still in service. EPCOR is working to replace mains that consist of materials that are susceptible to failure and leakage on an ongoing basis. Approval by the ACC of a "DSIC" would enable acceleration of this effort in a manner that would minimize significant rate impacts to customers by allowing investment to be made in a steady manner.

Targeted theft prevention:

Theft from fire hydrants can be a large source of NRW in the Mohave district. The service area covers a large area that varies greatly in elevation. It is suspected that either advertent or inadvertent use of hydrants can be occurring in low lying areas that are not readily visible by customers or employees. Because of this we have begun implementing a program to lock off inconspicuous hydrants so that water cannot be accessed. We are also locking off valve can lids that are located on new main lines to prevent the filling of those lines without consent.

Customer Awareness and Reporting Education

The Mohave district distributes educational material and contact information in the form of door hangers that allows customers to report any potential or suspected water leaks throughout the distribution system. By educating our customers we expect that leaks will be detected and repaired as quickly as possible.

Plan Summary

EPCOR believes this multifaceted approach is comprehensive and will accurately reveal if NRW levels can be feasibly brought below the 10% threshold. Furthermore, the NRW progress report shows that we have been very aggressive in implementing this program in the Mohave District.



Non Revenue Water Program – Havasu District

Introduction

The Havasu District ended the year 2012 with a Non-revenue water (NRW) ratio of 21% overall. The Arizona Corporation Commission (ACC) has ordered that this district reduce NRW to below 10%. Currently the Havasu District employs water auditing as a routine business practice using a method that has clearly defined terms and meaningful performance indicators. The Non-revenue Water (“NRW”) program assists the District in indentifying where water losses are occurring and also expresses, by volume and percentage, how much water is lost.

What follows is the District plan to reduce non account water to below 10% in each water system.

Non-revenue Water Program

The NRW program was supplemented in April 2009 with the launch of a local Unaccounted For Water (UFW) Committee whose purpose is to solve NRW variances. This Committee is made up of 7 supervisory and operations persons with the experience and knowledge to investigate and resolve water loss issues.

Our primary focus is to reduce the variance between net system delivery (NSD) and net water sales (NWS) as non-revenue water (NRW) to a level below ten percent. There are many uses that are authorized and unbilled (AUB), i.e. main flushing, fire fighting, etc., we believe these components are significant enough to be one of our areas of focus at this time.

The Havasu district is committed to implementing best management practices to minimize and reduce lost and unaccounted for water. Our effort is being driven not only by the emphasis on water conservation, but also for economic reasons. Some of the components of unaccounted-for water (UFW) include meter inaccuracies, undocumented main flushing, undocumented unmetered water use, and undocumented water leakage. Past and present programs have addressed the areas of meter accuracy and unmetered water use. The following paragraphs detail the Company’s plan activities to mitigate water loss in the Havasu district.

Production Meter Testing

The Havasu district implemented a program to test and calibrate each production meter in all of its service areas on an annual basis. The first component of any good NRW program is to be certain that you are reporting the amount of water you are producing correctly, and our concentrated efforts in this area to test and calibrate production meters and identify meters that require repair or replacement is the foundation upon which further efforts are built. The Havasu district has completed this program and will continue the testing of production meters annually. Any meters not meeting standard requirements will be repaired, calibrated and/or replaced immediately with Endress + Hauser meters as the standard.

Periodic Sales Meter Change-Outs

The Havasu district has a periodic meter change-out program that replaces meters aged 15 years and older in its water service areas. Based on our internal testing and industry publications, we recognize that meters tend to under register water sales as they age. A new or replacement meter improves accuracy of reported water consumption. This is an ongoing activity and we have set a goal of 10 % of aged meters are to be replaced annually. Under this program, the oldest meters in the district will be changed out first. At the conclusion of the initial 15-year period, each meter will be replaced on an ongoing basis when their age reaches 15 years old. In addition, manual read meters are being replaced by automated radio read meters at the time of their change out.

Zero Consumption Meter Edit Report

EPCOR produces a report of all meters that have recorded zero consumption at the time of each billing period. This report is analyzed by billing analysts to identify which accounts require field investigation and is then forwarded to the local field office. Under the NRW program all premises showing up on the zero consumption report will be physically inspected by a Field Customer Service Representative (FCSR) and, if necessary, the meter will be changed if found to be stuck.

Low Usage Meter Edit Report

EPCOR produces a report of all meters that have registered low usage. Low usage is defined as being 50% below that of the past month. This report is forwarded on a monthly basis to the local field office. Under the NRW program all premises showing up on the Low Usage report will be reviewed by a FCSR and, if necessary, the meter will be changed if found to be under registering. Larger meters registering a 50% lower than normal usage will be investigated and tested if necessary within 30 days.

Leak and Break Response Time Monitoring

The Operations manager will review service orders each month to determine the amount of time that is elapsing between a leak service order being created and subsequently closed. At no time should this time interval span longer than five days, and only this duration for small leaks (e.g. ball valve leaks, etc.). If the time interval between leak service order creation and repair becomes too long the Operations Manager will readjust work priorities to get leak repairs made in a timely fashion.

Water Line replacements

During the year 2010 and 2011 we replaced all the Vanguard brand service lines in the Canterbury Estates and Refuge subdivisions. In 2012 EPCOR replaced 200 service lines in the Havasu District. The five year budget for service line replacements in the Havasu District is listed below.

2013	2014	2015	2016	2017
\$187,000	\$215,000	\$243,000	\$248,000	\$254,000

Large Sales Meter Testing

Currently there is only one 4-inch meter in this service area. Since inaccuracies of large meters could create a large component of under-reporting of sales, this sales meter will have semi annual testing and recalibration, rather than being included in the 15 year replacement timetable for smaller meters.

Automatic Meter Reading

Automatic Meter Reading ("AMR") is the remote collection of consumption data from customers' water meters using telephony, radio frequency, power-line and satellite communication. The implementation of a new AMR program began in 2008 in which meters are replaced under the periodic meter change-out program and other meters needing replacement (i.e. stuck and damaged meters) are replaced with meters with AMR transmitters installed in them. The Havasu district has been employing AMR technology for new construction installations and replacement since 2008. The program's goal is to ensure 100% accuracy of each meter read, and to increase the productivity of the meter reading work force.

The Havasu district has historically used direct read meters that required each water meter to be manually read by a meter reader each month. Under this program, the Havasu district will upgrade to new encoder (AMR) meters with radio frequency technology that are read with a hand held automatic data collection system, allowing the Division to increase its meter read accuracy and efficiency, reductions in estimated bills and administrative adjustments, and a decrease in the number of special reads (repeat visits). The AMR program should also increase consumption accuracy which directly affects the NWS component of the NRW calculation. The program was launched in 2008 and continues in 2013. The five year meter replacement budget for the Havasu District is listed below.

2013	2014	2015	2016	2017
\$64,000	\$78,000	\$96,000	\$117,000	\$144,000

Employee Incentive Program

Recognizing that employees are the Company's "eyes and ears" to our systems and our customers, EPCOR initiated the following program to reduce water loss, prevent unnecessary repairs, and promote system security. The Recovered Water Incentive

Program was designed to encourage employees to identify and report incidents of water theft or water loss. Employees are encouraged to question contractors or others working in areas served by EPCOR and who might be taking water from hydrants or other unmetered locations. While employees are encouraged to be inquisitive, they are told to not put themselves in a situation where their personal safety is at risk.

Program Specifics: Up to four \$25 gift certificates are awarded each month to employees who find and report incidents of water theft, tampering or vandalism involving EPCOR equipment (including meters) or facilities, or illegal or undocumented services or hook-ups. If an employee reports an unauthorized customer hook-up to a hydrant or an inactive account with consumption, he/she is eligible to receive a \$25 gift card.

Internal Data Consistency

Customer billing issues may also affect non revenue water. Company employees are working to ensure that internal data sources are used consistently and any inconsistencies are researched and corrected. This generally involves verifying meter sizes, verifying the application of the correct tariff, verifying the number of meter dials coded in the billing system, and verifying that the correct district / system ID / meter route fields are used. For example, if a meter has more reading dials than is coded into the billing system, then the meter reader could under-read the meter. If the customer account is coded to a tariff for an incorrect geographic area or is coded to an incorrect district /system ID / meter route, this can result in water sales attributed to one district while water production is attributed to another district, thereby causing an understatement of NRW in the former district and an overstatement of NRW in the latter district. This is an on-going activity being enhanced through additional system reporting which more easily highlights inconsistencies.

Acoustic Leak Detection

Our previous efforts to detect and mitigate water leaks have included water audits including a leak detection survey employing mobile acoustic technology and or acoustic leak detection equipment with very little success due to the depth of lines and soil conditions. In 2011 we implemented a pressure testing method using line pressure and isolating sections of water mains at a time. This method provided a much more accurate audit and made pinpointing leaks much easier.

Staff has been fully trained in this method and we will continue to check areas where service lines have not been replaced (Drisco 5100 brand) every 90 days with results being updated on the NRW progress file. Through 2012 EPCOR has conducted acoustic leak detection activities on 122,000 linear feet of main.

Submetering to pinpoint NRW issues

We are evaluating our ability to install submeters in the Havasu distribution system. One challenge is that the system is looped and many areas where submeters could be installed can be back feed from other locations. This complicates our ability to submeter and gain meaningful zone consumption data. Work has begun with the EPCOR hydraulic model to determine if operational changes can be made to allow submetering to be implemented successfully.

Targeted theft prevention:

Theft from fire hydrants can be a large source of NRW in the Havasu district. The service area covers a large area that varies greatly in elevation. It is suspected that either advertent or inadvertent use of hydrants can be occurring in low lying areas that are not readily visible by customers or employees. Because of this we have begun implementing a program to lock off inconspicuous hydrants so that water cannot be accessed. We are also locking off valve can lids that are located on new main lines to prevent the filling of those lines without consent.

Customer Awareness and Reporting Education

The Havasu district distributes educational material and contact information in the form of door hangers that allows customers to report any potential or suspected water leaks throughout the distribution system. By educating our customers we expect that leaks will be detected and repaired as quickly as possible.

2011 Contractor Evaluation of System

In 2011 EPCOR contracted with Blue Water Consulting to have a complete system evaluation and investigation of water losses. This report emphasized the need to continue with many of the above listed activities as well as embark on a large scale water main replacement program. The report found that many of the mains in the system are older, thin wall PVC of sizes that can be too small for certain sections of the distribution network. EPCOR has begun implementing many of the recommendations of the report but is working hard to balance this extremely capital intensive exercise with the water rates customers are currently paying. Approval by the ACC of a "DSIC" would enable acceleration of this effort in a manner that would minimize significant rate impacts to customers by allow investment to be made in a steady manner

Plan Summary

EPCOR believes this multifaceted approach is comprehensive and will accurately reveal if NRW levels can be feasibly brought below the 10% threshold. Furthermore, the NRW progress report shows that we have been very aggressive in implementing this program in the Havasu District.

ORDER

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

IT IS THEREFORE ORDERED that the Settlement Agreement filed December 15, 2011, as supplemented by the Settlement Agreement Addenda filed February 8, 2012, and attached to this Decision as Attachments A and B, respectively, are hereby approved as discussed herein.

IT IS FURTHER ORDERED that Arizona-American Water Company/ EPCOR Water (USA), Inc., is hereby directed to file with the Commission, on or before June 29, 2012, revised schedules of rates and charges consistent with Attachments A and B, and the findings herein.

IT IS FURTHER ORDERED that the revised schedules of rates and charges shall be effective for all service rendered on and after July 1, 2012.

IT IS FURTHER ORDERED that Arizona-American Water Company/ EPCOR Water (USA), Inc., shall notify its affected customers of the revised schedules of rates and charges authorized herein by means of an insert in its next regularly scheduled billing, and by posting on its website, in a form acceptable to the Commission's Utilities Division Staff.

IT IS FURTHER ORDERED that Arizona-American Water Company/ EPCOR Water (USA), Inc., shall implement and comply with the terms of the Settlement Agreement and Settlement Agreement Addenda as discussed herein, including filing all reports, studies, and plans as set forth in the Settlement Agreement and herein.

IT IS FURTHER ORDERED that Arizona-American Water Company/ EPCOR Water (USA), Inc., shall file with Docket Control, by March 1, 2013, as a compliance item in this docket, for Staff's review and approval, five-year plans to determine the most cost-effective approach to address non-revenue water in the Mohave and Havasu Water Districts, based on leak survey and system analysis.

...
...
...
...
...
...
...