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BEFORE THE ARIZONA CORPORATION COMMISSION

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AZ CORP COMMISSION  
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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

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

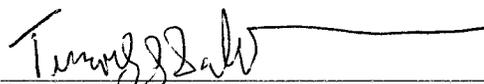
**NOTICE OF FILING  
WATER LOSS REPORT**

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

15 Valencia Water Company – Greater Buckeye Division and Valencia Water Company –  
16 Town Division have been condemned by the City of Buckeye and are no longer public service  
17 corporations. Willow Valley Water Company has been sold to EPCOR. Accordingly, these  
18 entities are not included in the attached report.

19  
20 RESPECTFULLY SUBMITTED this 31<sup>st</sup> day of May, 2016.

21 SNELL & WILMER L.L.P.

22  
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By *Jacqueline Howard*

**WATER LOSS REPORT** Section 9.1 of the Settlement Agreement approved by Decision No. 74364 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) *Water Utility of Northern Scottsdale (WUNS)*; (2) *Water Utility of Greater Tonopah (WUGT)*; and (3) *Global Water – Santa Cruz Water Company (SCWC)*;

Since the last water loss report, Valencia Water Company – Town Division and Valencia Water Company – Greater Buckeye Division were condemned by the City of Buckeye, and Willow Valley Water Company was sold to EPCOR (as approved by the ACC in Decision No. 75484). EPCOR is now responsible for the water loss reporting for the Willow Valley system.

Additionally, Global Water received a Notice of Future Compliance, dated May, 3, 2016, indicating a Water Loss Report is required for Global Water Palo Verde Utilities Company (PVUC). PVUC is a wastewater utility and therefore we believe this notice to be an error.

Global Water continues to remain dedicated to reduce water loss in all of its utilities through a myriad of activities. Global Water is committed to preserving water through reuse, demand side management tools, advanced technology, and loss mitigation. Below is a description of water loss activities that are part of the standard operation within Global Water’s utilities.

#### **WATER LOSS MITIGATION ACTIVITIES**

*Customer Meter Accuracy Verification* – Global Water continued its meter testing program in 2015. Large meters (1 ½” and larger) are considered priority meters given their size and potential for registering large volumes of water. As a priority meter, Global Water recognizes the opportunity for significant water loss through one of these meters should they fail, and therefore routine meter accuracy verification is essential.

An additional 155 priority meters were tested in 2015. Of the 155 meters tested, 33 meters tested below acceptable accuracy thresholds and were therefore replaced. Between the testing completed in 2014, 2015, and early 2016, 100% of the priority meters within Global Water’s SCWC utility have been tested for accuracy. The few remaining commercial, HOA, and irrigation meters within the Water Utility of Tonopah will be tested by the end of 2016.

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*

Routine audits and inspections continue to remain a standard method of operations for Global Water’s utilities. Global Water conducts 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 a field investigation service order is issued.
- Manual reads and checks – When the AMI/AMR systems fail to 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 are the core activities that ensure water loss is captured in a timely manner. The zero usage reporting is a critical aspect to keep water loss minimized and these investigations routinely identify meters with damaged mechanical components, which cause the meter to seize and fail to operate correctly. The proactive identification of these failed meters allows for rapid meter replacements and subsequently reduced water loss.

#### *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. Due to the rural nature of some of Global Water's utilities theft can be difficult to prevent. Additionally, vacant homes create an increased possibility for water theft through an unauthorized self-connection by a resident. 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. All unauthorized usage that is detected is investigated to see if an unauthorized self-connection has occurred.
- 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 and field staff routinely monitor for unauthorized and/or unmetered connections to minimize the occurrence of water theft.

Consistently implementing these measures not only identifies water theft, but also acts as a deterrent. Customers and contractors know that Global Water actively monitors for unauthorized usage and that Global Water takes unauthorized usage seriously. Consistent monitoring and the serious nature of Global's response to theft has helped catch offenders while also acting as a deterrent. There are numerous examples where the activities mentioned above were successful and inevitably reduced water loss.

### *Water Main Loss Minimization –*

Many of the public water systems within Global Water's Greater Tonopah utility 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.

### *Supervisory Control and Data Acquisition (SCADA) Monitoring*

Global Water has deployed a sophisticated SCADA system to monitor and control critical utility infrastructure and acquire data that is key to utility operations. The data is used to compare the volumes of water pumped from the wells as compared to the water distributed from the water distribution center. This information serves as a check point to ensure the well meters are operating correctly and that the reported pumped water is accurate.

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

#### *Water Utility of Northern Scottsdale*

As of the end of December 31, 2015, the 12-month rolling water loss average for this system was at 7.9%. This is up slightly from 6.1%, which was the reported water loss for the period from January 1, 2015 to December 31, 2015.

This is a small system with approximately 80 connections. This system has a lower population density than a typical suburban water utility, meaning the distribution system requires more pipe, connections, and fittings to serve these customers. More pipe, connections, and fittings creates more opportunities for leaks and subsequently water loss.

While this system does not have an AMI systems to actively monitor for water theft, systems audits and water theft investigations are routinely conducted. Zero consumption investigations are completed to ensure meters are properly working. Additionally, due to the rural nature of the utility and thus the opportunity for leaks to go unnoticed, the operations staff routinely walks the distribution lines to proactively identify potential leaks. Given the relatively low water loss within this system the water loss initiatives have proven to be effective.

#### *Water Utility of Greater Tonopah*

As of December 31, 2015 the 12-month rolling water loss average for this system was 9.3%. This is down from the 10.9% reported for the period between January 1, 2015 to December 31, 2015 and more importantly below the 10% recommended threshold.

Given the age and rural nature of this utility water loss below 10% is a significant accomplishment. In rural distribution systems, such as WUGT, the population density is much less than that of a suburban utility system. The distribution lines tend to have much longer distances between service connections

due to larger lots and also empty parcels between connections. As the ratio of linear feet of pipeline per service connection increases, the potential for higher percentages of water loss also increases. Simply put, more pipelines, joints, and connections create more opportunity for leaks and failures.

Additionally, in rural utilities, leaks can go undetected for a long period since distribution lines may be in inconspicuous areas. The operations staff has continued to incorporate 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 are completed on a monthly basis to identify leaks and minimize water loss.

Other water loss mitigation efforts that proved to help reduce water loss include the replacement of a leaking water tank subject to failure, the replacement of a faulty well meter, in addition to the repair of several main line leaks. It has also been observed that within our Sunshine public water system, there are signs of water theft from several hydrants. Our staff is closely monitoring these hydrants in an effort to identify the source of the theft. In a system with approximately 330 customers small losses can have a profound impact on the overall water loss and therefore all sources of loss are closely monitored.

Lastly, staff continues to diligently track utility used water. Activities such as flushing lines for process and compliance sampling, and backwashing for treatment processes are tracked. 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.

#### *Global Water - Santa Cruz Water Company*

As of the end of December 31, 2015 the 12-month rolling water loss average for this system is currently at 13.1%. Unfortunately, the increase in water loss does not reflect the diligent efforts to reduce water loss within this system.

A focused effort to complete the testing of all commercial, HOA, and irrigations meters continued in 2015. As stated previously, 155 meters were tested for accuracy in 2015. Of those meters 33 meters failed to meet accuracy requirements and were subsequently replaced. The first round of meter testing was completed in early 2016, meaning all commercial, HOA, and irrigation meters have been tested for accuracy since 2014. The meter testing program is a re-occurring initiative that will continue perpetually. Based on a meter's consumption characteristics, the meter will be tested either annually or once every three years. High consumption meters with the potential to significantly impact water loss will be tested annually, while lower consumption meters will be tested once every three years to ensure acceptable accuracy thresholds are being achieved.

SCWC continues to investigate zero usage meters as part of the company's routine operations. This effort resulted in the replacement of 216 failed residential meters in 2015. This number was significantly greater than the number of meter replacements in 2014. With the average age of the residential meter population increasing, residential meter replacements will likely increase in 2016 and future years. In light of these factors, the Board of Directors, has approved the initiation of a meter replacement project wherein we intend to replace all residential meters that we determine have

exceeded their normal useful life. We believe the completion of this project throughout 2016 and 2017 will materially reduce water loss in SCWC.

Another initiative that was completed in 2015 was the testing of all well meters. Well meter accuracy is critical in the water loss calculation, because the under or over registration of water pumped from a well will result in under or over reporting the quantity of water pumped. Inaccurate well data ultimately results in inaccurate water loss data, and testing of well meters is a critical component of an effective water loss program. The highest well production discrepancy was 3% while the aggregate accuracy was less than 1%, indicating the well meters were all operating within acceptable accuracy limitations.

Lastly, SCWC did experience an increase in the number of main line failures in 2015 as compared to 2014. Overall, the water loss generated by these mainline failures likely had a minimal impact on the overall annual water loss percentage. However, given the porous nature of the soil in some locations, if a line leaks and the leak does not surface until it experiences a catastrophic failure, the subsequent water loss could be much more significant. As a result, Global Water is actively seeking line leak detection equipment that is effective on C900 PVC pipe. Given the poor acoustical characteristics of C900 PVC, leak detection has proven difficult within this system. Several leak detection products have been demonstrated for Global Water to validate their effectiveness. It is possible a solution may be purchased and a program implemented by late 2016 to early 2017 to use active leak detection within the SCWC distribution system.

In summary, two of Global Water's three active utilities are below the 10% water loss threshold. The third utility currently exceeding the 10% threshold is trending downwards and is expected to meet the 10% threshold by the end of 2016. As a water resources company, Global Water places great importance on water conservation and recognizes that minimizing water loss is a worthy goal for the industry.

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