



GARLAND

INTERNAL AUDIT

Utility System Access Rights Audit Follow-up

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Report 201538

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Overall Conclusion

IA's review of previous audit findings and recommendations revealed that three (3) recommendations were fully implemented and three (3) recommendations were partially implemented.

Authorization

We have conducted a follow-up audit of Utility System Access Rights Audit Follow-up. This audit was conducted under the authority of Article VII, Section 5 of the Garland City Charter and in accordance with the Annual Audit Plan approved by the Garland City Council.

Objective

This is a follow-up of the "Utility System Access Rights Audit" report issued on November 25, 2013. Our objective was to determine if previous audit recommendations were implemented.

The original objectives were:

1. Determine the controls in place to ensure only authorized employees can access the Utility Systems.
2. Determine the controls configured for the Utility systems to enforce proper segregation of duties.
3. Evaluate third-party access to ensure adequate controls exist for vendors providing remote payment services.

Scope and Methodology

IA conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient and appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. The scope of the audit is the current timeframe and IA performed a follow-up audit on access rights and segregation of duties for two applications, the utilities billing and payment applications.

In order to determine if previous recommendations were implemented, IA:

- Obtained and reviewed IT current policies and procedures.
- Gained access to IT's SharePoint site to generate and review User Entitlement Reports (UERS) for security groups and user access for each of the utility billing and payment applications.

- Obtained and reviewed copies of the UER report from the Customer Service Department to compare to UERs generated from IT's SharePoint site to determine accuracy and completeness.
- Reviewed security group access rights for Customer Service employees for the each of the utility billing and payments applications to ensure access was accurate and appropriate.
- Obtained and reviewed utility billing and payment applications database user accounts for appropriateness.
- Performed inquiries with IT to determine if segregation of duties was appropriately resolved.

For data reliability purposes, IA determined that the system, application, database, processes and individuals involved did not change significantly from the previous audit. For data accuracy and completeness, IA compared the UER to the payroll database to check for completeness, accuracy and validity. In addition, IA compared UER documentation obtained from the Customer Service Department to UERs generated from IT's SharePoint site to ensure accuracy and completeness. As a result, IA believes that data continues to be sufficiently reliable for the purposes of this report.

Background

Utility Customer Service provides meter reading, billing and collection services for all city utilities. These utilities include Garland Power & Light, Garland Water Utilities, Environmental Waste Services and Stormwater Management. This does not include natural gas service which is provided by Atmos Energy ⁽¹⁾.

Two applications are utilized to support the Utility Customer Service Department. The utility billing application is used for customer account maintenance and billing and was installed in 2007. The utility payment application is used by the cashiers to process customer payment and credits ⁽²⁾.

Utility customers can also conduct business online via the garlandutilities.org website.

Online options include ⁽²⁾:

- Online bill pay
- Account management
- Request utility services
- Set up E-bill
- Energy efficiency and water conservation programs

Other convenient payment options available for paying a utility bill include the following ⁽²⁾:

- Credit/Debit card via phone
- Automatic Bank Draft
- Mail

Source(s):

(1) COGnet

(2) Utilities Access Rights Audit - 201308

Audit Follow-up

This follow-up audit was not intended to be a detailed study of every relevant system, procedure and transaction. Accordingly, the Follow-up section presented in this report may not be all-inclusive of areas where improvement might be needed.

The following results for each finding are as follows:

FINDING #1 (OBJ. 1 & 2) CUSTOMER SERVICE	
CONDITION (THE WAY IT IS)	Customer Service security groups have overlapping responsibilities in order to meet the business need to rotate employees for customer service job responsibilities.
RECOMMENDATION	As Customer Service employees have overlapping access in both the utilities billing and payment applications, it is recommended that management perform periodic monitoring by reviewing user activity reports (adjustment reports, red flag reports, etc.) to ensure accuracy and appropriateness of customer service transactions/activities.
MANAGEMENT RESPONSE	Concur. Customer Service management will conduct an annual review of Payment Center employee access rights in utility billing and payment applications, plus periodic reviews of user activity reports.
ACTION PLAN	Department will utilize a process similar to the one recently conducted by Internal Audit to ensure user access is as limited as possible. Customer Service will work to ensure the following: identify users assigned to all utility billing application security groups by using report compiled by IT staff, review the utility billing application that each group is permitted to access and verify that access is required for job duties, confirm that employees are assigned to security groups that are appropriate to each employee's job duties, identify utility payment application security groups using a group security report compiled by IT staff, review the utility payment application forms that each group is permitted to access and verify that access is required for job duties, confirm that employees are assigned to security groups that are appropriate to each employee's job duties. Department will also utilize a Billing Adjustment Listing report which identifies all utility billing application billing adjustments and the employee who entered adjustments as well as develop a

report identifying potential red flag events that might occur in the utility billing application.

**IMPLEMENTATION
DATE**

At the end of each year (December).

FOLLOW-UP

IA's inquiry with the Customer Service Department and review of a void report revealed that the Customer Service Supervisor reviews the activities of individuals with overlapping access in the utility payment application. However, a review is not conducted for these same individuals within the utility billing application. Upon notification that activities for both applications should be reviewed for these users, the Customer Service Supervisor agreed to review activity for both applications.

IMPLEMENTATION

Partially Implemented

FINDING #2 (OBJ. 1) ITS

**CONDITION
(THE WAY IT IS)**

An annual user access entitlement report is generated by IT for several applications used Citywide. The report is distributed to all Managing Directors for review and sign-off for appropriate access. The 2013 user entitlement review report was missing 36 user accounts for utility billing application users for Customer Service and other City Department users.

RECOMMENDATION

Review the process for generating user entitlement reports to ensure all user accounts are captured.

**MANAGEMENT
RESPONSE**

IT Management Concurs.

Since reports pulled from the application were matched against the HR system, temporary and contract workers were missed because they are not in the cities HR system. In order to ensure all workers (temporary and contractor) are accounted for, IT has created a User Entitlements database to track every account created for applications. This new database will be utilized for the 2014 User Entitlement report to Managing Directors.

ACTION PLAN

Track all user accounts created for application in a User Entitlement database. When users are no longer required to have rights an application they will be removed from the application appropriately and marked as disabled in the User Entitlement database.

**IMPLEMENTATION
DATE**

The User Entitlement report is created in May and distributed to Managing Director the first week of June.

FOLLOW-UP

IA's comparison of users listed on the 2015 UER obtained through IT's SharePoint site with the 36 users identified in the previous audit revealed that the 36 users were appropriately included in the 2015 UER. IA's further review of the 2015 UER revealed that temporary and contract workers had been added

IMPLEMENTATION

Fully Implemented

FINDING #3 (OBJ. 1) ITS	
CONDITION (THE WAY IT IS)	<p>The annual user access entitlement reviewed is generated for several applications used Citywide. IT generates a report by user account and security group.</p> <ol style="list-style-type: none"> 1. The individual user access for the assigned security group is not listed in the report. 2. There currently is not an annual user access review for the utility payment application.
RECOMMENDATION	<ol style="list-style-type: none"> 1. The annual user entitlement review should be expanded to include the user access rights with the security groups for all utility billing application users. 2. The utility payment application should be added to the annual user entitlement review.
MANAGEMENT RESPONSE	<p>Management Concurs on 1 and 2.</p>
ACTION PLAN	<ol style="list-style-type: none"> 1. ITS will create a comprehensive rights document for all applications in the User Entitlement Report and publish either on the city "G:" drive or on the COGnet site for all Managing Director to access. 2. Utility payment application User Entitlement will be included in the 2014 User Entitlement report.
IMPLEMENTATION DATE	<p>May 2014 before the next User Entitlement report is issued.</p>
FOLLOW-UP	<ol style="list-style-type: none"> 1. IA's review of the 2015 UER provided by the Customer Service Department revealed that the security groups were included for both the utility billing and payment applications. 2. IA's review of the 2015 UER also revealed that the Utility payment application was included in the annual review.
IMPLEMENTATION	<p>Fully Implemented</p>

FINDING #4 (OBJ. 1 & 2) ITS

**CONDITION
(THE WAY IT IS)** During the audit, a segregation of duties conflict was noted with the overlapping role of Oracle DBA and Sr. Information Systems Analyst role. Since then an employee has been hired to perform the Information Systems Analyst support role. Training/transition is currently underway to split the two roles.

RECOMMENDATION Ensure application access permissions are removed for the Oracle DBA at the completion of training and transition.

**MANAGEMENT
RESPONSE** Management Concur

ACTION PLAN There will continue to be an overlap of duties until the system analyst has completely trained.

**IMPLEMENTATION
DATE** IT estimates that training will be completed on or before May, 2014.

FOLLOW-UP IA's inquiry with IT regarding the segregation of duties revealed that the training/transition was completed and the roles are split appropriately. Additionally, IA's review of Helpdesk tickets submitted by users indicated that the new Sr. Information System Analyst was responding to technical issues and requests. Further inquiries revealed that the Oracle DBA was changed and the previous Oracle DBA was acting as backup.

IMPLEMENTATION Fully Implemented

FINDING #5 (OBJ. 1) ITS

**CONDITION
(THE WAY IT IS)**

Upon review of application and database user accounts, we found the following:

1. A temporary employee no longer working in the Customer Service department still had access to utility billing application.
2. Five users had duplicate user accounts.
3. A terminated user account was active in the utility payment application.
4. A test account was active that was no longer needed.

RECOMMENDATION

1.-4. Review the user administration management process periodically for the utility billing system to ensure that transfers, name changes (duplicates), terminations and test accounts are handled in a timely manner.

**MANAGEMENT
RESPONSE**

Management Concur

ACTION PLAN

1. The temporary employee was not hired through the normal HR onboarding process. As a result, the temporary employee did not have a record in the HR employee management database. Since previous user access reports were created using the HR application as its source of city employees, temporary employees that were not part of the HR application were not accounted for. IT has now created a User Entitlement database to track all users of all applications and is maintained by IT. By use of this database IT will be able to account for temporary, contractor and all city employee application user accounts.
2. Duplicate accounts are created for various reasons (i.e. name changes). In some cases a request is submitted to create a new account when an employee's name changes rather than to change the account name. IT evaluates requests in an effort to ensure that there is only one account in an application for any given employee. However, if a properly authorized "Account Creation Request" form is received and the form does not note that the request is a name change rather than a new account, it is possible that IT may create a new account. The User Entitlement review process is a mitigating control for this

risk. Managing Directors or their delegates must review the User Entitlement report for accuracy to ensure an employee does not have more than one account.

3. ITS will ensure all terminated accounts are closed, disabled or deleted as appropriate.
4. Test accounts should not be used in production systems. Analyst will review their application users for any test accounts and remove them.

IMPLEMENTATION DATE Obj 1-2 May, 2014
Obj 3-4 Dec 31, 2013

FOLLOW-UP IA's review of user access to both the utility billing and payment applications revealed the following exceptions:

Status	No. of Employees	
	Utility Billing Application	Utility Payment Application
Terminated employees	7	1
Generic User ID		1
Duplicate User IDs	2	
Total Exceptions	9	2

All temporary employees were appropriately included in the UER.

IMPLEMENTATION Partially Implemented

FINDING #6 (OBJ. 1) ITS	
CONDITION (THE WAY IT IS)	<p>Twenty-four (24) terminated user accounts were still active on the utility billing application database server.</p> <p>Note: The risk for the database accounts is lower as network access for these users were immediately disabled by IT upon notification by Human Resources.</p>
RECOMMENDATION	<ol style="list-style-type: none"> 1. IT should create a policy and procedure for a periodic review of operating system and database accounts for City systems. 2. Perform a quarterly/yearly review of operating system and database user accounts for appropriateness.
MANAGEMENT RESPONSE	Management Concurrs
ACTION PLAN	All database accounts are now part of the User Entitlement database tracking and as such will be disabled or deleted as appropriate once the termination ticket is issued. IT will more closely follow the database user account creation and deletion policy, which states these accounts will be reviewed on an annual basis. Any accounts other than user accounts (database, application user accounts) will be monitored separately as these are not tracked on User Entitlements.
IMPLEMENTATION DATE	May 2014
FOLLOW-UP	<ol style="list-style-type: none"> 1. IA's review of policies and procedures revealed that it was appropriately updated with information regarding the UER process. 2. IA's inquiry revealed that the UER process occurs bi-annually in May and October each year. The report distributes in May and contains only those users specific to the Manager's department. Another report, which distributes in October, will contain all users with access to the department's applications. As of the date of this report, the October UER has not been issued.
IMPLEMENTATION	Partially Implemented