

**Audit Report #2016-09:
Utility Billing and Customer Service Division Audit
Clerk of the Circuit Court & Comptroller**

July 25, 2017

Internal Audit Department



ANGELA VICK

CLERK OF THE CIRCUIT COURT – CITRUS COUNTY, FLORIDA

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July 25, 2017

The Honorable Angela Vick
Clerk of the Circuit Court and Comptroller

Dear Ms. Vick:

The Internal Audit Department has completed the Utility Billing and Customer Service Division audit for the Citrus County Board of County Commissioners. The purpose of this audit was to:

1. Determine if the internal controls related to the utility billing process were adequate; and,
2. Determine if customers were billed in compliance with County Ordinance and Citrus County Utilities' internal policies and procedures.

The activities of divisions within the Water Resources Department, other than Utility Billing and Customer Service Division, were not included in the scope of this audit.

The audit review period included transactions which occurred, and processes in effect, from October 1, 2015 through September 30, 2016. However, transactions and processes reviewed were not limited by the audit period.

Audit results include 11 observations and 19 recommendations for improvement. In addition, management's responses are included in the report.

We extend our appreciation to Division staff for their cooperation and assistance during the course of this audit.

Sincerely,

Robin Barclay
Chief Audit Officer

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Abbreviations

BOCC – Board of County Commissioners
CCU – Citrus County Utilities
IAD – Internal Audit Department
SOP – Standard Operating Procedure

EXECUTIVE SUMMARY

As part of the fiscal year (FY) 2016 Annual Audit Plan, the Internal Audit Department (IAD) conducted an audit of the Citrus County Board of County Commissioners (BOCC) Utility Billing and Customer Service Division (Division). The purpose of the audit was to assess the internal controls over CCUs utility billing process. Billing related activities were reviewed for compliance with internal policies and procedures and the Citrus County Code of Ordinances (Ordinance), Chapter 102, Utilities, Article III- *Water and Wastewater Services in County Municipal Services Benefit Unit for Water and Wastewater Utility Services*.

IAD concluded that overall, the Division had adequate internal controls over the utility billing process. A random sample of billing statements for 384 meter readings were tested by recalculating charges based upon the authorized rates and fees in effect at the time of service. IAD also compared customer and account information reflected on the billing statements to the information in the OPUS¹ billing system (OPUS) to verify accuracy and completeness of data.

Judgmental sampling was performed for additional test work on aspects of the utility billing process, such as: customer payment posting, completeness of meters read to meters billed, usage on vacant accounts², identification and resolution of meter reading exceptions³, water/or sewer courtesy adjustments, and deposit refunds.

Finally, internal controls over user access to OPUS were evaluated to assess if customer's personal information stored in OPUS was safeguarded from unauthorized access.

¹ OPUS is the web-based billing and customer service system used by CCU to manage historic and current utility customer information.

² A vacant account refers to a service location having no customer account number assigned to it for utility services.

³ Meter reading exceptions are questionable meter readings; meter readings that may actually be erroneous, or suggestive of a malfunctioning meter, or indicating a potential leak.

BACKGROUND

CCU is responsible for providing water, wastewater, and reclaimed water utility service to the county's approximately 56,000 utility customers.⁴ As an enterprise fund, its sole funding source is user fees, with no ad valorem property taxes being used to support the utility system.

Utility billing activities are managed by the Division. Utility billing data handling, bill printing, bill mailing, and lockbox services are outsourced to OPUS. Customers are billed for service monthly, per Ordinance, Section 102-134, *Billing*. Utility bills consist of usage charges and water/or sewer base charges. The established rates were designed to cover operating, maintenance, and debt service expenses. There were different rates for different service regions within the water and wastewater system, including fifteen unique rate schedules. At the time of the audit, the Division read over 23,000 water meters on a monthly basis for 17 billing cycles. There were a total of 272,257 meter readings collected for FY16.

In October 2015, the BOCC approved a resolution to adopt revised water, reclaimed water, and wastewater rates to be charged to customers of all Citrus County utility service areas. The rates were implemented due to inconsistencies in rate structures between the various utility systems. The objective was to achieve a uniform rate structure for all county water and wastewater systems. Uniform rates reduce the need to significantly increase rates for individual service areas based on timing of capital improvements. In order to minimize the potential rate impact to certain customers, the County is phasing in the rate consolidation plan over a three year period (FY 2016 through 2018).

Variations in rate structures between the water systems included:

- Inconsistent monthly base charges by meter size
- Inconsistent usage charges per 1,000 gallons charged to residential versus commercial customers
- Inconsistent monthly cap charged for residential wastewater usage

Technology Supporting the Utility Billing and Customer Service Process

In November 2013, the BOCC approved the purchase of a new utility billing system. An agreement was signed with OPUS 21 Management Solutions, LLC to: provide a web-based billing and customer services system to manage historic and current utility customer information; convert billing data from the existing billing system into the web-based system; and perform ongoing billing services. The contract term was for a term of five years with an option to renew for one additional five-year renewal period.

In March 2014, the Division requested to amend the agreement with OPUS to expand the scope of services. Expanded services included monthly utility bill printing, mailing, and electronic e-billing to reduce the mailing cost for monthly billing. In May 2014, after the go-live implementation, numerous billing issues occurred. Meter-reading data was sequenced incorrectly, estimated usage created more problems because people were getting extremely high bills, and issues with billing cycles caused customers to receive two bills in one month or one bill for a two-month cycle.

In July 2016, the contract was further amended to expand the scope of services to include monthly lockbox services to reduce the processing of incoming postal bill payments and customer correspondence. Lockbox services were effective as of October 1, 2016.

⁴ Source: BOCC Water Resources webpage, <http://www.citrusbocc.com/waterres/utilities/about-us.htm>

SCOPE, OBJECTIVES & METHODOLOGY

Scope

The scope of the audit included the utility billing process that occurred after meter reading data was uploaded to the OPUS billing system. IAD reviewed meter readings and utility billing statements for the period of October 1, 2015 through September 30, 2016. However, transactions and processes reviewed were not limited by the audit period.

IAD encountered a scope limitation when testing the meter inventory records in the Hansen⁵ program with the OPUS system. These systems are not interfaced, and OPUS classifications of active and inactive meters differ from the valid and expired classifications in Hansen. Due to these and other system differences, this testing objective was removed from the audit program.

The scope did not include assessing or testing controls surrounding the meter reading process. It also did not include an audit of information technology (IT) general controls related to the OPUS billing application.

Objectives

The specific objectives of this audit were to determine if:

1. Applicable rates were applied, proper charges were imposed, bill calculations were accurate, and payments were recorded properly in customer accounts.
2. The number of meter readings in OPUS agreed with the number of meter readings in the meter readers' data files (completeness of billing).
3. Meter reading exceptions were identified, investigated, and resolved prior to bill generation.
4. Water/or sewer courtesy adjustments were authorized and in accordance with Ordinance, Section 102-137, *Adjustment of bills; meter readings and inspections*.
5. Deposit refunds were authorized and disbursed in accordance with Ordinance, Section 102-133, *Customer Deposits*.
6. Customer information stored in the OPUS billing system was safeguarded from unauthorized access.

Methodology

To meet the objectives of the audit, IAD performed the following procedures, including, but not limited to:

- Interviewed CCU staff
- Performed walkthroughs of segments of the utility billing process
- Prepared and administered an internal control questionnaire for management responses
- Reviewed CCUs policies and procedures, and evaluated internal controls related to:

⁵ Hansen is the system used by CCU for water asset management and work order management.

- Billing
- Billing application user access
- Debit and credit adjustments
- Interest paid on deposits
- Processing payments
- Processing deposit refund requests
- Processing check requests
- Cash handling and daily deposits
- Downloading and uploading meter reads
- Processing meter reading exceptions
- OPUS user access privileges
- Examined and tested the following items:
 - A random sample of 384 billing statements
 - A judgmental sample of 38 customer payments
 - A judgmental sample of 12 meter reading routes
 - A judgmental sample of 37 meters for accounts that appeared in the “no-read”⁶ files
 - A judgmental sample of 25 meters with usage, belonging to vacant accounts
 - A judgmental sample of 50 meter reading exceptions
 - A judgmental sample of 24 water/sewer courtesy adjustments
 - A judgmental sample of 39 deposit refunds
- Identified opportunities for improvement

⁶ Meter reads that did not get downloaded to the meter reader’s handheld device (HHD) or entered into OPUS system during the billing cycle.

TESTING

Random sampling was performed on 272,257 meter readings, based on a 95% confidence level and 5% margin of error, resulting in 384 samples. This sampling technique is completely randomized and without bias; each meter reading in the population had an equal chance of being selected.

Due to the large volume of transactions, cost, and time considerations, judgmental samples were selected based upon the auditor's judgment. Judgmental sampling is not typically representative of the population; therefore, no conclusions are inferred over the entire population. The test results, however, identified opportunities for improvement.

Sampling methodology included a total of eight samples, random and judgmental, as detailed below:

1. Random sample (384):

IAD utilized data analytic software to select a sample from the total population of meter readings for FY16, based on a 95% confidence level and 5% error rate.

Billing statements for 384 meter readings were tested by recalculating charges based upon the authorized rates and fees in effect at the time of service. Additionally, IAD verified if the customer and account information reflected on the utility bill agreed with what appeared in OPUS. Billing statements with service periods greater than 33 days were identified. IAD examined the OPUS activity log for notes indicating why the meter was not read in a timely manner and if the customer's bill was adjusted (if applicable) due to inaccurate tier charges resulting from an extended service period.

2. Judgmental sample (38):

IAD selected a sample of 10% of the 384 billing statements in the random sample.

Customer payments for 38 billing statements were tested to determine if the payment was properly posted to the customer's account. IAD reconciled and reviewed bank deposit documentation to verify that the customer's payment was actually deposited (to determine if fraud occurred).

3. Judgmental sample (12):

IAD selected a sample of meter reading routes from the total population of meter readings for FY16.

Twelve unique meter reading routes, one for each month in the audit period, were selected. IAD tested that the number of meter readings captured in the meter readers' data files reconciled to the number of meter readings that were ready to bill, according to the Excel files from OPUS.

4. Judgmental sample (37):

IAD selected a sample of meters belonging to accounts that appeared multiple times in the OPUS no-read files.

A sample of 37 meters having no meter readings multiple times during the audit period was tested. Customer accounts were reviewed in OPUS to verify that a meter reading was subsequently obtained, and that the customer was billed. In addition, IAD examined the OPUS activity log to verify if a note was added explaining why the meter, initially, did not have a meter reading.

5. Judgmental sample (25):

IAD selected a sample of meters belonging to vacant accounts that reflected water usage.

A sample of 25 meters having usage with no active billing account was tested. IAD verified if a service order was in OPUS and/or if a work order was in Hansen to disconnect service prior to the time period of usage on a vacant account. IAD compared the meter reading on the final billing statement, prior to usage on a vacant account, with the meter reading on the initial billing statement subsequent to the usage on a vacant account. The difference in meter readings was calculated to determine the total number of gallons (in thousands) of water usage that was not billed.

6. Judgmental sample (50):

IAD selected a sample of meter reading exceptions from the total population of exceptions for FY16.

A sample of 50 meter reading exceptions was tested to determine if a re-read was performed to confirm the previous (questionable) meter reading. For high usage exceptions, IAD reviewed the OPUS activity log to determine if customers were notified of high usage and/or a possible leak.

7. Judgmental sample (24):

IAD selected a sample of water and sewer billing adjustments due to a documented leak.

A sample of 24 billing adjustments was tested: 12 water adjustments and 12 sewer adjustments. IAD verified if the customer was eligible for a utility bill adjustment, pursuant to the criteria in Ordinance, Section 102-137. IAD also verified if the applicable supporting documentation was provided by the customer. The adjustments were tested for proper supervisory approval from senior management and whether only authorized employees performed the adjustments.

8. Judgmental sample (39):

IAD selected a sample of deposit refunds from the total population of refunds for FY16.

A sample of 39 deposit refunds was tested to determine if customer deposits were refunded in accordance with Ordinance, Section 102-133. IAD verified that the refunds reflected in Pentamation⁷ were also in OPUS. Additionally, the deposit refunds were tested to determine if accrued interest was credited to the customer's account and whether the applicable supporting documentation was on file, in accordance with CCUs internal policies and procedures.

⁷ Pentamation is fund-accounting-based financial management software.

OBSERVATIONS & RECOMMENDATIONS

Observation 1: Usage on vacant accounts was not always detected in a timely manner, which resulted in unaccounted for water loss and potential loss of revenue.

A total of 340 records appeared in OPUS' Excel meter reading files for FY16, in which there was a current meter reading and usage for the meter, but the meter was not associated with an active billing account. There were 243 unique meters showing usage on vacant accounts. Based on OPUS' Excel meter reading files that were provided to IAD, it appeared that meter readings for usage on vacant accounts were not always flagged for further review.

In a judgmental sample of 25 meters that had usage on a vacant account, the time period during which the meters did not belong to an active (billable) account ranged from three months to over two years. This information illustrates that there were some very long periods of time that presented an opportunity for usage on a vacant account. For the 25 meters in the sample, a total of 4,772,000 gallons of water was consumed, but not accounted for and thus not billed, on vacant accounts.

In another testing procedure, meter readers' data files were reconciled to the number of meter readings that were ready to bill. Testing revealed five variances indicating continued water usage after the accounts were closed; this resulted in a total of 383,000 gallons of unbilled water. The meters were not associated with an account for a time frame ranging from four to sixteen months.

In total, for 30 of 243 vacant accounts, our testing identified 5,155,000 gallons of unaccounted for water usage. This represents 0.15% of the 3,524,445,800 gallons of total volume of water that went through the treatment process and into the water distribution system and delivered to customer properties for FY16.

Recommendation:

Strong oversight and formal procedures in the process of reviewing meter reading data decreases the risk of CCU incurring non-revenue water⁸ losses. Metered water consumption data serves as the basis for accurate billing and revenue generation. CCU had internal policies and procedures for identifying and investigating errors or outliers in meter reading data (such as high usage, zero usage, and negative usage). However, a procedure for handling meter readings that indicated usage on vacant accounts was not included in CCUs meter reading process.

R1. We recommend that management create and implement a formal written policy and procedure for identification and investigation of vacant accounts reflecting water usage.

R2. We recommend that vacant accounts are regularly monitored and reviewed by management for early detection of unauthorized water usage. Monitoring on a monthly basis can result in timely discovery of inappropriate water usage, and a reduction in water loss.

⁸ Non-Revenue Water (NRW) is water that is not billed and no payment is received. It can be either authorized, or result from apparent and real losses. Apparent losses represent a loss of revenue because the water is consumed but not accounted for and thus not billed. Real losses represent costs to a water system through the additional energy and chemical usage required to treat the lost water. Source: United States Environmental Protection Agency, Water Audits and Water Loss Control for Public Water Systems, <https://www.epa.gov/sites/production/files/2015-04/documents/epa816f13002.pdf>

Management Response:

This issue was identified by staff as a problem to be resolved by the County's billing vendor. Specifically, the system was not producing a report targeted toward identification of usage on vacant accounts. This issue was corrected with the vendor earlier this year and staff can now clearly see any unbilled usage.

Staff has enhanced the process for monitoring every inactive account and a formal written policy and procedure for identification and investigation of usage on vacant accounts has been prepared.

Observation 2: Meters were not properly locked at the time of service disconnection.

The OPUS billing system and the Hansen meter inventory system do not interface. Service orders in the OPUS billing system were for billing-related activities, such as turning on and turning off service. Work orders in the Hansen system were for the purpose of dispatching a field technician to the service location for an activity to be performed on the meter.

In a judgmental sample of 25 meters indicating usage on vacant accounts, IAD verified that there was a service order and a corresponding work order to disconnect service. There was a service order for all 25 meters in the sample; 21 of the 25 meters had a completed work order to disconnect service.

Work orders had activity codes, which indicated the type of work that was to be performed on the meter:

- Three out of 25 meters had a completed work order to "turn meter off read and lock", at the time of service disconnection. Although the work orders indicated that service was to be **turned off and locked**, these three meters had a combined total of 297,000 gallons of usage while not associated with active billing accounts.

Either the meters were not properly locked, or the lock was illegally removed to gain access to water service. Notes in the comment section of the Hansen work orders indicated that, in some cases, zip ties were used to lock meters. Comments indicated, "zip tie broken" and "zip tie was slightly stretched open." In some cases, actual locks were also used, and comments indicated, "meter locked with zip tie, replaced with real lock."

- Eighteen out of 25 meters had a completed work order to either "turn meter off and read" or "turn off and read – non pay."

The SOP for the shut-off list indicated that if customer accounts were shut off due to non-payment, meters were supposed to be **shut off and locked**. However, the comments section of the Hansen work orders indicated that only two out of six meters turned off for nonpayment were locked at the time service was turned off.

- Two out of 25 meters were meter change-outs, and therefore did not have a work order for turn off.
- Two out of 25 meters were owned by another utility (South Dunnellon) and billed for only sewer charges. Since these meters were not owned by CCU, they did not appear in the Hansen system. Therefore, no work orders were located.

Recommendation:

In cases where the customer’s service has been turned off for non-payment or when the account is closed and a vacant account exists, the physical service connection still exists. There is an increased risk of illegal connections if meters are not properly locked.

R3. We recommend locking meters with a proper security locking device at the time of service disconnection when appropriate.

Management Response:

This issue was addressed in February 2016 through direction from management to discontinue the use of zip ties for meter shut-offs and to only use proper meter locking devices.

Observation 3: CCU was not always in compliance with Ordinance, Section 102-137.

IAD tested water and sewer courtesy adjustments for proper authorization, and compliance with Ordinance and CCUs internal policies and procedures. In FY16, CCU granted 188 water and 37 sewer adjustment transactions, totaling \$33,797.88 and \$7,965.39, respectively.

IAD judgmentally selected 24 transactions for testing -- 12 water adjustments and 12 sewer adjustments, which totaled \$4,523.86 and \$6,998.79, respectively.

For each item in the judgmental sample, IAD:

- Verified the customer’s eligibility for an adjustment.
- Verified the customer submitted applicable supporting documentation.
- Verified that authorized employees performed the billing adjustments, and those adjustments were approved by senior management.

The Ordinance authorized adjusting a customer’s bill due to incorrect or defective meter reading, incorrect application of rates, or a mistake in billing. The Ordinance also authorized adjustments for documented leaks or line breaks that occurred on the customer’s side of the meter.

Seven of the 24 adjustments in the sample resulted from defective meters, billing errors, or a line break on CCUs side of the meter. Two of these were due to billing errors, four were meter issues, and one was due to a line break on CCUs side of the meter. They were all valid reasons for a credit adjustment.

Seventeen of the 24 adjustments resulted from documented leaks or line breaks that occurred on the customer’s side of the meter.

To verify compliance with the Ordinance, IAD generated OPUS reports for meter reads, activity log notes, billing and payment transactions, and account adjustments. IAD also reviewed supporting documentation provided to CCU by the customer that was used to substantiate the credits. Testing revealed that some customers received credit adjustments, but did not meet the criteria listed in the Ordinance.

In eight out of 17 credit adjustments for leaks or line breaks on the customer’s side of the meter, the customer was not eligible for the credit adjustment because they did not meet the eligibility criteria/or did not provide the required documentation.

Test results are summarized below and indicate the areas in which the criteria were not met:

- One customer did not submit a letter requesting credit.
- Two customers did not meet the criteria for timely payment history.
- Six customers did not meet the criteria for submitting repair invoices within 7 days of the leak.

In several instances, certain criteria were not applicable and were noted as NA in the table below. For example, two customers did not have an established payment history because they were new customers. Therefore, the criterion for having a timely payment history was not applicable.

Compliance Requirements of Ordinance Section 102-137					
Sample #	Request letter	Timely payments	200% increase in water cost over prior bill	Repair invoices/receipts within 7 days of leak	Prior credits in 24 months
1	Y	N	Y	Y	N
2	Y	Y	Y	N	N
3	N	NA	NA	N	N
4	Y	Y	NA	Y	NA
5	Y	Y	Y	Y	N
6	Y	Y	Y	NA	N
7	Y	Y	Y	Y	N
8	Y	Y	Y	Y	N
9	Y	NA	NA	NA	N
10	Y	Y	Y	N	N
11	Y	N	Y	Y	N
12	Y	Y	Y	N	N
13	Y	Y	Y	Y	N
14	Y	Y	Y	N	N
15	Y	Y	Y	Y	N
16	Y	Y	Y	Y	N
17	Y	Y	Y	N	N

All 24 billing adjustments had documented supervisory approval by the Director. In addition, IAD verified that all 24 adjustments were performed by an authorized employee.

Recommendation:

The section of Ordinance that contained the provisions for making adjustments to utility bills has not been amended since 2008. Additionally, the SOP for leak adjustment requests has not been revised since the transition to OPUS in May 2014. As business processes change and evolve, compliance documents should be periodically reviewed to ensure that current practices still align with Ordinance and internal policies and procedures.

R4. We recommend that CCU comply with Ordinance, Section 102-37, or consider revising the Ordinance to align with current business practices for billing adjustments.

R5. We recommend that the SOP for leak adjustment requests be revised to reflect current processes and procedures in effect since the transition to OPUS.

Management Response:

In response to this audit observation, strict conformance to Ordinance 102-137 has been implemented until such time as a revised ordinance can be completed and brought to the Board of County Commissioners for consideration. A revised ordinance could address some of the non-compliant issues that were identified in the audit observation. Specifically, the requirements for timely payment history and submission of repair invoices within 7 days of the leak occurrence have been problematic for some customers who would otherwise qualify for leak adjustments.

Staff is also updating the SOP for leak adjustments.

Observation 4: CCU was not always in compliance with Ordinance, Section 102-133.

The Ordinance pertaining to customer deposits stated, “*Such deposit shall bear interest, and such interest shall be credited to the customer’s account on an annual basis upon the written request of the customer.*” For eligible customers after three years’ continuous service, “*the deposit may be refunded to the customer with accrued interest, provided the account has never been delinquent.*”

IAD asked CCU how many customers requested an annual deposit interest credit. According to the Director, CCU did not receive any written requests from customers asking for an annual interest credit to their accounts.

According to the Director, the OPUS software configuration was limited to calculating interest only when an account finalizes. OPUS did not implement a deposit interest process into their system until February 19, 2016. Therefore, finalized accounts during the period of October 2015 through January 2016, did not reflect deposit interest credits.

A judgmental sample of 39 refund transactions was tested to determine whether processing of deposit refunds and interest earned was in compliance with Ordinance and CCUs policies and procedures. Test results indicated that in 17 out of 39 deposit refunds, accrued interest was not credited to the customer’s account.

In addition, one customer’s Deposit Refund Request Form was completed, signed, and submitted by a CCU employee. The form indicated that one of the eligibility criteria for a refund was that the customer requested the refund *in writing*. However, the SOP contradicted the instructions on the Deposit Refund Request Form. The SOP stated that “*CCU active customers can request their deposit be refunded to them by call or by form.*” Further instructions said that “*verbal requests will require that staff receiving the call fill out the Deposit Refund Request Form for the customer.*”

Recommendation:

The Ordinance stipulated that a customer shall receive an annual interest credit, if requested in writing; or the deposit and accrued interest may be refunded altogether, if the customer met certain payment criteria after three years.

R9. Management should make revisions to either the Deposit Refund Request Form or the SOP for processing a deposit refund request, so that they align with one another and conform to Ordinance, Section 102-133.

If management decides to continue the practice of allowing verbal requests for refunds, they should strongly consider that allowing someone to verbally request a refund via phone, and allowing an employee to initiate and complete that request, could lead to diverting the refund to someone other than the customer.

Management Response:

Current business processes are established to mitigate the potential of diverting a deposit refund to someone other than the customer. In particular, refund checks are only issued to the customer initially making application for service. In cases where the customer is deceased or incapacitated, staff is trained to request a copy of death certificate and power of attorney to demonstrate that someone other than the customer is entitled to the deposit refund.

While the original intent of including the option to process telephone requests was intended to increase service for customers who may be experiencing a personal restriction which prevented them from presenting a written request, the SOP has been revised to prohibit oral requests.

A revised form has been created and is available to all customers through the BOCC website, email, mail or in person.

Observation 5: Meter readings were not always obtained/or uploaded into the customer's account for the billing cycle, which resulted in inaccurate and incomplete billing.

The SOP for no-reads indicated that OPUS performed the task of comparing meter readings to the actual (billable) meters in the billing cycle in order to identify any accounts that did not have a meter reading. OPUS then emailed these accounts to CCU to investigate each no-read.

IAD tested a judgmental sample of 37 meters from the no-read files. There were a total of 79 instances of no-reads for these 37 meters. Twenty-four of the no-reads affected customer billing.

- For 12 of the 79 no-reads, OPUS did not reflect a meter reading for the billing cycle which resulted in 11 monthly billing statements for FY16 instead of 12 statements. IAD verified that the customer was billed for two months of water consumption in the subsequent billing cycle. However, the water/or sewer base charges from the missed billing cycle were not always included.
- In addition, there were 12 instances where a meter reading was uploaded into OPUS, but the meter reading was late and not within the current billing cycle. In those cases, the billing statement reflected a service period of greater than 33 days. IAD verified that the meter was read and the customer was billed.

Recommendation:

Billing accuracy and completeness is dependent on proper and timely information being recorded in customer accounts in OPUS. Inaccurate billing confuses customers, and can potentially result in the customer paying a higher bill due to increased tier charges for an extended service period. Incomplete billing may result in potential loss of revenue for CCU due to unbilled water/or sewer base charges.

R6. We recommend that management determine the root cause of incomplete meter reading uploads to the OPUS system, to ensure that utility billings are complete and accurate. The cause should be isolated to determine if it is due to meter reading procedural errors (CCU responsibility), or errors in the OPUS billing application (vendor responsibility).

Management Response:

Staff investigates all no-reads that are provided from the billing vendor; however, the list provided by the vendor is not always complete. Staff is working with the billing vendor to determine the reason why a complete listing of all no-reads are not provided to the County on a routine basis, so that they can be investigated and resolved in a timely manner.

Meter reading periods longer than 32 days was an issue for some time due to the scheduling established by prior staff. Changes were implemented and the issue has been resolved for standard schedules. The key exception may be delays due to holidays and inclement weather.

Observation 6: The Utility Billing Supervisor performed duties of payment receipting, compiling and reconciling deposits, and adjusting customers' accounts, which are an inadequate segregation of duties and do not comply with the County's Cash Handling Policy.

To determine that customers' payments were properly recorded, IAD tested payments for 38 meter readings from the random sampling of 384 records. Testing of the 38 samples consisted of:

- Reviewing CCUs deposit slip reports and cash receipts by payment type reports to locate the payment for each of the samples.
- Reconciling the OPUS deposit data and reports with Pentamation records and scanned supporting documentation.
- Tracing the deposits recorded in OPUS and Pentamation back to the SunTrust bank statement.

Due to inadequate segregation of duties, IAD performed additional testing to verify that cash and checks recorded in OPUS matched Pentamation records and the deposit slips and check images provided by SunTrust.

- IAD selected seven of the 38 samples to compare check images from SunTrust with customer payment transactions recorded in OPUS.
- All deposits containing cash payments that were made on the sampled deposit dates were reconciled to the SunTrust bank deposit slip and cross-referenced with Pentamation.

Check imaging limitations with the SunTrust Online Treasury Manager⁹ system prevented verifying 46 of the 1601 payment transactions. With the exception of those 46, IAD verified check and cash transactions with SunTrust records.

During the analysis of customers' payments, IAD noted that on four occasions one employee receipted a credit card payment for their relative. There was no indication that any payment was mishandled.

⁹ The SunTrust Online Treasury Manager provides online access to images of paper-based transactions such as paid checks, deposit tickets, deposited items, and returned items.

However, to avoid any appearance of impropriety, an employee should not be involved in processing or receipting a payment for family.

IAD also observed that the employee who regularly prepared and compiled the bank deposit, performed the deposit reconciliations, and routinely prepared adjustments to customers' accounts for non-sufficient funds and incorrect postings, was identified as operator on other payment batch receipts (processing customer payments).

Performance of these tasks by a single employee represents an inadequate segregation of duties.

Segregation of duties is a basic, key internal control and one of the most difficult to achieve. It is used to ensure that errors or irregularities are prevented or detected on a timely basis by employees in the normal course of business. Segregation of duties provides two benefits:

- 1) A deliberate fraud is more difficult because it requires collusion of two or more persons.
- 2) It is much more likely that innocent errors will be found. At the most basic level, it means that no single individual should have control over two or more phases of a transaction or operation. Management should assign responsibilities to ensure a crosscheck of duties.

The four general categories of duties or responsibilities for segregation of duties are:

- Authorization
- Custody
- Record keeping
- Reconciliation

Recommendation:

R7. To achieve a complete segregation of duties, any employee involved in deposit verification, deposit compilation, or customer account adjustments should not be collecting payments, issuing receipts, handling cash, or performing reconciliations of those transactions. Additionally, making adjustments to customer accounts should be assigned to another employee independent of reconciliations, receipting payments, or preparing bank deposits.

R8. In those instances where duties cannot be fully segregated, mitigating or compensating controls should be established. Mitigating or compensating controls are additional procedures designed to reduce the risk of errors or irregularities. If the incompatible duties listed above cannot be assigned to other individuals, management should perform a detailed, documented review of the reconciliations and account adjustments to provide additional control.

Management Response:

In late 2015 through early 2016, the Billing and Customer Service Division of the Department of Water Resources had a staff turnover which caused at least one employee to perform multiple jobs due to a temporary lack of available staff resources. The division has filled available positions and reassigned staffing responsibilities to better segregate duties. As of January 2017, the Utility Billing Supervisor; who is responsible for deposit verifications, deposit compilation and account adjustments; no longer receipt payments or handles any cash, check or credit card transactions.

For control purposes, the Utility Billing and Customer Service Director performs an audit on adjustments that are made by staff within the division.

Observation 7: CCUs meter reading exception process needs strengthening.

- **Re-reads were not always documented for high usage exceptions.**
- **One meter reading exception was not resolved prior to bill generation.**
- **Zero usage meter readings were not always investigated in a timely manner.**

During the preliminary survey, IAD interviewed the Billing System Analyst/ Billing Review Coordinator (BRC), and observed the pre-billing review process. IAD also interviewed the Chief Executive Officer of OPUS 21 Management Solutions, LLC. The vendor stated that exception criteria for high and low usage were established by the County. The vendor also explained that after meter reads were imported into the billing run by OPUS, meter reading exceptions were identified (high, low, zero, and no reads) and then emailed to CCU for further investigation.

IAD's observation of the pre-billing review process revealed that the BRC performed the task of sorting and reviewing questionable meter readings sent to CCU from OPUS. The process of pulling accounts from the billing run for further investigation was largely dependent on the professional judgment of the BRC. She was responsible for separating all meter readings that indicated negative or unusually high usage compared to the prior month. Consumption over 50,000 gallons was the threshold for high usage; those accounts were deemed as requiring further investigation. The BRC was responsible for notifying the Lead Meter Reader of any questionable reads needing to be verified.

IAD tested a judgmental sample of 50 from the total population 10,546 meter reading exceptions for FY16: (1) forty high usage; (2) five negative usage; and (3) five zero usage exceptions.

- Forty-three out of 50 meter reading exceptions required a re-read for further investigation; of those, 38 had a documented re-read. Five out of 43 did not have a documented re-read. They were high usage exceptions. Notes were not entered in the OPUS service location summary report or account activity log indicating that a re-read was performed. However, the billing statement reflected that the customer was billed for the high usage.
- Twenty-nine out of 40 high usage exceptions were confirmed for actual high usage. The usage was due to various reasons such as new sod, known/admitted high use (example: pressure washing), or a leak on the customer's side of the meter. Three customers were already aware of the high usage. CCU provided proactive customer service and informed the remaining 26 customers of high usage.
- Forty-nine out of 50 meter reading exceptions were resolved prior to bill generation. Only one billing statement was sent out with an inaccurate current meter reading. CCU determined that the meter was installed backwards, which caused the meter readings to run backwards. The billing statement with a bill date of 11/13/15 should have reflected 12,000 gallons of usage instead of zero. The meter was subsequently reinstalled properly and the customer was billed for 27,000 gallons for the two-month service period.
- All five negative usage exceptions (the current meter reading was less than the previous reading) were confirmed as false negative usage. In four out of five cases, the meter reader input an erroneous meter reading resulting in false negative consumption. In one case, a meter replacement caused the false exception. The difference between the current reading of "16" on the new meter, and the final reading of "866" on the previous meter, resulted in what appeared to be negative usage (-850K gallons).

- Two out of five exceptions for zero consumption on an active service resulted from defective metering. CCU confirmed that one of those meter malfunctions was a stuck meter¹⁰, and subsequently changed out the meter. The stuck meter resulted in six months of zero usage and potential lost revenue. In the other case, the meter was not reset to zero after meter maintenance was performed. Due to the maintenance error, the customer was not billed for one month of usage. Zero usage was verified for the other three exceptions.

Recommendation:

Reviewing reads outside certain defined limits prior to bill generation is essential to accurate billing and good customer service. A robust meter reading exception process enables CCU to make the necessary corrections to customer accounts during the current billing cycle before bills are generated and sent to customers. A weak process increases the risk of sending inaccurate billing statements to customers, which can also lower customers' confidence that they are being billed properly.

Best practices for validating meter readings in the high/low review process include the use of predetermined high and low limit configurations whereby the billing system determines consumption variations. In other words, the billing system calculates high and low usage criteria by multiplying the consumption by a predetermined value or factor.

IAD recognizes that staff knowledge is a key factor that should be incorporated in the process. CCUs meter reading exception process in effect during the audit period resulted in minimal inaccurate bills; testing revealed only one case where an inaccurate billing statement was sent to a customer. However, CCU should enhance their process by leveraging capabilities of the OPUS billing system to increase efficiency and consistency in the meter reading exception process.

R10. We recommend that management explore the options available from the vendor for implementing meter reading exception reports based on system-generated variance limits, to assure consistency in analyzing accounts prior to billing.

R11. We recommend that re-reads are always performed and documented for high usage exceptions. Utility billing and customer service is dependent on accurate information. Staff should always add notes to customer accounts to document and substantiate verified meter readings for high usage.

R12. Management should develop and implement written procedures for addressing the timely resolution of zero usage meter readings to ensure corrective action for potentially faulty water meters. Although accounts may be charged applicable monthly base charges, undetected water usage may result in a potential loss of revenue for water consumption.

Management Response:

In early 2016, the exception process was modified by lowering the exception threshold from 50,000 gallons to 20,000 gallons when comparing the prior monthly usage to the current monthly usage. Based on the current available resources, a 20,000 gallon difference is the largest number of billing exceptions that the division is staffed to examine.

The division will strictly enforce our policy requiring re-reads for all high usage exceptions, including documentation of the findings in the billing system.

¹⁰ A "stuck" meter is a faulty meter condition when water runs through the meter, but is not registered. The actual meter register does not move, and it appears that there is no water usage.

Currently, there are two distinct zero usage processes in practice within the Department. The first process captures zero reads associated with equipment malfunctions during transfer and processing of the raw meter read data. These zero reads are currently identified and corrected on individual accounts prior to billing. The second process is the repeated zero usage, which may be the result of an actual physical issue, such as a stuck meter or an unoccupied property. These issues require field investigation and resolution. We will continue to investigate and resolve (if resolution is needed) the repeated zero usage process based on field staff availability.

Observation 8: The OPUS contract did not contain adequate assurance for safeguarding customer information.

IAD reviewed the vendor's contract with the County to determine if it contained a clause requiring that a SOC 2 audit¹¹ must be conducted. These audits provide assurance on compliance and operational controls over the security, availability, processing integrity, confidentiality, and privacy of information. IAD identified two sections that addressed data security:

- *Scope of Services, General Responsibility of Contractor*, section (N)(12)(i) *Data Security* (See contract page 16 of 22); and,
- *Scope of Services, Computer Processing and Related Services*, section (H), which stated, "In order to maintain security administration, the Contractor will manage access to the County's data that is under the Contractor's control." (See contract page 18 of 22)

However, the contract did not contain a clause requiring the vendor to provide a SOC 2 audit report.

During an interview, the vendor's CEO indicated that reports on internal controls (SOC 1, SOC 2, SOC 3 audits) were not performed because the vendor provided billing software, not accounting software. The CEO expressed that he would be willing to provide such audits, but that they are very expensive and clients were unwilling to bear the additional expense.

During the course of the audit, IAD learned that personal customer information was maintained in OPUS. When entering a new utility customer into OPUS, the Customer Input page prompted staff to enter information from the customer's application. The page included fields for date of birth, social security number, and driver's license number. The OPUS training manual defined the customer as a person or entity that is the primary data element. The customer record contained the basic name and mailing address information, as well as other personal or business information such as bank account detail.

The BOCC approved Administrative Regulation (AR) 15.07, *Sensitive Data Policy*, to comply with the Federal Trade Commission's Identity Theft Red Flags Rule. The BOCC implemented the Red Flags Rule in order to ensure that all customer information was protected from identity theft. This policy applied to all county contractors, subcontractors, consultants, and their employees to the extent of their involvement with covered accounts.

¹¹ The purpose of a Service Organization Control (SOC) 2 audit is to provide assurance over non-financial controls: security, availability, processing integrity, confidentiality, and privacy of a system. In the absence of a SOC 2 audit, there is no assurance that the vendor exercises a commitment to safeguard customers' sensitive personal information against fraud, identity theft, or other potentially damaging acts.

“Sensitive personal information” was defined as the following, whether stored in electronic or printed format: credit card information, tax identification numbers, social security numbers, payroll information, medical information, other personal information belonging to customers including date of birth, phone numbers, address, maiden name, corporate information, or proprietary or confidential information.

IADs overall conclusion was that access controls over customer information stored in the OPUS billing system need strengthening to safeguard information from unauthorized access.

Recommendation:

R13. We recommend that contracts with vendors that operate, collect, process, transmit, store, organize, maintain, or dispose of information for user entities, include that the vendor provide a SOC 2 audit report. Documentation should be provided that assesses the adequacy of non-financial reporting controls for protecting the system’s security, availability, processing integrity, confidentiality, and privacy of personal information.

R14. We recommend that management ensures compliance with BOCC Administrative Regulation (AR) 15.07, *Sensitive Data Policy*.

Management Response:

Future agreements will be designed to include requirements for the vendor to comply with County policy, specifically AR 15.07, Sensitive Data Policy, by providing an SOC 2 or comparable report. Any deviations from County policy will be reviewed and approved by the County Administrator/designee and/or Board of County Commissioners.

Observation 9: Monitoring of OPUS access needs strengthening.

The Director was responsible for managing OPUS user access privileges. IAD reviewed a list of OPUS role groups and identified active users with the ability to modify customer account and billing information. Based on this review, IAD concluded that the system functions available to the active OPUS users were appropriately assigned, as required by their job responsibilities.

The Director responded to an internal control questionnaire that included several questions pertaining to OPUS access controls. The following questions were specific to management’s oversight of OPUS access:

Does management periodically review the list of individuals with access to the OPUS billing system to ensure that the access rights are appropriate and that removal procedures for terminated employees are being followed?

Are documented procedures in place for removing access to the OPUS billing system when an employee with access leaves the division, or is terminated, either voluntarily or involuntarily?

The Director responded that OPUS access was reviewed each time she was made aware that a county employee was leaving their position. She also indicated that OPUS was responsible for the review and monitoring of their staff. The Director provided written procedures for removing access to the OPUS billing system when an employee vacated their position, either voluntarily or involuntarily.

IAD asked the Director what measures were in place to prevent an OPUS user from accessing their utility account. She responded that there wasn't a mechanism to recognize that a particular OPUS user also had a utility account. Only the assigned role groups controlled access levels. The Director explained that any changes on an account were (electronically) stamped with the user's name, which provided an audit trail to identify user activity.

Recommendation:

Monitoring includes verifying and reconciling users and access privileges to detect unauthorized use and access rights that are misaligned. Example: employee moves from one position to another within the Water Resources Department, which changes their duties and OPUS access roles.

Potential consequences if periodic monitoring does not exist:

- Misuse of information
- Identity theft
- Damage to public image
- Legal actions

R15. We recommend regular, periodic monitoring of active OPUS users-- not just at the time of separation from employment.

R16. We recommend that management implement a mechanism to prevent OPUS users from accessing their own utility accounts. If this is not feasible, then we recommend that management implement regular monitoring and oversight of any utility accounts belonging to active OPUS users to detect unauthorized activity and transactions.

Management Response:

A new policy has been implemented to require that user access and rights for all OPUS users be reviewed by the Utility Billing and Customer Service Director on a monthly basis.

A new policy has been implemented that restricts customer service staff from performing any transactions on their own account or those of their relatives.

The Utility Billing and Customer Service Director performs an audit on the adjustments that are made by all staff.

Observation 10: Account information in the OPUS billing system was not always accurate.

In 83 out of 384 (22%), billing statements in the random sample, the meter number in the OPUS billing system did not agree with the meter number on the billing statement for the date of the meter reading.

OPUS reflected inaccurate meter numbers for the read date in both the *Account Service Input* tab and the *Readings* tab. The *Account Service Input* tab did not reflect the historical meter information for meter replacements. There was only one meter number listed for meter services; it belonged to the meter that was last installed at the service location. IAD verified that the meter numbers on the 83 billing statements for the date of the meter reading were accurate.

In a judgmental sample of 39 security deposit refunds, there were eight instances where OPUS records did not reflect accurate data pertaining to a deposit refund:

- For two finalized accounts, OPUS indicated that a check request was submitted to Finance. After extensive research, IAD determined the deposits had been transferred to other accounts in the customer's name, which was not recorded in the activity log or the transactions.
- For six accounts in which the customer received a deposit refund; the data on the deposit tab in OPUS did not update, and still indicated that a deposit balance remained on the account. These six accounts shared a common trait—each one was a “converted deposit,” which means the deposit was paid on these accounts prior to the conversion to OPUS in May 2014.

Recommendation:

Incomplete and inaccurate data can lead to disseminating incorrect information to customers and stakeholders, impairing data integrity, and creating unreliable financial information.

R17. We recommend that meter replacement information is entered into the OPUS billing system in a timely manner to reflect an accurate meter history for all accounts. One of the features of the OPUS system is that it has the ability to maintain a complete history of all service activity at a location. CCU should ensure that meter exchange/replacements are documented so that meter reading historical data is reflected accurately in the system.

R18. Management should determine why OPUS did not update refund data on the deposit tab for the six customers who received refunds.

Management Response:

Utility Billing and Customer Service Division staff enters meter change out information into the OPUS system as soon as possible to make the bill statement seamless to the customer. The division recognizes the importance of proper documentation of meter change-outs to maintain the accuracy of historical meter reading data within the system. Occasionally, limited resources may delay this process, but the division will strive to make timely meter change out information data entry into OPUS.

As a matter of clarification, OPUS did update the refund data after the conversion. The six accounts in question were all cases where an active customer individually requested their deposit refund. After staff verified eligibility consistent with code, the funds were released to customers. We have since added a process to manage all postings within both the finance and billing systems to ensure consistency.

Observation 11: Explanations for no-reads were not always entered in the OPUS activity log notes.

There were 79 no-reads in a judgmental sample of 37 meters from the no-read files. For 20 out of the 79 no-reads, IAD was unable to determine the reason for the no-read because no explanation was provided in the OPUS activity log.

The SOP for no-reads included specific instructions for documenting notes in OPUS. Once a no-read has been investigated and a meter reading obtained, the activity log notes should include why the meter was not read initially. When explanations are not entered into the OPUS activity log, the cause of the no-read cannot be identified. This may result in a lack of corrective action needed to resolve the problem.

Recommendation:

Policies and procedures are some of the operational means by which management can control functions within an organization. They help ensure that management directives are carried out. The Division provided standard operating procedures for a multitude of functions and responsibilities. IAD recognizes and commends the Division on their diligence with this key internal control factor.

R19. Management should enforce compliance with the SOP for no-reads.

Management Response:

Management staff has modified our SOP in response to this audit. The current SOP will include associated performance criteria for no-reads to facilitate staff compliance.