UTILITY DEPARTMENT METER CONVERSION PROJECT

DECEMBER 2021

INTRODUCTION

The Utility Department is in the process of converting the gallon meters in the South Sebastian County Water Association (SSCWA) to cubic feet (CCF) meters.

BACKGROUND

A portion of the South Sebastian County Water Association (SSCWA) (now the James Fork Regional Water District) water distribution system was acquired by the City of Fort Smith in 2006. The SSCWA meters measured usage in gallons. The Utility Department is currently changing the gallon meters to CCF meters.

The James Fork water rate structure for gallon usage was maintained by the City of Fort Smith and includes five usage tiers. This required a separate water volume service charge for the accounts in the SSCWA area. A new CF water volume service charge was added in Munis with the same water rate structure as the gallon usage rate structure. *(**See Work Exhibit # A** for examples of the different rate tables.)*

During an Internal Audit (IA) walkthrough of the Utility Billing process, the subject of the SSCWA meter conversion was discussed. IA noted that the correct water volume service charge code for CF meters was not being used. The accounts were being updated to the residential water volume charge that is used for all other residential customers and should have been updated to the SSCWA CF water volume charge. Additionally, the water base charge was also being changed from the SSCWA base rate to the residential water base rate that is used for all other residential water customers. This was brought to the attention of the Deputy Director of Business Administration in October 2021. *(**See Work Exhibit # B** for examples where the residential water volume charge was used.)*

105 accounts were included in the initial phase of the meter conversion project. The meter change out process required Utility Billing to add the correct water volume service charge code to each of the accounts. Additionally, Utility Billing also was required to add the new meter to the new CF water volume charge code to each of the accounts.

FINDINGS/OBSERVATIONS TO BE CONSIDERED FOR CORRECTION

101 of the 105 accounts had water volume charges that did not bill on the first bill run after the meters had been changed out. *(**See Work Exhibit # D** for the Consumption Report for Cycle 5, November 4, 2021.)* Approximately $5,500 in gallon water volume charges were not billed. Additionally, The City of Fort Smith makes a monthly payment of $7,592.11 to James Fork. The unbilled water volume charges could have offset the monthly payment to James Fork. *(**See Work Exhibit # E** for the calculated unbilled charges.)*

The meter install dates do not reflect the actual date that the meter was installed. The gallon meters were changed out between October 11, 2021, and October 14, 2021, as noted from the service order completion dates. However, the meter install dates in the meter inventory now show

09/30/2021 being the install date on 102 of the 105 accounts with the SSCWA CF water volume service charge. The meter install date does not match the actual date the meter was installed on the other 3 accounts. The meter inventory records should accurately reflect the actual meter installation date. The CF water volume service charge start date is also 09/30/2021 on 102 of the 105 accounts with the SSCWA CF water volume service charge. Account records should accurately reflect the actual service start date. *(**See Work Exhibit # F** for examples of the accounts with meter install dates of 09/30/2021.)*

IA asked why 09/30/2021 was used for the service code 13601 start date and the meter install date. The response was: "*In order for Munis to bill the service correctly, we have to use a date for the service start date that is prior to the bill run dates. For Cycle 5, the bill run dates was 10/01/21 to 11/03/21. If we had used the date the meters were replaced, the services would not have billed out correctly on this bill run*." *(**See Work Exhibit # G** for the email with the above comment.)*

IA asked Utility Billing if they knew if the accounts actually billed correctly. IA has not received a response.

The Tyler-Munis system also has a TEST Database and TRAIN Database where processes can be tested to determine how the system will work for that process. IA queried the service charge 13601 in both the TEST Database and the TRAIN Database and did not find the service code on any of the accounts. *(**See Work Exhibit # H** for the query results in the TRAIN database.)* IA asserts that without the presence of the service charge 13601 on any accounts in the TEST Database and the TRAIN Database that there could not have been testing in either of those databases on the utility billing process for the meter conversion.

The ITS Project Manager recommended the use of the TEST Database or the TRAIN Database for testing purposes. She also stated that the LIVE Database should never be used for testing as it affects the live data/GL depending on the actions. She also acknowledged that the Utility Billing could be ran and deleted in the LIVE database before generating the AR/GL entries.

The Citizen Services Manager stated that she tested the (SSCWA) services three times before the actual Bill Run process but would not explain where it was tested. *(**See Work Exhibit # I** for the email with the above comment.)* When testing different functions in the database best practice would be to document steps taken in order to recreate them correctly/accurately. Additionally, documenting those steps helps identify what worked correctly and what did not so that the person knows what to adjust or change in the next testing phase.

Managements Response:

Water meters in the area that was formally part of the James Fork Regional Water District and is now owned by Fort Smith and are billed in thousand gallons. The City of Fort Smith utilizes water meters that read in cubic feet and bill usage in hundred cubic feet (CCF).

The water meters in this area need to be changed out due to the age of the meters, to provide consistency of billing and meter volume readings, and unify the rate structure to ensure proper billing in both customer base and volume usage charges across all City customers.

The project trial consisted of 105 water meters. This project followed normal project management design, execute, measure and observe to identify challenges and weaknesses of the project design, and then modify the design to address the challenges. The main areas of concern for this project were internal communication challenges, billing challenges, and customer communication challenges.

The water meter change out had no physical issues associated with changing out the water meters.

There were several challenges identified with water meters being properly logged in to the Tyler-Munis System, internal communication, and billing.

The process for changing the water meter in the Tyler-Munis System needs to be better defined. The meter install dates did not properly match and thus some revenue was not charged. This is due to a difference in how the old and new meter are logged in Tyler-Munis System as the result of switching from gallons to CCF.

The Department Director did not communicate the plan to implement the meter change parties in a timely fashion to ensure all parties were ready for the water meter change out process. The water meter change out crew did not provide a prelist of meters that would be changed to billing which would have helped in identifying the proper accounts in the Tyler-Munis System to be updated and ensure the account information was properly configured in the billing process.

Internal Audit brought to the attention of Utility Management the testing that was done in Tyler-Munis production instead of in the test environment. Speaking with staff it was confirmed that this did occur. It had been months since last refresh to either environment. Due to the aforementioned communication challenges between the Director, meter room, and billing; the billing team was on a tight window to run the test. Testing in production allowed the chance to pull in correct data and make changes in order to bill correctly (i.e. capture the base fee and water usage volume). Although the bills did provide the correct base fee and showed the proper water volume usage on the bill, the volume charges did not process correctly on all but three of the bills. This did result in lost revenue.

One of the largest challenges and lessons learned was the how the new water meter in conjunction with the older meter service in the Tyler-Munis System created a billing issue in favor of customer. Meter staff did remove the old gallon meter correctly out of the system, but failed to accurately enter the new CCF meter in the system. That resulted in the system not recognizing the change correctly and therefore not billing the customer usage. A billing quality control step is planned for the next trial to ensure these challenges have been addressed.

As a result of the challenges listed above, Internal Audit found the trial change out of water meters resulted in lost revenue. Improvements to the project plan include but are not limited to:

• Better communication between all parties active in the meter change out process

• Document work in the Tyler-Munis test environment to track future errors and provide reproducibility of said error

• Identifying and documenting the proper process of water meter change out in Tyler-Munis System to go from thousand gallons to CCF

• Instituting a second service established for new water meter in CCF prior to the meters being changed out and list it as inactive until the meter is changed out, and then inactivate the previous service (Meter Change Out & Billing Challenge)

• Proper billing rate is in Tyler-Munis System and ready to be used and is properly tested

The Water Utilities Department thanks Internal Audit for their assessment of the trial of its water meter change out for the aforementioned area. The project trial was successful in that it produced no negative impact for customers, provided key information on how the project is to be improved, and allows the Department to move forward with a second trial to ensure all challenges are properly addressed before the full scale water meter change out.

Please contact me should you have any questions or need additional information.

NOTE: This memo was completed in December and sent to Management for responses. Due to the holidays, vacation, illnesses, and IA informing management several times that their responses were not correctly addressing the finding the memo was issued in March.