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BEFORE THE ARIZONA CORPORATION COMMISSION

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- SUSAN BITTER SMITH, Chairman
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IN THE MATTER OF THE APPLICATION OF VALENCIA WATER COMPANY – TOWN DIVISION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA

Docket No. W-01212A-12-0309

**ORIGINAL**

IN THE MATTER OF THE APPLICATION OF GLOBAL WATER – PALO VERDE UTILITIES COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA

DOCKET NO. SW-20445A-12-0310

IN THE MATTER OF THE APPLICATION OF WATER UTILITY OF NORTHERN SCOTTSDALE, INC. FOR A RATE INCREASE

Docket Nos. W-03720A-12-0311

IN THE MATTER OF THE APPLICATION OF WATER UTILITY OF GREATER TONOPAH FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA

DOCKET NO. W-02450A-12-0312

IN THE MATTER OF THE APPLICATION OF VALENCIA WATER COMPANY – GREATER BUCKEYE DIVISION FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES FOR UTILITY SERVICE DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS PROPERTY THROUGHOUT THE STATE OF ARIZONA

DOCKET NO. W-02451A-12-0313

**NOTICE OF FILING  
WATER LOSS REPORT**

1 IN THE MATTER OF THE APPLICATION OF  
2 GLOBAL WATER – SANTA CRUZ WATER COMPANY  
3 FOR THE ESTABLISHMENT OF JUST AND  
4 REASONABLE RATES AND CHARGES FOR UTILITY  
5 SERVICE DESIGNED TO REALIZE A REASONABLE  
6 RATE OF RETURN ON THE FAIR VALUE OF ITS  
7 PROPERTY THROUGHOUT THE STATE OF ARIZONA

DOCKET NO. W-20446A-12-0314

5 IN THE MATTER OF THE APPLICATION OF  
6 WILLOW VALLEY WATER COMPANY FOR THE  
7 ESTABLISHMENT OF JUST AND REASONABLE  
8 RATES AND CHARGES FOR UTILITY SERVICE  
9 DESIGNED TO REALIZE A REASONABLE RATE OF  
10 RETURN ON THE FAIR VALUE OF ITS PROPERTY  
11 THROUGHOUT THE STATE OF ARIZONA

DOCKET NO. W-01732A-12-0315

**NOTICE OF FILING  
WATER LOSS REPORT**

11 Decision No. 74364 (February 26, 2014) requires that Valencia Water Company – Town  
12 Division (“Valencia-Town”), Water Utility of Northern Scottsdale (“WUNS”), Water Utility of  
13 Greater Tonopah (“WUGT”), Valencia Water Company – Greater Buckeye Division (“Valencia –  
14 Greater Buckeye”), Global Water – Santa Cruz Water Company (“Santa Cruz”) and Willow Valley Water  
15 Company (“Willow Valley”) file their water loss report consistent with the Settlement Agreement and  
16 the Decision. Accordingly, please find the water loss report for Valencia-Town, WUNS, WUGT,  
17 Valencia – Greater Buckeye, Santa Cruz and Willow Valley.

18  
19 RESPECTFULLY SUBMITTED this 29<sup>th</sup> day of May, 2015.

20 SNELL & WILMER L.L.P.

21  
22 By 

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**WATER LOSS REPORT** Section 9.1 of the Settlement Agreement approved by Decision No. states that Global “agrees to file the water loss reports recommended in the Direct Testimony of Staff witness Mr. Liu.” Water loss reports are required for: (1) Valencia Water Company – Town Division (Valencia – Town); (2) Water Utility of Northern Scottsdale (WUNS); (3) Water Utility of Greater Tonopah (WUGT); (4) Valencia Water Company – Greater Buckeye Division (Valencia – Greater Buckeye); (5) Global Water – Santa Cruz Water Company (Santa Cruz); and (6) Willow Valley Water Co., Inc. (Willow Valley).

As a water resources company, Global Water is committed to preserving water through reuse, demand side management tools, advanced technology, and loss mitigation. Water conservation is a primary tenant within Global Water’s company culture and is promoted from the executive level through mid-level managers and ultimately to the field staff. Global Water continues to be committed to reducing water loss in all of its utilities.

As of the end of 2014, Global Water’s continued water loss mitigation efforts were proving to be successful with nearly all utilities being below or on the cusp of being below 10% water loss.

### **WATER LOSS MITIGATION PLAN**

#### *Customer Meter Accuracy Verification –*

As discussed in the previous report<sup>1</sup> Global Water procured a meter testing device that is capable of testing all meters less than 2 inches in size. The meter testing process has proven to be labor intensive and due to challenging meter configurations can take a two person team several hours to test each meter. Despite the challenges of learning the meter testing process and the significant obligation of labor, the Global Water staff tested a total of 72 meters in 2014. Global Water plans to expand the meter testing program in 2015 to encompass a larger population of meters.

All meters were tested according to the specification established in American Water Works Association *Manual 6 - Meters–Selection, Installation, Testing and Maintenance*, Fifth Edition. Meters that were outside of the acceptable accuracy tolerances were either repaired or replaced.

#### *Audits and Inspections*

Global Water continues to conduct routine quality control audits of Global Water’s billing system to ensure the settings of the meter and Advanced Metering Infrastructure (AMI) system align with the settings in the billing system to guarantee all metered water is accurately captured and billed.

Global Water in combination with its outsourced billing and AMI provider, FATHOM, run a number of monthly processes to identify potential sources of water loss. These reports include:

- Exception Reporting – Unusual usage patterns are flagged during routine reporting. These accounts are investigated, including field checks as necessary.
- Zero Usage Reporting - For all active accounts that have zero usage are issue a field investigation service order.

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<sup>1</sup> Report filed May 30, 2014 in Docket W-01212A-12-0309 et al.

- Manual reads and checks – When the AMR systems do not capture a read, it is Global Water’s policy to issue a manual read service order to prevent estimated or zero usage reads.
- High Consumption Reporting – When an account registers abnormally high water consumption the account is investigated and the customer is contacted if a leak is suspected.

Each of these audit and inspection initiatives proved successful in 2014 and will continue in 2015. The zero usage reporting proved to have a significant impact on water loss. It is not uncommon for a meter to be damaged or for the mechanical components to seize, causing the meter to fail. The zero usage investigation process promptly identifies these failed meters and allows them to be repaired or replaced. This is particularly important for large irrigation or commercial meters that can register in excess of one to two million gallons per month.

#### *Theft Prevention –*

Water theft is a prevalent issue throughout Global Water’s utilities and must be continually monitored to not only prevent theft, but also to prevent connections that pose a contamination risk. As described in the previous report, due to the rural nature of some of Global Water’s utilities theft can be difficult to prevent, but theft is and will continue to be addressed with the following processes:

- Vacant Account Usage – Using our AMI technology Global Water monitors vacant accounts for usage. Any unauthorized usage that is detected is investigated to see if the lock has been cut.
- Active Account Self-Reconnect – Accounts that are disconnected due to having a past due balance but do not have a reconnect service order generated are also monitored as these accounts frequently result in the customer self-reconnecting.
- Construction Site Water Theft – Construction sites experience routine water theft. Global Water’s construction inspectors routinely monitor for unauthorized and/or unmetered connections to minimize the occurrence of water theft.

In 2014, Global Water continued to implement these theft prevention measures. There are numerous examples where the activity mentioned above were successful and inevitably reduced water loss. Global Water’s AMI systems were able to rapidly identify unauthorized usage in a timely manner. Additionally, proactive no-notice inspections of construction sites help identify multiple instances of water theft by contractors.

#### *Water Main Loss Minimization –*

Many of the public water systems within Global Water’s Greater Tonopah and Greater Buckeye service areas have extensive distribution systems despite the fact that they serve a relatively small number of customers. The Global Water staff put an emphasis on regularly walking and driving the path of the water mains within these systems to identify potential leaks that would otherwise go unnoticed due to the rural nature of the systems.

The team at Global Water put a significant effort towards this initiative. The team regularly walked mainlines in rural systems, repaired infrastructure, and minimized pipeline that could result in leaks.

These efforts have proven to be highly successful specifically in the Valencia Water Company – Greater Buckeye division. This effort helped identify 28 main breaks and the water loss within this system was cut in half since the last water loss report.

#### **WATER LOSS - STATUS BY UTILITY**

##### *Water Utility of Greater Tonopah*

As of December 31, 2014 the 12-month rolling water loss average for this system was 10.9%. This is down just slightly from the 11.0% reported in the report from April of 2014. However, water loss has remained below 10% for the first three months of 2015 indicating water loss in this system is continuing to trend downward as a result of the water loss mitigation efforts.

Given the rural nature of this utility, distribution lines tend to have much longer distances between service connections. As the ratio of linear feet of pipeline per service connection increases, the probability of failed infrastructure, including line failures and leaks at joints, also inevitably increases. More failures result in more water loss.

Additionally, in rural utilities, leaks can go undetected for a long period since distribution lines may be in inconspicuous areas. The operations staff has incorporated walking the water distribution lines to look for wet spots that may indicate a water leak. While this practice is time intensive, distribution system walks have helped identify numerous leaks within this utility, including detection of one significant leak that had resulted in 200,000 gallons of lost water. Without the commitment to walk the distribution lines, these leaks would have likely gone undetected because they were located in green space hidden by bushes and land cover.

Water loss mitigation efforts also helped to identify a leaking air relief valve, a leaking storage tank, and three water services that were leaking. While these repairs may seem minor or insignificant, in a system with only 330 customers small losses can have a profound impact on the overall water loss.

Lastly, an emphasis has been placed on tracking utility used water. Activities such as flushing lines for process and compliance sampling were tracked in 2014, and given that there are eight individual systems in this small utility, more samples and flushing must be conducted than if the utility was one continuous system. Again, in a utility with such low water consumption totals, these activities can have a disproportional impact on water loss than similar activities in a larger utility.

*Valencia Water Company - Greater Buckeye Division* As of December 31, 2014 the 12-month rolling water loss average for this system is 9.8%. This is a steep decline from the 18.9% which was reported in April of 2014.

The largest public water system within this utility is Sun Valley, and therefore a significant effort was directed towards reducing water loss within this public water system. Staff conducted weekly distribution line inspections for this system through August 31, 2014. These weekly inspections revealed numerous main line and service leaks. As the frequency of leaks diminished, staff reduced the weekly

inspections to monthly inspections. In total, 28 main leaks and 5 service leaks were repaired in this system since the last water loss report delivered in April of 2014.

As mentioned in the previous report, this utility has multiple public water systems that have very large lots. The largest public water system, Sun Valley, has a dispersed population and areas in which development started but areas exist where water mains are installed on streets that are untraveled. Subsequently, the dispersed nature and untraveled areas allow leaks to go undetected for extended periods unless the staff is frequently traveling the distribution lines. While this activity is labor intensive it has proven to be beneficial as the water loss reduction shows.

Please note that Valencia Water Company is the subject of a pending condemnation by the City of Buckeye. It is anticipated that the condemnation will be completed in July 2015. After that time, the City will be responsible for operation of the water system.

#### *Willow Valley Water Company*

As of December 31, 2014 the 12-month rolling water loss average for this system is 26.1%, compared to the X.X% reported in April of 2014. The primary focus for this utility continues to be the King Street public water system.

As stated in the previous report, 100% of the meters in the Willow Valley Water Company ("Willow Valley") service area were changed out in late 2010. The meter population remains relatively new at 4 years of age, and therefore meter failure is not anticipated to be a significant source of water loss. This system employs AMI that allows multiple reads per day. These reads allow Global Water to monitor water theft, high water consumption, or abnormal decreases in consumption. This allows for monitoring of failed meters and other sources of water loss. These monitoring activities have saved an estimated two million gallons of consumption, which equates to a reduction in water loss of 2.3%.

The most likely source of water loss continues to be line loss, specifically in the King Street subdivision. Willow Valley has been authorized to use the System Improvement Benefit (SIB) mechanism to help offset the cost to install new infrastructure in areas with dilapidated main lines that are subject main line failures and subsequently high levels of water loss.

As stated in Willow Valley's SIB Status Report filed February 25, 2015 in Docket No. W-01732A-12-0315 to date, Willow Valley has not constructed any SIB projects. However, Willow Valley took a number of steps to prepare for construction of SIB projects. Willow Valley's engineering and construction staff conducted a thorough on-site data collection effort and concluded the finite details of the project, including the service lateral installation locations for each individual customer. During this on-site effort, Willow Valley's staff contacted and met with the appropriate City and County agencies to discuss the details of the projects, obtain the required construction specifications, and determine the necessary permitting processes. The team compiled this information and hired an engineering firm to produce the detailed construction drawings, which have been completed.

With the signing of the Purchase and Sale Agreement between Willow Valley and EPCOR Water on March 23, 2015, Willow Valley is not currently proceeding with submitting the drawings to contractors to obtain bids and award a contract for construction. EPCOR has stated its intention to pursue the SIB projects and to pursue other necessary distribution system improvements once the Commission approves the sale of the Willow Valley system to EPCOR.<sup>2</sup>

*Valencia Water Company –Town Division*

As of December 31, 2014 the 12-month rolling water loss average for this system was 10.8%. This is down from 13.6% which was reported on the April 2014 report. Furthermore, the water loss reduction has continued and as of the end of March 2015 water loss was at 9.9%.

As reported to the Arizona Corporation Commission in the April 2014 water loss report, a software error within the AMI unit that connects to customer meters resulted in numerous residential meters under reporting consumption by a factor of 100. This issue has been rectified by replacing the faulty AMI units.

Additionally, a meter audit was conducted on 2,712 of the oldest meters within this system to check the accuracy of the meter. The audit consisted of an operator physically visiting the meter and verifying the accuracy of the meter. Of the meters that were audited, 85 meters were determined to have mechanical failures requiring replacement of the meter.

Finally, 47 large meters were tested by a meter testing device. These meters were selected because they are irrigation meters which have the most potential for significant water loss remediation. Of the 47 meters tested a total of 15 meters did not meet accuracy requirements and were subsequently replaced.

Please note that Valencia Water Company is the subject of a pending condemnation by the City of Buckeye. It is anticipated that the condemnation will be completed in July 2015. After that time, the City will be responsible for operation of the water system.

*Global Water - Santa Cruz Water Company*

As of the end of December 31, 2014 the 12-month rolling water loss average for this system is currently at 9.0% and has been below 10% for over three years.

The meter testing device procured by Global Water has also been used within this utility. As of December 2014, 25 meters had been tested within this utility. Of the meters tested, two meters failed to meet the accuracy requirements and were subsequently replaced. The meter testing process will continue in 2015 and the scope of the meter testing program is anticipated to expand in 2015.

This utility continues to implement zero usage investigations, theft prevention through AMI monitoring, and system audits in an attempt to further reduce water loss.

*Water Utility of North Scottsdale*

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<sup>2</sup> See EPCOR responses to data requests in Docket No. W-01732-A-15-0313.

As of the end of December 31, 2014, the 12-month rolling water loss average for this system was at 6.1%. This is down from 9.8%, which was the reported water loss in April of 2014.

This is another small system with approximately 80 connections. Within this system a two inch blow-off used for system flushing was found to be leaking. Additionally, two services were found to be leaking on the utilities side of the corporation stop. Lastly, several failed meters were discovered through the zero consumption review process. These meters were replaced. While there were relatively few issues discovered these small issues had a substantial effect on water loss reduction.