

2. REPORTS TO BE RECEIVED FOR FILING:

Division of Inspector General, Audit Services, Clerk of the Circuit Court and Comptroller, Report No. 2013-15 dated May 23, 2013 – Follow-Up Audit of Utilities Billings Customer Information System.



Ken Burke, CPA

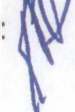
CLERK OF THE CIRCUIT COURT AND COMPTROLLER
PINELLAS COUNTY, FLORIDA

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Recorder of Deeds
Clerk and Accountant of the Board of County Commissioners
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TO: The Honorable Chairman and Members
of the Board of County Commissioners

FROM:  Ken Burke, CPA
Clerk of the Circuit Court
Ex Officio County Auditor

SUBJECT: Follow-Up Audit of Utilities Billings Customer Information System

DATE: May 23, 2013

For your review and filing in the Official Records, I am enclosing a copy of the follow-up audit dated May 23, 2013 on the above-referenced audit.

I hope you find this report helpful in ensuring Pinellas County government provides the best possible service to our citizens.

cc: Robert S. LaSala, County Administrator
Jim Bennett, County Attorney
David E. Scott, Executive Director, Department of Environment and Infrastructure
Stephen B. Carroll, Finance Division Director, DEI
LeeAnn Smedley, Manager, Department of Environment and Infrastructure (DEI)
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DIVISION OF INSPECTOR GENERAL

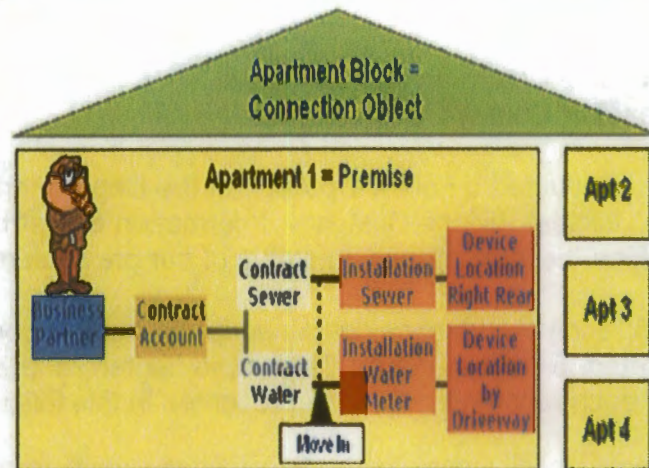
KEN BURKE, CPA

CLERK OF THE CIRCUIT COURT AND COMPTROLLER
PINELLAS COUNTY, FLORIDA

FOLLOW-UP AUDIT OF UTILITIES BILLINGS CUSTOMER INFORMATION SYSTEM



1988 — 2018



Hector Collazo, Jr., Director
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MAY 23, 2013
REPORT NO. 2013-15



Ken Burke, CPA

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May 23, 2013

The Honorable Chairman and Members
of the Board of County Commissioners

We have conducted a Follow-Up Audit of the Department of Environment and Infrastructure (formally Utilities) Billings Customer Information System. The objectives of our review were to determine the implementation status of our previous recommendations.

Of the 15 recommendations contained in the audit report, we determined that 7 have been implemented, 5 have been partially implemented, and 3 have not been implemented. The status of each recommendation is presented in this follow-up review.

We appreciate the cooperation shown by the staff of the Department of Environment and Infrastructure (DEI) during the course of this review.

Respectfully Submitted,

Hector Collazo, Jr., Director
Division of Inspector General

Approved:

Ken Burke, CPA*
Clerk of the Circuit Court and Comptroller
Ex Officio County Auditor
*Regulated by the State of Florida



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INTRODUCTION

Scope and Methodology

We conducted a follow-up audit of the Department of Environment and Infrastructure (formally Utilities) Billings Customer Information System. The purpose of our follow-up review is to determine the status of previous recommendations for improvement.

The purpose of the original audit was to:

- 1) Determine if Utilities is properly billing and collecting for services provided.
- 2) Determine that application security is adequate for access to the SAP Customer Information System.
- 3) Determine if exception reports are processed and reviewed properly.
- 4) Determine if new account opening procedures are adequate and that required deposits for customer accounts are not incorrectly waived.

To determine the current status of our previous recommendations, we surveyed and/or interviewed management to determine the actual actions taken to implement the recommendations for improvement. We performed limited testing to verify the process of the recommendations for improvement.

Our follow-up audit was conducted in accordance with the *International Standards for the Professional Practice of Internal Auditing* and the *Standards for Offices of Inspector General*, and, accordingly, included such tests of records and other auditing procedures, as we considered necessary in the circumstances. Our follow-up testing was performed during the months of February and March 2013. The original audit period was October 1, 2007 through July 1, 2009. However, transactions and processes reviewed were not limited by the audit period.

Overall Conclusion

Of the 15 recommendations in the report, we determined that 7 were implemented, 5 were partially implemented, and 3 were not implemented. We commend management for implementation of most of our recommendations and continue to encourage management to fully implement the remaining recommendations.

Status

OFI NO.	PREVIOUS RECOMMENDATION	IMPLEMENTATION STATUS				
		Implemented	Acceptable Alternative	Partially Implemented	Not Implemented	No Longer Applicable
1	No Formal Process Exists For Adminstrating Wholesale Reclaimed Water Rates					
	A. Develop contract administration policies and procedures and appoint an individual/department contract administration responsibility. The policies and procedures should address records maintenance specifying development of a contract file retained for compliance and/or auditing purposes. The file should include the original agreement, all amendments, correspondence, rate audits, etc. A log sheet can be used as a diary of activities such as date of contract expiration, date of amendments, current rate, rate re-evaluations, etc.			✓		
	B. Ensure all utility rate changes are approved by the Board of County Commissioners.	✓				
	C. Perform an audit on the wholesale reclaimed water usage of all wholesale reclaimed water customers (Belleair, Pinellas Park, St. Pete Beach and South Pasadena) to re-evaluate the rates being charged and amend contracts as applicable. All rate changes should be approved either by resolution by the BCC or by a contract amendment.			✓		
2	A Complete, Up To Date Utilities Policy Manual Is Not Readily Available.					
	A. Develop and implement a clearly written Manual readily available and reflect the current policy in a single electronic document. This Manual should be a living document, which is kept updated with all policy changes whether such changes are adopted by resolution, statute or director/management email or memo. We understand				✓	

Introduction
Follow – Up Audit of Utilities Billings Customer Information System

OFI NO.	PREVIOUS RECOMMENDATION	IMPLEMENTATION STATUS				
		Implemented	Acceptable Alternative	Partially Implemented	Not Implemented	No Longer Applicable
	that such a Manual has been in progress for some time. It is our recommendation that a sense of urgency be placed on the completion of this Manual. During discussions with management, an individual has been assigned responsibility for updating the Manual.					
	B. The Manual should include a revision history with effective dates, supported by an archive of approved change documents. This would allow policy statements to be traced back to the approval source.				✓	
	C. The Manual should reflect SAP CIS system specific terminology with a glossary for definitions.				✓	
3	<i>Utilities Does Not Have The Information Necessary To Effectively Administer SAP Customer Information System Security.</i>					
	A. Collaborate with Vertex to obtain:			✓		
	1. A list of all SAP users with the roles they are currently assigned and what transactions are assigned to those roles.					
	2. A matrix of transactions showing which transactions are called from other transactions.					
	3. A list of specifically which group of transactions are necessary to perform each function within the SAP system. This data should be maintained in a central repository and updated as needed. Using this information, we recommend Utilities determine if defined roles are actually implemented with the intended contents and if the authorization range is appropriate. User access rights to SAP CIS data should be in line with defined and documented business needs, and job requirements attached to user identities. Roles must be clearly defined and narrowed based on business functions for					

Introduction

Follow – Up Audit of Utilities Billings Customer Information System

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	appropriate assignments.					
	B. Perform a periodic review of the SAP security structure including roles, responsibilities and access rights. All functional areas should be rotated through periodically to ensure important data is adequately protected.			✓		
4	<i>There Is No Formal Change Management Process For Making Major Updates To The Utilities SAP Customer Information System.</i>					
	A. Amend the professional services agreement with Vertex to define service level agreements for all critical services based on Utilities requirements, including major Utilities rate changes. The service level agreements should clearly identify the service support requirements of Utilities, Utilities' commitments, quantitative and qualitative metrics for measuring the services provided, roles and responsibilities, and the agreed on service levels. Items to consider are availability, reliability, performance, capacity for growth, levels of support, continuity planning, security, and demand constraints.	✓				
	B. Develop a process to regularly review the service level agreements to ensure that they are effective and up to date and that changes in requirements have been taken into account.	✓				
	C. Create a standard procedure for major changes to the SAP CIS in alignment with the professional services agreement with Vertex and the updated service level agreements. We recommend the standard procedure define the Defect Tracker System as the change management method utilized for all Utilities SAP CIS changes.	✓				
5	<i>Utilities Does Not Have Formal Written Policies Addressing Employees Performing Transactions On Their Own Utilities' Accounts.</i>					
	A. Develop a "conflict of interest" written policy addressing employees posting transactions to their own Utilities' account. The policy should establish what should be	✓				

Introduction
Follow – Up Audit of Utilities Billings Customer Information System

OFI NO.	PREVIOUS RECOMMENDATION	IMPLEMENTATION STATUS				
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	done as well as how, when and by whom if a transaction needs to be manually performed on an employee's account. It should establish guidelines for employees to avoid any conflict of interest for themselves, family, or friends.					
	B. Develop a policy addressing the verification testing on SAP CIS accounts in production. Testing transactions should be performed in a test environment, not production. Any verification transactions that need to be performed in production should be clearly marked as such and a description of what is being verified made in the Contact Log text field.	✓				
	C. Policies are readily available to staff and should be covered as part of the employee training program. Management may want to consider having employees sign the "conflict of interest" policy acknowledging their understanding in case future disciplinary action is needed.	✓				
6	<i>Liens Are Not Timely Placed On Customer Assets For Unpaid Utilities Fees.</i>					
	Re-evaluate the manual process for placing liens on delinquent accounts and include internal controls to ensure liens are filed timely. Internal controls for management to consider include the following: <ul style="list-style-type: none"> • Additional reports are configured in SAP to be automatically rendered periodically that list aging of delinquent accounts and manual actions that need to be performed such as filing a lien. • SAP dunning levels are configured to only reach the dunning level for a lien to be filed when Pinellas County charges exceed \$100. • SAP is configured to automatically generate a Notice of Lien for each account that meets the appropriate criteria. 			✓		

Background



Section 153.03, Florida Statutes, grants the County the authority to purchase and/or construct, improve, maintain and operate a water system to supply water and sewage collection and disposal services to any counties, municipalities, persons, firms or corporations. Section 126.124 of the Pinellas County Code requires that all rates, fees and charges for the facilities and services furnished by the water system be fixed and established by resolution of the Board of County Commissioners.

The Pinellas County Utilities Department has a staff of over 600 employees who are responsible for the administration, operation, and maintenance of Pinellas County's water, wastewater, and solid waste functions.

Utilities provides water and wastewater services to the majority of unincorporated Pinellas County residents and several of the 24 municipalities within the County on a daily or supplemental basis through interlocal agreements and contracts. Utilities also owns and operates the solid waste facility serving all of Pinellas County residents.

Utilities bills customers for water and sewer services bi-monthly by portion. Special equipment that is used to read a customer water meter provides the information on which water and/or sewer charges are based. Other charges are assessed to customers based upon services they receive and the district they reside in (i.e., reclaimed water, refuse, and taxes). A fixed bi-monthly billing fee is charged to all customers to cover the ongoing costs of servicing customer accounts.

Utilities Customer Service acquired a new Customer Information System to replace the 30+ year old COBOL legacy system. The Systems Applications Products and Processes (SAP) Customer Information System (CIS) is a business application software system that integrates Utilities' customer service functions with Utilities overall core business functions and systems such as billing, device management, finance and contract accounts and service orders. The CIS is hosted by a vendor, Vertex, who provides managed services such as help desk, software maintenance, bill printing and mail services, and disaster recovery capabilities.

In our review of SAP CIS security, we used two information technology industry standards as benchmarks to measure the adequacy of the application's security. The first, Information Technology Infrastructure Library (ITIL), was adopted by the County and is a framework of

best practice approaches to information technology service management. The second, Control Objectives for Information and Related Technology (COBIT), was adopted by our office and is the generally accepted internal control framework for information technology.

Annual billings for Fiscal Year 2008 – 2009, which related to retail and wholesale water and sewer services, totaled \$130,291,300.

STATUS OF RECOMMENDATIONS

This section reports our follow-up on actions taken by management on the Recommendations for Improvement in our original audit of the Utilities Billings Customer Information System. The recommendations contained herein are those of the original audit, followed by the current status of the recommendations.

1. No Formal Process Exists For Administrrating Wholesale Reclaimed Water Rates.

During our review, we tested current Utilities rates in the Systems Applications Products and Processes (SAP) Customer Information System (CIS) for compliance with Board of County Commissioners (BCC) approved rates. We noted several current wholesale reclaimed water utility rates were not properly established and re-evaluated by Pinellas County Utilities.

- A. South Pasadena and St. Pete Beach wholesale reclaimed water rates are being charged in SAP's Sales and Distribution Module at \$95.49 per million gallons; however, there is no official documentation establishing this rate. Utilities did provide a memo dated May 22, 1997 from Bill Puller, former Director of Utilities Finance, "confirming" that the wholesale reclaimed water rate for the South Cross plant is \$0.09549 per thousand gallons (\$95.49 per million gallons). The South Cross plant provides reclaimed water to South Pasadena and St. Pete Beach.

The BCC Resolution establishing the South Pasadena and St. Pete Beach current reclaimed water rates, Resolution 09-135, states that the wholesale reclaimed water rates are set by agreement with governmental entities:

"WHOLESALE - Rate is established by agreement with governmental entities purchasing reclaimed water from Pinellas County Utilities for redistribution to retail customers."

The original South Pasadena and St. Pete Beach reclaimed water service agreement dated September 24, 1991 states that the County will establish a billing rate based on annual budgetary estimates computed on a basis of dollars per million gallons and this rate will be re-evaluated on March 1 of each year:

"B. The County agrees to establish a billing rate based on annual budgetary estimates covering the costs described above, computed on a basis of dollars per million gallons of reclaimed water. Monthly payments for all services rendered shall be computed on this basis. St. Petersburg Beach and South Pasadena agree to pay to the County, within a reasonable time, for that amount of reclaimed water delivered in the preceding month based on the agreed rate per million gallons..."

D. The County agrees to reevaluate the cost per million gallons on March 1 of each year, for the previous year, based on the audit of its accounts. If St. Petersburg Beach or South Pasadena has paid costs in excess of this established figure during this fiscal year, it shall be entitled to a credit against the next 12 monthly payments in such amount. In the event reevaluated costs per million gallons shall exceed the actual payments made, then the affected party shall pay the additional monies due within a reasonable period of time."

A rate set and re-evaluation with formal approval by the Board of County Commissioners and/or Utilities has never been performed. There is no formal policy and procedures for the process of calculating, setting, approving and re-evaluating the wholesale reclaimed water rates.

- B. The Pinellas Park wholesale reclaimed water rate is being charged in SAP at \$0.1955; however, BCC Resolution 96-111 establishes the rate as \$0.19 per 1,000 gallons:

"WHEREAS, the wholesale reclaimed water rate will be reviewed and revised as required on an annual basis. However, it may be revised at any time by the COUNTY as necessary to meet said revenue requirements. Written notice of not less than thirty (30) days shall be given to the CITY before any proposed wholesale rate increase is to be considered for adoption by the COUNTY. Any increased wholesale rates shall not be effective until at least one (1) complete billing cycle after adoption by the COUNTY..."

Pinellas Park, Florida		
Wholesale Reclaimed Water Rate		
	Amount	Rate per 1,000/Gallon
Operation & Maintenance	\$240,000.00	\$0.03
Power Costs	383,250.00	0.05
General and Administrative	70,209.05	0.01
Sub-Total O&M Rate	\$693,459.05	\$0.09
Debt Service Payment		0.10
1996 Rate per 1,000 Gallons		\$0.19

The February 9, 1995 agreement between Pinellas County and the City of Pinellas Park for the sale and purchase of reclaimed water states the City will be billed at the wholesale rate established by the BCC and set the term of the agreement for 30 years:

"15. CITY will be billed for reclaimed water at the wholesale rate established by the Board of County commissioners... The said wholesale rate may be revised at any time by the Board as necessary to meet said revenue requirements. Written notice of not less than thirty (30) days shall be given to the CITY before any proposed wholesale rate increase is to be

considered for adoption by the County Commission. Increased wholesale rates shall not be effective until at least one (1) complete billing cycle after adoption by the County Commission...

24. The term of this agreement is for a period of thirty (30) years, with the option for extension by mutual agreement of both parties."

No documentation exists approving a \$0.0055 rate increase. The Resolution states the wholesale reclaimed water rate will be reviewed and revised as required on an annual basis. Utilities states that the memo dated May 22, 1997 from Bill Puller, former Director of Utilities Finance, "confirming" that the wholesale reclaimed water rate for the South Cross plant is \$0.09549 per thousand gallons set the Operation and Maintenance (O&M) portion of the Pinellas Park rate. The South Cross plant provides reclaimed water to Pinellas Park.

The \$0.0055 difference amounts to \$1,352.93 over four months' invoices tested (November 2009 through February 2010). Since the rate has not been re-evaluated in the past 14 years, the rate being charged is not reflective of what the current rate would be had annual review and revisions been performed. The difference potentially puts the County at a liability of approximately \$4,060 for each past year Pinellas Park has paid for wholesale reclaimed water.

We could not determine that anyone was assigned contractual responsibility to monitor reclaimed water billing rates. Section 9.14 of the Pinellas County Purchasing Manual states:

"ADMINISTRATION - It is the responsibility of the originating department/officer to take the necessary steps to ensure implementation of the contracts with which they are involved. These contracts should be continually monitored for compliance with contract terms and conditions."

When these issues were discussed with Utilities management, no one individual or department took responsibility for administration of these agreements with wholesale customers. Utilities management has since assigned an individual the responsibility of administering Utilities contracts and developing policies and procedures for the process.

We cannot determine the cause of why Utilities never formally set a rate or performed a re-evaluation for South Pasadena and St. Pete Beach wholesale reclaimed water and obtain approval by the Board of County Commissioners and/or Utilities. We also cannot determine the cause of why there is a \$0.04 difference between the current South Pasadena and St. Pete Beach wholesale reclaimed water rate being charged in SAP's Sales and Distribution Module and the rate set in the SAP Industry Specific Utilities billing program.

The potential cause of the Pinellas Park wholesale reclaimed water rate \$0.0055 difference is most likely due to rounding, since Bob Peacock, current Director of Utilities Customer Services, stated that it was Pick Talley's (former Director of Utilities) decision to extend the South Pasadena/St. Pete Beach rate of \$0.09549 rate to all wholesale reclaimed water

customers. BCC Resolution 96-111 states the rate as \$0.09 which is the Operation and Maintenance portion of Pinellas Park's rate; the other remaining \$0.10 portion is for Debt Service Payment. If the Operation and Maintenance rate portion is an extension of the South Pasadena/St. Pete Beach rate of \$0.09549, the rate stated in the Resolution should be \$0.10 rounded. The Pinellas Park reclaimed water Operation and Maintenance rate portion was improperly rounded in BCC Resolution 96-111 if this is the case.

Utilities management does not have the authority to establish and/or change utility rates without the Board of County Commissioners approval. This is non-compliance with legal requirements as set forth by Pinellas County Code, Section 126-124, and contract agreement with wholesale reclaimed water customers. Pinellas County Code Section 126-124, Powers of the county, state:

"In addition to powers which it may now have, Pinellas County shall have power under this subdivision: (4) To prescribe, fix, establish and collect fees, rentals or other charges for the facilities and services furnished by such water system, or any part thereof, either heretofore or hereafter constructed or acquired on an equitable basis; provided however, that such fees, rentals or other charges, or any revision thereof, shall be fixed and established by resolution of the board of county commissioners in said county."

Noncompliance results in a potential County liability to reimburse the Pinellas Park wholesale reclaimed water customer for the difference between the agreed upon rate and the actual rate being charged. In addition, there is a potential loss of revenue due to outdated wholesale reclaimed water rates being charged.

Recommendation:

- A. Develop contract administration policies and procedures and appoint an individual/department contract administration responsibility. The policies and procedures should address records maintenance specifying development of a contract file retained for compliance and/or auditing purposes. The file should include the original agreement, all amendments, correspondence, rate audits, etc. A log sheet can be used as a diary of activities such as date of contract expiration, date of amendments, current rate, rate re-evaluations, etc.
- B. Ensure all utility rate changes are approved by the Board of County Commissioners as required by Pinellas County Code, Section 126-124.
- C. Perform an audit on the wholesale reclaimed water usage of all wholesale reclaimed water customers (Belleair, Pinellas Park, St. Pete Beach, and South Pasadena) to re-evaluate the rates being charged and amend contracts as applicable. All rate changes should be approved either by resolution, by the BCC, or by a contract amendment.

Status:

- A. **Partially Implemented.** A contract administration group was gained in the merger that formed the Department of Environment and Infrastructure (DEI). Two specific positions exist; one responsible for assuring that changes are brought to the Board of County Commissioners and one responsible for keeping up with agreement and contract activity. However, specific policies and procedures are still being developed. Review and revision (where appropriate) of all existing agreements and contracts is not complete. An agreement activity log has been created, but does not yet contain important information, such as rates. Also, in some cases, such as wholesale reclaimed water, where columns for effective date, expiration date, and amount contain question marks, the log is incomplete.
- B. **Implemented.** Several rate changes have taken place and were approved by the Board of County Commissioners. No evidence of additional rate changes not approved by the Board was found.
- C. **Partially Implemented.** An audit/rate review was completed by Burton & Associates on February 23, 2012 and an additional comprehensive rate review is currently in the RFP stage. Wholesale reclaimed water agreements are still being reviewed. Discrepancy between South Pasadena and St. Pete Beach's agreement rate and the SAP rate has been corrected. However, a discrepancy between Pinellas Park's agreement and SAP has not been reconciled.

2. A Complete Up To Date Utilities Policy Manual Is Not Readily Available.

Utilities does not have a single comprehensive policy and procedure manual for the Customer Information System's billing, receipt, and customer functions. The original Policy Manual was produced over 20 years ago and has not been updated to include all subsequent revisions to resolutions and Director/management mandated policy changes and reflect Systems Applications Products and Processes (SAP) system terminology. Staff is expected to depend on verbally or otherwise communicated policies, which is not effective.

During our review, we found that much of what was printed in the Pinellas County Water System Policy Manual, dated May 19, 1987, was outdated. Tracking down the resolutions and other documents, which revised that Manual, was time consuming. Policies which came from the director or management that were communicated to us verbally were significantly different than those adopted by resolution. These policies were not communicated all at once, but as a specific subject came up. Management stated that resolutions provided a framework or upper/lower limit, but that Utilities Director or management memos and emails were within proper authority to further restrict a policy. Sometimes management could not locate the original email that communicated the policy change.

Terminology between the old Utilities billing system and the new SAP Customer Information System (CIS) has changed. For instance, in the SAP CIS system:

- A business partner account is a customer account.
- The terminology "billed" is not a physical thing in the new system as it was in the old system.
- When charges are "dropped," it does not mean that charges no longer are due; it means that charges are applied to a different business partner account.

This new SAP CIS system specific terminology is not reflected in the outdated Policy Manual. The Manual and the SAP CIS system should use the same terms or have a glossary so interpretations of policy are not necessary.

Not maintaining a readily available, up to date policy manual could lead to confusion, misunderstanding, and lack of information about the latest changes to Utilities' Policy. A clear and concise written statement of the current policy is necessary in order to avoid the inefficiency and ineffectiveness of a verbally communicated policy. During the course of our review, much of the current policy was not found in written form but verbally communicated through management. We often had the policy repeated in order to ensure that the meaning was understood correctly.

In at least one case, a memo dated July 15, 2002, was the basis for a policy change. The written memo directed that Utilities "remove" a policy segment when it was really intended to replace it. Such confusion is avoided when management incorporates the changes and reissues an updated policy with an effective date. Both scenarios make it difficult to effectively follow policy. For new Utilities employees who need to be clear on a current policy or the citizen who wants to be informed on a current policy, the practice of disseminating policy change through a onetime internal email or verbally at the time of the change is ineffective.

Recommendation:

- A. Develop and implement a clearly written Manual readily available and reflect the current policy in a single electronic document. This Manual should be a living document, which is kept updated with all policy changes whether such changes are adopted by resolution, statute or director/management email or memo. We understand that such a Manual has been in progress for some time. It is our recommendation that a sense of urgency be placed on the completion of this Manual. During discussions with management, an individual has been assigned responsibility for updating the Manual.
- B. The Manual should include a revision history with effective dates, supported by an archive of approved change documents. This would allow policy statements to be traced back to the approval source.
- C. The Manual should reflect SAP CIS system specific terminology with a glossary for definitions.

Status:

- A. **Not Implemented.** Per management's response, this recommendation will be implemented once organizational stabilization has occurred.
- B. **Not Implemented.** Per management's response, this recommendation will be implemented once organizational stabilization has occurred.
- C. **Not Implemented.** Per management's response, this recommendation will be implemented once organizational stabilization has occurred.

3. *Utilities Does Not Have The Information Necessary To Effectively Administer SAP Customer Information System Security.*

Utilities management does not have the information on what function(s) each Systems Applications Products and Processes (SAP) Customer Information System (CIS) transaction performs, what data that transaction allows access to, and the associated security rights. SAP CIS utilizes Object Oriented, Role Based security. In Object Oriented, Role Based security, access privileges for the Objects are associated:

- With Roles; each user is assigned one or more appropriate Roles.
- Each Role grants privileges to one or more Objects.
- An Object may be a data field, a function, or procedure, which may be executed in one or more transactions or reports.
- Each Object may call other Objects in which case multiple Objects may be required in order to complete a function.

We performed testing to ensure that there is adequate security to prevent unauthorized transactions in the SAP CIS by selecting a sample of user accounts to determine if access was commensurate with job functions and required segregation of duties.

When a user calls a transaction, a program is started:

- Within the started program, the SAP CIS checks if there are coded authorization objects and which authorization values are required for running the program.
- The required authorization values for the authorization objects are compared to the entries in the user profile.
- If the required authorization values of each involved authorization object can be matched, the program runs and the user is able to complete the transaction.

However, if SAP CIS identifies only one required authorization value of an authorization object as missing in the user profile, the transaction will be terminated and the user will receive an insufficient authorization message.

Below you will find a summarized overview, which explains the connections between various elements of the authorization system in the SAP™ system.

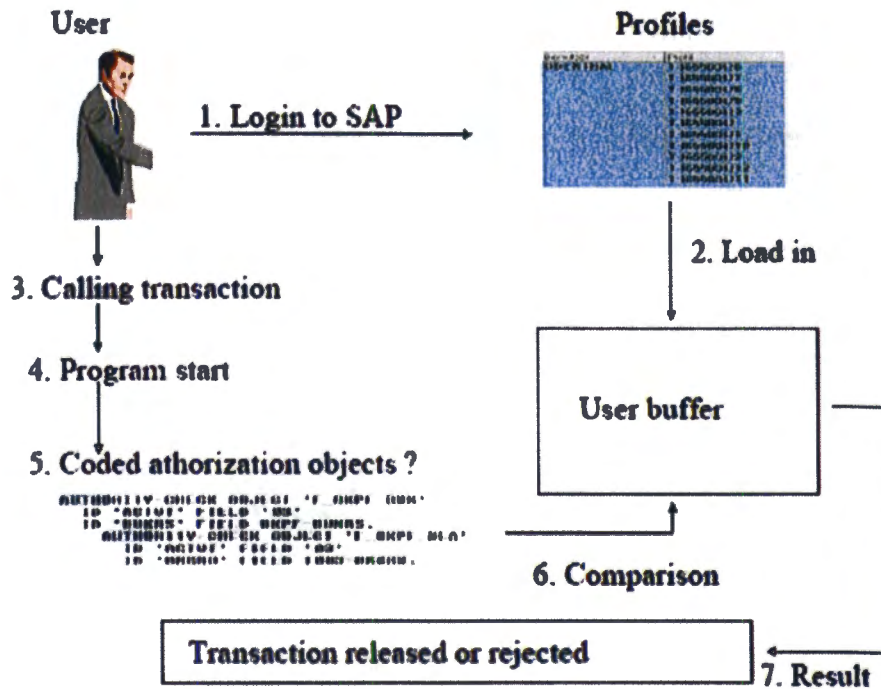


Figure 186: Elements of the authorization system in the SAP™ system

"Introduction to the SAP R/3 System Focusing on Audit Aspects" by Roger Odenthal.

Currently, Utilities management can obtain more information about the missing authorization only after the transaction has been terminated by calling transaction SU53 (display authorization check). In order to correct the situation, thus allowing a user to perform his/her duties, the user must first discover the lack of access and report it to the Utilities Security Manager. The Security Manager must then run the SU53 transaction and send the results to Vertex. Vertex is the contracted SAP CIS hosting vendor. They provide Utilities managed services such as help desk, software maintenance, bill printing and mail services, and disaster recovery capabilities. Vertex analyzes the SU53 transaction results and determines which additional roles the user needs and reports back to the Security Manager when the additional roles have been assigned to the user. The Security Manager must then ask the user to re-test, hence, managing by exception instead of proactive assignment of proper access permissions.

During the course of testing we discovered that the access assigned to the Clerk's Inspector General staff allows us to perform financial transactions in production versus read only access. At the start of the audit, we requested inquiry only access (read only) to the financial module of SAP CIS to perform our fieldwork testing. Utilities management forwarded the request to

Vertex and we were provided login IDs. In the course of fieldwork, we determined that two existing roles were assigned to our log-on access, which were identified as "Clerk of the Circuit Court" and "Accounting."

Transactions assigned to these roles allow for the potential of the audit staff to implement unauthorized production updates. We specifically found that transaction FP40 - Transfer allows us to transfer funds from one account to another. We may have had access to other transactions in these roles that allow for production updates, which remained undiscovered.

Utilities does not have the information necessary to effectively administer SAP customer information system security, such as:

- A matrix of users and their associated roles.
- Roles and their associated transactions, including cross-referencing to show which transactions are called from other transactions.
- Documentation describing which groups of transactions are needed to perform each business function if SAP CIS is not available.
- A security scheme developed to understand how to properly grant access to SAP CIS.
- A comprehensive review of SAP CIS access rights.

Due to the complex and highly integrated design of SAP CIS transactions, this information is imperative to appropriately assign users' roles with transactions commiserate with their job functions. Since Utilities was unable to provide us with the information necessary to complete our testing, no further work was performed. Our discussions with management have resulted in Utilities working with Vertex to update and consolidate the roles within the SAP CIS.

The Information System Audit and Security Control Association's IT governance framework, COBIT, provides authoritative guidance on system security and identity management. According to COBIT 4.0, DS5 Ensure Systems Security:

"The need to maintain the integrity of information and protect IT assets requires a security management process. This process includes establishing and maintaining IT security roles and responsibilities, policies, standards and procedures. Security management also includes performing security monitoring and periodic testing and implementing corrective actions for identified security weaknesses or incidents. Effective security management protects all IT assets to minimize the business impact of security vulnerabilities and incidents."

COBIT 4.0, DS5.3 Identity Management states:

"All users (internal, external and temporary) and their activity on IT systems (business application, system operation, development and maintenance) should be uniquely identifiable. User access rights to systems and data should be in line with defined and documented business needs and job requirements. User access rights are requested by user management, approved by system owner

and implemented by the security-responsible person. User identities and access rights are maintained in a central repository. Cost-effective technical and procedural measures are deployed and kept current to establish user identification, implement authentication and enforce access rights."

The SAP CIS system does not currently meet system security and identity management standards. Users may be assigned roles with transactions not necessary to perform their duties. Inadequately protected data allow users to modify essential system data intentionally or unintentionally. This poses significant risk to the reliability of the data in the Utilities SAP system. In the reverse scenario, users may need to be assigned additional roles containing transactions necessary to perform their duties. The process required to correct this situation is time consuming and inefficient causing a delay in the ability for the user to perform his/her duties.

Recommendation:

A. Collaborate with Vertex to obtain:

1. A list of all SAP users with the roles they are currently assigned and what transactions are assigned to those roles.
2. A matrix of transactions showing which transactions are called from other transactions.
3. A list of specifically which group of transactions are necessary to perform each function within the SAP system.

This data should be maintained in a central repository and updated as needed. Using this information, we recommend Utilities determine if defined roles are actually implemented with the intended contents and if the authorization range is appropriate. User access rights to SAP CIS data should be in line with defined and documented business needs and that job requirements are attached to user identities. Roles must be clearly defined and narrowed based on business function for appropriate assignment.

- B. Perform a periodic review of the SAP security structure including roles, responsibilities, and access rights. All functional areas should be rotated through periodically to ensure important data is adequately protected.**

Status:

- A. Partially Implemented.** A team has been formed with representation from Vertex, IG and DEI staff to evaluate roles and responsibilities. Roles are being reviewed, rewritten, and tested. Implementation of new roles is expected by end of fiscal year 2013.
- B. Partially Implemented.** Management has committed to periodically review new roles once implemented, but has not yet developed a schedule for review.

4. *There Is No Formal Change Management Process For Making Major Updates To The Utilities SAP Customer Information System.*

Utilities has not set up formal change management procedures to handle major rate changes in the Utilities SAP CIS in a standardized manner.

Individual changes to the SAP CIS are tracked through the Defect Tracker System. The Defect Tracker System is a tracking and reporting system for keeping change requestors and relevant stakeholders up to date about the status of the change to the Utilities SAP CIS. The Defect Tracker System acts as a change control to ensure only authorized modifications are made and provides documentation for the changes.

We reviewed the supporting documentation for the last major Utilities rate change, effective October 1, 2009, to assure that proper procedures were followed for the change process. However, this rate change was never put in the Defect Tracker System. E-mail and phone correspondence between Utilities management and Vertex occurred for some time prior to the official rate change. Utilities submitted documentation with the recommended rate changes (total of 54 changes) to Vertex via e-mail several months prior to the rate changes taking effect. The BCC did not approve the rate changes effective October 1, 2009 until September 29, 2009. According to Utilities, if changes would have been submitted through the Defect Tracker System after BCC approval, there would have not been enough time for Vertex to make the changes in SAP CIS. This would have violated the service level agreement in the contract between Utilities and Vertex for time limits for issues being resolved in Defect Tracker. All recommended rate changes were configured in SAP CIS by Vertex prior to BCC approval. Once BCC approval was obtained, the minor changes they made had to be updated.

Change management is both an administration (ITIL) and control issue (COBIT).

According to ITIL Version 2, 8.1 Goal of Change Management:

"The goal of the Change Management process is to ensure that standardized methods and procedures are used for efficient and prompt handling of all Changes, in order to minimize the impact of Change-related Incidents upon service quality, and consequently to improve the day-to-day operations of the organization."

COBIT 4.0, A16 Manage Change states:

"All changes, including emergency maintenance and patches, relating to infrastructure and applications within the production environment must be formally managed in a controlled manner. Changes (including procedures, processes, system and service parameters) must be logged, assessed and authorized prior to implementation and reviewed against planned outcomes"

following implementation. This assures mitigation of the risks of negatively impacting the stability or integrity of the production environment."

Utilities Management, in conjunction with Vertex, have not set up formal change management procedures to handle, in a standardized manner, all requests for changes to the SAP CIS. The current process using the Defect Tracker System is not set up to handle a large number of rate changes with only a few days lead time. Not following a standardized process for handling changes can result in higher risk exposure, which can have a negative impact on or disrupt SAP CIS users. Without utilizing a structured approach, unauthorized changes can occur, changes may be handled inefficiently and errors can be made. In addition, traceability of changes is compromised without adequate documentation.

Recommendation:

- A. Amend the professional services agreement with Vertex to define service level agreements for all critical services based on Utilities requirements, including major Utilities rate changes. The service level agreements should clearly identify the service support requirements of Utilities, Utilities' commitments, quantitative and qualitative metrics for measuring the services provided, roles and responsibilities, and the agreed on service levels. Items to consider are availability, reliability, performance, capacity for growth, levels of support, continuity planning, security, and demand constraints.
- B. Develop a process to regularly review the service level agreements to ensure that they are effective and up to date and that changes in requirements have been taken into account.
- C. Create a standard procedure for major changes to the SAP CIS in alignment with the professional services agreement with Vertex and the updated service level agreements. We recommend the standard procedure define the Defect Tracker System as the change management method utilized for all Utilities SAP CIS changes.

Status:

- A. **Implemented.** A change in the procedure for requesting critical programming updates, such as rate changes, has allowed such requests to go through the Defect Tracker System with enough lead time to be completed without violation of SLA agreements.
- B. **Implemented.** Monthly meetings with Vertex and Utilities' management to discuss SLA's have been established.
- C. **Implemented.** The procedure for change process using the Defect Tracker System for all changes has been established.

5. Utilities Does Not Have Formal Written Policies Addressing Employees Performing Transactions On Their Own Utilities' Accounts.

An inherent control weakness in customer information systems is the possible conflict of interest for employees in handling accounts for themselves, relatives and friends. We reviewed Utilities policies and tested employee accounts to verify that they did not receive any special considerations, such as payment time extensions or credits. Our testing found one employee posting payments to their own Utilities account and one employee posting a move-out transaction to their own account. In addition, several employees had test transactions posted to their own Utilities account with little to no explanation on the verification performed in the Contact Log text field. We found that written policies for transactions performed on an employee's Utilities account do not exist.

Although we confirmed with management that the payment postings and test transactions were for system testing purposes and the move-out transaction had no financial effect, a comprehensive policy must be issued. A formal written policy will notify employees of their responsibilities and provide the guidelines to help them ensure they perform transactions in SAP CIS in an appropriate manner.

The County Ethics Policy only describes conflicts of interest in general terms for employees. More specific instructions and examples of misconduct need to be outlined to individual departments' needs and practices. Waiting until after an employee does something inappropriate to create a policy governing the action is not only unfair, it is also an ineffective way to manage a team. Policies should cover procedures that can affect the team, the department or the company. Every policy should have a procedure that outlines how the policy can be upheld, and it should be put in place before it is needed.

Well developed and clearly written policies enhance communications with employees, clarify expectations, and assist with consistency of application. It is important for setting behavioral guidelines and expectations. It is usually far more effective than postmortem reactions. The establishment of the policies provides the opportunity for management to ensure that adequate processes/internal controls have been established. It is management's responsibility to establish written internal policies covering key department processes.

Policies promote a strong internal control environment and ensure proper separation of duties. Addressing separation of duties assists in detecting errors and deterring improper activities. Individuals should not have responsibility for incompatible activities; physical custody, authorization and record-keeping functions should be separated to guard against misuse. With respect to financial transaction functions, independence issues also must be addressed.

Recommendation:

- A. Develop a "conflict of interest" written policy addressing employees posting transactions to their own Utilities' account. The policy should establish what should be done as well as how, when and by whom if a transaction needs to be manually performed on an employee's account. It should establish guidelines for employees to avoid any conflict of interest for themselves, family, or friends.
- B. Develop a policy addressing the verification testing on SAP CIS accounts in production. Testing transactions should be performed in a test environment, not production. Any verification transactions that need to be performed in production should be clearly marked as such and a description of what is being verified made in the Contact Log text field.
- C. Policies are readily available to staff and should be covered as part of the employee training program. Management may want to consider having employees sign the "conflict of interest" policy acknowledging their understanding in case future disciplinary action is needed.

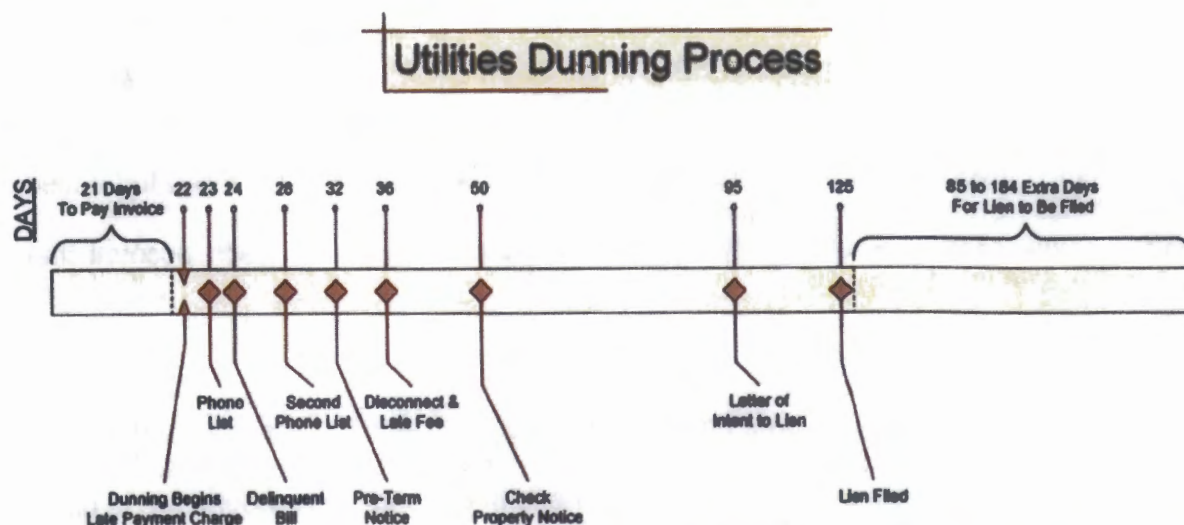
Status:

- A. **Implemented.** New policy UO33.10 has been developed and implemented. This policy covers any creating, editing, updating, or testing of one's own account.
- B. **Implemented.** New policy UO33.10 also covers testing in production when it is absolutely necessary to ensure that a problem has been corrected.
- C. **Implemented.** New policy UO33.10 has been distributed to all SAP users and is readily available through all Revenue Management, Call Center, and Field Service managers, supervisors, and functional leads/subject matter experts. This policy is reviewed periodically in CIS meetings and is covered during new hire training.

6. Liens Are Not Timely Placed On Customer Assets For Unpaid Utilities Fees.

The manual lien procedure is not in conformance with the time frames established in the Utilities' policy. Based on the number of days in arrears and methodically communicating with customers to ensure the collection of accounts receivable (Dunning process*), liens are not being filed in the appropriate time frame. We sampled delinquent Utilities customer accounts to determine if liens are filed in accordance with Utilities lien policies and procedures. Utilities verbal policy is that Utilities places liens on charges due to Pinellas County (not municipality charges) once they reach \$100 since management determined it is not cost effective to place a lien on an account in arrears under \$100.

Our testing found that the time between the account charges due to Pinellas County reaching \$100 and the lien file date ranged between 85 and 184 days with two accounts having the lien filed prior to the charges due to Pinellas County reaching \$100. The graphic below portrays the general dunning process used by Utilities for delinquent accounts.



****Dunning is the process of methodically communicating with customers to ensure the collection of accounts receivable. The word stems from the 17th century verb dun, meaning to demand payment of a debt.***

The process to file a lien is outside the automated SAP dunning processes and must be performed manually. Once a delinquent account reaches the automated SAP dunning level for a lien to be filed, the process to file the actual lien is manual.

- Performed daily, SAP transaction FPM3 with the appropriate search criteria for each dunning procedure is initiated.
- A list is generated and each account must be reviewed to determine if Pinellas County charges exceed \$100.
- If the account meets this criteria, a Notice of Lien is prepared:
 - Reviewed by the Collections Supervisor and
 - Signed by the Utilities Finance Director.
- The Notice of Lien is then notarized, signed by the County Attorney and recorded in Official Records.
- SAP must manually be updated with the lien information.
- A report is run monthly for the previous month to determine if liens were filed accordingly.

Filing liens timely increases the chance of payment of the debt since the property will not be able to be sold without the lien being satisfied. In addition, properties could change owners before the lien is secured increasing the amount of work and time it takes to file a lien.

Recommendation:

Re-evaluate the manual process for placing liens on delinquent accounts and include internal controls to ensure liens are filed timely. Internal controls for management to consider include the following:

- Additional reports are configured in SAP to be automatically rendered periodically that list aging of delinquent accounts and manual actions that need to be performed such as filing a lien.
- SAP dunning levels are configured to only reach the dunning level for a lien to be filed when Pinellas County charges exceed \$100.
- SAP is configured to automatically generate a Notice of Lien for each account that meets the appropriate criteria.

Status:

Partially Implemented. New procedures have been established to identify accounts that have fallen through the dunning process. Steps are in progress to tighten up the process. Two new dunning codes have been created and two new Business Intelligence (BI) reports are in place to track delinquent accounts that should have liens placed on them as well as to help with data clean up. Another BI report is expected by April 2013, which will specifically help identify the accounts where the portion owed to Pinellas County exceeds the \$100 threshold. This will save time and further the goal to assure liens are placed timely.



DIVISION OF INSPECTOR GENERAL

KEN BURKE, CPA

**CLERK OF THE CIRCUIT COURT AND COMPTROLLER
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