

O C B o a r d o f S u p e r v i s o r s

1st District
Andrew Do2nd District
Michelle Steel3rd District
Todd Spitzer, Chairman4th District
Shawn Nelson5th District
Lisa Bartlett, Vice Chair

I n t e r n a l A u d i t D e p a r t m e n t

O R A N G E C O U N T Y

AUDIT HIGHLIGHT JULY 31, 2015

INFORMATION TECHNOLOGY AUDIT
 OC WASTE & RECYCLING/
 PARADIGM SYSTEM – DEFERRED BILLINGS
 Audit No. 1445

WHY THIS AUDIT IS IMPORTANT

OC Waste & Recycling (OCWR) manages one of the nation's premiere solid waste disposal systems serving residents and businesses. On behalf of 34 cities and over three million residents, OCWR operates a network of three active landfills and four household hazardous waste collection centers. OCWR has over 400 deferred billing accounts for authorized haulers. For the fiscal year ended June 30, 2014, OCWR reported disposal fee revenue of about **\$121 million** and an accounts receivable balance of about **\$9 million**.

We audited OCWR to evaluate the adequacy of internal controls for processing deferred billings (accounts receivable) using the Paradigm system – Accounts Receivable & Aging module to ensure transactions are valid, supported, authorized, and timely. This included internal controls over adjustments made to deferred billing transactions. In addition, we reviewed application controls specific to the deferred billing processes and certain computer general controls related to the Paradigm system in the areas of access controls (password and account management and physical security), segregation of duties (as defined within Paradigm), configuration management (change control), and continuity planning (backup and recovery and environmental controls).

WHAT THE AUDITORS FOUND

We found that OCWR's internal controls are adequate to ensure deferred billing transactions are valid, supported, authorized, timely, and that adjustments are proper. In addition, we found application controls specific to deferred billing processes are adequate and certain computer general controls described above for the Paradigm system are adequate to ensure that logical access to computing resources are authorized, errors are not introduced into programs when they are developed or subsequently modified, and service interruptions are mitigated. Our audit did not identify any reportable findings or recommendations.

Information Technology Audit: OC WASTE & RECYCLING/ PARADIGM SYSTEM – DEFERRED BILLINGS

As of December 31, 2014

**\$121M OF DISPOSAL FEE REVENUE
FOR FISCAL YEAR ENDED JUNE 2014**

OC Waste & Recycling (OCWR) manages one of the nation’s premiere solid waste disposal systems serving residents and businesses. On behalf of 34 cities and over three million residents, OCWR operates a network of three active landfills and four household hazardous waste collection centers. OCWR has over 400 deferred billing accounts for authorized haulers. For the fiscal year ended June 30, 2014, OCWR reported disposal fee revenue of about **\$121 million** and an accounts receivable balance of about **\$9 million**.

We audited OCWR to evaluate the adequacy of internal controls for processing deferred billings (accounts receivable) using the Paradigm system – Accounts Receivable & Aging module to ensure transactions are valid, supported, authorized, and timely. This included internal controls over adjustments made to deferred billing transactions. In addition, we reviewed application controls specific to the deferred billing processes and certain computer general controls related to the Paradigm system in the areas of access controls (password and account management and physical security), segregation of duties (as defined within Paradigm), configuration management (change control), and continuity planning (backup and recovery and environmental controls).

We found that OCWR’s internal controls are adequate to ensure deferred billing transactions are valid, supported, authorized, timely, and that adjustments are proper. In addition, we found application controls specific to deferred billing processes are adequate and certain computer general controls described above for the Paradigm system are adequate to ensure that logical access to computing resources are authorized, errors are not introduced into programs when they are developed or subsequently modified, and service interruptions are mitigated. Our audit did not identify any reportable findings or recommendations.

AUDIT NO: 1445

REPORT DATE: JULY 31, 2015

Director: Dr. Peter Hughes, MBA, CPA, CIA, CITP
Senior Audit Manager: Autumn McKinney, CPA, CIA, CISA
IT Audit Manager: Wilson Crider, CPA, CISA

RISK BASED AUDITING

GAO & IIA Peer Review Compliant – 2001, 2004, 2007, 2010, 2013



American Institute of Certified Public Accountants Award to Dr. Peter Hughes as 2010 Outstanding CPA of the Year for Local Government

GRC (Government, Risk & Compliance) Group 2010 Award to IAD as MVP in Risk Management



2009 Association of Certified Fraud Examiners’ Hubbard Award to Dr. Peter Hughes for the Most Outstanding Article of the Year – Ethics Pays



2008 Association of Local Government Auditors’ Bronze Website Award



2005 Institute of Internal Auditors’ Award to IAD for Recognition of Commitment to Professional Excellence, Quality, and Outreach

1st District – Andrew Do
2nd District – Michelle Steel
3rd District – Todd Spitzer, Chairman
4th District – Shawn Nelson
5th District – Lisa Bartlett, Vice Chair

Internal Audit Department

O R A N G E C O U N T Y
6th Largest County in the USA

Independence

Objectivity

Integrity

OC ORANGE COUNTY BOARD OF SUPERVISORS' **Internal Audit Department**

GAO & IIA Peer Review Compliant - 2001, 2004, 2007, 2010, 2013

Providing Facts and Perspectives Countywide

RISK BASED AUDITING

Dr. Peter Hughes **Ph.D., MBA, CPA, CCEP, CITP, CIA, CFE, CFF, CGMA**
 Director
 Certified Compliance & Ethics Professional (CCEP)
 Certified Information Technology Professional (CITP)
 Certified Internal Auditor (CIA)
 Certified Fraud Examiner (CFE)
 Certified in Financial Forensics (CFF)
 Chartered Global Management Accountant (CGMA)

E-mail: peter.hughes@iad.ocgov.com



Michael Goodwin **CPA, CIA**
 Assistant Director/
 Senior Audit Manager

Alan Marcum **MBA, CPA, CIA, CFE**
 Senior Audit Manager

Autumn McKinney **CPA, CIA, CISA, CGFM**
 Senior Audit Manager
 Certified Information Systems Auditor (CISA)
 Certified Government Financial Manager (CGFM)

Hall of Finance & Records

12 Civic Center Plaza, Room 232
Santa Ana, CA 92701

Phone: (714) 834-5475

Fax: (714) 834-2880

To access and view audit reports or obtain additional information about the OC Internal Audit Department, visit our website: www.ocgov.com/audit



OC Fraud Hotline (714) 834-3608

Letter from Dr. Peter Hughes, CPA



Transmittal Letter



Audit No. 1445 July 31, 2015

TO: Dylan Wright, Director
OC Waste & Recycling

FROM: Dr. Peter Hughes, CPA, Director
Internal Audit Department

SUBJECT: Information Technology Audit:
OCWR/Paradigm System – Deferred Billings

We have completed our information technology audit of the Paradigm system – Deferred Billings as of December 31, 2014. We performed this audit in accordance with our *FY 2014-15 Audit Plan and Risk Assessment* approved by the Audit Oversight Committee and the Board of Supervisors. Our final report is attached for your review.

Each month I submit an **Audit Status Report** to the BOS where I detail any material and significant audit findings released in reports during the prior month and the implementation status of audit recommendations as disclosed by our Follow-Up Audits. Accordingly, the results of this audit will be included in a future status report to the BOS.

Please feel free to call me should you wish to discuss any aspect of our audit report. Additionally, we will request your department complete a **Customer Survey** of Audit Services. You will receive the survey shortly after the distribution of our final report.

ATTACHMENTS

Other recipients of this report are listed on the **OC Internal Auditor's Report** on page 4.

Table of Contents



**Information Technology Audit:
OC Waste & Recycling/Paradigm System – Deferred Billings
Audit No. 1445**

As of December 31, 2014

Transmittal Letter	i
OC Internal Auditor's Report	
OBJECTIVES	1
RESULTS	1
BACKGROUND	2
SCOPE	3
Detailed Results, Findings, Recommendations and Management Responses	5
ATTACHMENT A: Report Item Classifications	11



OC Internal Auditor's Report

Audit No. 1445

July 31, 2015

Audit Highlight

OC Waste & Recycling (OCWR) manages one of the nation's premiere solid waste disposal systems serving residents and businesses. On behalf of 34 cities and over three million residents, OCWR operates a network of three active landfills and four household hazardous waste collection centers. OCWR has over 400 deferred billing accounts for authorized haulers. For the fiscal year ended June 30, 2014, OCWR reported disposal fee revenue of about \$121 million and an accounts receivable balance of about \$9 million.

We found that OCWR's internal controls are adequate to ensure deferred billing transactions are valid, supported, authorized, timely, and that adjustments are proper. In addition, we found application controls specific to deferred billing processes are adequate and certain computer general controls for the Paradigm system are adequate to ensure that logical access to computing resources are authorized, errors are not introduced into programs when they are developed or subsequently modified, and service interruptions are mitigated. Our audit did not identify any reportable findings or recommendations.

TO: Dylan Wright, Director
OC Waste & Recycling

FROM: Dr. Peter Hughes, CPA, Director
Internal Audit Department

SUBJECT: Information Technology Audit:
OC Waste & Recycling/Paradigm System – Deferred Billings

OBJECTIVES

We have performed an audit of OC Waste & Recycling (OCWR) to evaluate the adequacy of internal controls for processing deferred billing transactions (accounts receivable) using the Paradigm system to ensure transactions are valid, supported, authorized, and timely as of December 31, 2014. Our audit objectives were:

1. Evaluate the adequacy of internal controls for the deferred billing processes using the Paradigm system (Accounts Receivable & Aging module) and related manual procedures.
2. Evaluate the adequacy of internal controls over adjustments to the deferred billing transactions.
3. Evaluate the adequacy of application controls specific to the deferred billing processes and certain computer general controls for the Paradigm system in the areas of access controls (password and account management and physical security), segregation of duties (as defined within Paradigm), configuration management (change control), and continuity planning (backup and recovery and environmental controls).

In addition, while performing the audit we may identify internal control weaknesses for which we will identify suggestions for improvement.

RESULTS

Objective #1: OCWR has adequate internal controls for the deferred billing processes to ensure that transactions are valid, supported, authorized, and timely. No reportable findings or recommendations were identified.

Objective #2: OCWR has adequate internal controls for adjustments to the deferred billing transactions to ensure that the adjustments are valid, supported, and authorized. No reportable findings or recommendations were identified.

Objective #3: OCWR has adequate application controls specific to the deferred billing processes and certain computer general controls for the Paradigm system to ensure that logical access to computing resources are authorized, errors are not introduced into programs when they are developed or subsequently modified, and service interruptions are mitigated. No reportable findings or recommendations were identified.



OC Internal Auditor's Report

The following *Summary of Findings and Recommendations* shows our finding and recommendation for this audit. See further discussion in the *Detailed Findings, Recommendations and Management Responses* section of this report. See *Attachment A* for a description of Report Item Classifications.

Finding No.	Finding Classification - See Attachment A	Finding Description	Recommendation	Agreement by Management?	Page No. in Audit Report
		No reportable findings.			

BACKGROUND

OC Waste & Recycling's (OCWR) mission is "To provide waste management services, protect the environment, and promote recycling in order to ensure a safe and healthy community for current and future generations."

OCWR manages one of the nation's premiere solid waste disposal systems serving residents and businesses. On behalf of 34 cities and over three million residents, OC Waste & Recycling operates a network of three active landfills and four household hazardous waste collection centers.

OCWR consists of approximately 300 employees divided into two organizational units:

- Business Services - includes Accounting, Management Services, Budget & Landfill, Information Systems, and Waste Disposal Contracts & Recycling Programs.
- Waste Management Operations – includes North Region Operations, Central Region Operations, South Region Operations, Environmental Services, and Capital Improvement Project Planning & Management.

OCWR's landfills accept waste disposals from haulers who pay fees by cash/check at the gate (public and other entities without a customer account) and "deferred billing" haulers with established customer accounts. As of June 30, 2014, the County has entered into waste disposal agreements (WDA) with 34 cities, four (4) sanitary districts, one (1) joint powers authority, and five (5) facility operators. These agreements cover approximately 96% of all solid waste generated in the County; obligate the cities/entities and their haulers (commercial and residential) to deliver all controllable waste to landfills operated by OCWR; and allow for reduced disposal rates. As an additional source of revenue after the County's bankruptcy, the County has three contracts allowing the disposal or importation of out-of-County waste.

To account for the landfill activity, OCWR utilizes the Paradigm software suite of products including: CompuWeigh (data maintenance), Accounts Receivable & Aging module (deferred billings), WeighStation (transaction processing at the landfill sites) and Disposal Reporting (State reporting system).

OCWR has over 400 deferred billing customer accounts. The deferred billing or accounts receivable processes consist of the following key transactions in the Paradigm system:

- Initial set-up of a customer account.
- Process and record security deposits for customers.
- Process transactions at landfill sites - disposal fee transactions for customers paying with cash/check, no charge transactions, and charges to customers with accounts (deferred billings).
- Reconcile Paradigm activity between the WeighStation and Accounts Receivable modules.
- Process monthly billings and generate invoices (closed at end of month and due in 30 days).
- Record payments on customer accounts.
- Process billing adjustments (late fees and errors/corrections).



OC Internal Auditor's Report

There are also various supervisory reviews/approvals and daily/monthly reconciliations between Paradigm activity (WeighStation and Accounts Receivable) and CAPS+ (County's general ledger) that occur outside of the system (manual process).

The OCWR Information Systems Unit and Accounting Unit report to the Deputy Director of Business Services. The Information Systems Unit consists of four (4) staff providing user support. The Accounting Unit (satellite accounting provided by the Auditor-Controller's Office) consists of thirteen (13) staff, of which four (4) staff are performing the deferred billing accounting.

SCOPE

Our audit period is as of December 31, 2014.

Our audit consisted of inquiry, review of provided system documentation and written procedures, and limited testing (such as observation or walk-through of processes) to evaluate the adequacy of internal controls for:

- Application security settings for the Paradigm system - Accounts Receivable module.
- Deferred billing processes using the Paradigm system - Accounts Receivable module and the related manual processes.
- Segregation of duties as defined in the Paradigm system – Accounts Receivable module.
- Access controls (password/account management and physical security) for the Paradigm system.
- System configuration management (change control) procedures for the Paradigm system.
- Continuity planning (backup and recovery and environmental controls) for the Paradigm system.

Our audit considered the controls and related recommendations identified in a "Review of Disposal Billing Procedures for the County of Orange" prepared by HF&H Consultants, LLC, dated September 28, 2012, for the prior Great Plains Accounts Receivable system used by OCWR and the CompuWeigh and WeighStation modules of the Paradigm system.

Exclusion from Audit Scope

Our audit did not include the following:

- Review of gate procedures (such as cash receipting and recording of disposal fees owed for customers on account) at the landfill sites.
- Review of other modules of the Paradigm system: CompuWeigh (data maintenance and reporting), WeighStation (transaction processing at the landfill sites), and Disposal Reporting.
- Review of internal controls not related to deferred billing processes or the Paradigm system.
- Review of general computer controls other than the items specified above.
- Review of compliance with local, state or federal regulations.
- Security assessment or penetration audit.

Management's Responsibilities for Internal Controls

In accordance with the Auditor-Controller's County Accounting Manual section S-2 *Internal Control Systems*, "All County departments/agencies shall maintain effective internal control systems as an integral part of their management practices. This is because management has primary responsibility for establishing and maintaining the internal control system. All levels of management must be involved in assessing and strengthening internal controls ... Control systems shall be continuously evaluated (by Management) and weaknesses, when detected, must be promptly corrected." The criteria for evaluating an entity's internal control structure is the Committee of Sponsoring Organizations (COSO) control framework. Our Internal Control Audit enhances and complements, but does not substitute for OCWR's continuing emphasis on control activities and self-assessment of control risks.



OC Internal Auditor's Report

Inherent Limitations in Any System of Internal Control

Because of inherent limitations in any system of internal controls, errors or irregularities may nevertheless occur and not be detected. Specific examples of limitations include, but are not limited to, resource constraints, unintentional errors, management override, circumvention by collusion, and poor judgment. Also, projection of any evaluation of the system to future periods is subject to the risk that procedures may become inadequate because of changes in conditions or the degree of compliance with the procedures may deteriorate. Accordingly, our audit would not necessarily disclose all weaknesses in OCWR's operating procedures, accounting practices, and compliance with County policy.

Acknowledgment

We appreciate the courtesy extended to us by the personnel at OC Waste & Recycling during our audit. If you have any questions regarding our audit, please contact me directly at (714) 834-5475, or Autumn McKinney, Senior Audit Manager at (714) 834-5430.

Attachments

Distribution Pursuant to Audit Oversight Committee Procedure No. 1:

Members, Board of Supervisors
 Members, Audit Oversight Committee
 Frank Kim, County Executive Officer
 Mark Denny, Chief Operating Officer
 An Tran, Deputy Director, Business Services Division, OCWR
 Alan Yuki, Section Manager, Budget Services, OCWR
 Vivian Canton, Section Manager, Accounting Services, OCWR
 Lorraine Okazaki, Unit Supervisor, Accounts Receivable, OCWR
 Derrick Ballard, Section Manager, Information Systems, OCWR
 Tonya Riley, Chief Deputy, Satellite Accounting Operations, A-C
 Foreperson, Grand Jury
 Robin Stieler, Interim Clerk of the Board of Supervisors
 Macias Gini & O'Connell LLP, County External Auditor

Detailed Results, Findings, Recommendations and Management Responses



Objective #1: Evaluate the adequacy of internal controls for the deferred billing processes using the Paradigm system (Accounts Receivable & Aging module) and related manual procedures to ensure that transactions are valid, supported, authorized, and timely.

AUDIT STEPS AND RESULTS

To accomplish this objective, we performed the following work:

- Inquiry and meetings with the OCWR Accounting Unit/Accounts Receivable staff.
- Review of provided system documentation including: CompuWeigh System Administrator Manual and user guides for the CompuWeigh module (data maintenance and reporting); the Accounts Receivable & Aging module; and the WeighStation module (landfill transaction processing).
- Review of documented policies and procedures including: setting up new deferred accounts in Paradigm; deferred account security deposits; posting or bringing over landfill charges from WeighStation into the Accounts Receivable module for the monthly deferred billing statements; adjustments to deferred billing transactions; and procedures for charge tickets/reports, letters of authorization, and end of month balancing.
- Observation (walk-through) of procedures performed for establishing and maintaining the deferred billing accounts; reconciling and adjusting the deferred billing activity; and receipting, depositing, and recording of customer payments for the deferred billing accounts.

IAD identified the following key controls relating to the deferred billing transactions:

➤ Strengths - Deferred Billing Customer Account Set-Up And Maintenance:

Haulers Authorized for WDA reduced pricing:

- The OCWR Waste Disposal Contracts & Recycling Unit maintains an Excel list of haulers authorized by cities and eligible for WDA (waste disposal agreement) pricing.
- Annually, cities submit information regarding their authorized haulers eligible for waste disposal agreement (WDA) pricing and the authorized hauler list is updated. City provided information is retained for future reference.
- The Excel list of haulers eligible for WDA pricing is change access restricted by password.
- Updates to the Excel list of haulers are reviewed and approved by a person other than the preparer. All changes are supported, documented, and reviewed by a supervisor or manager (manual process).
- OCWR has established a formal procedure for communicating approved changes to the authorized haulers to the Accounting Unit staff.

Data Accuracy of Customer Account Profiles (which drive system calculated fee amounts):

- The Accounting Unit (Billing Clerk) establishes the deferred billing customer accounts (including the WDA pricing haulers) in the Accounts Receivable module. Accounting staff do not have fee station/attendant duties (a segregation of duties)
- Automated system controls prevent certain data entry errors (i.e., re-use of a customer account number that is already in use).
- Review of New Accounts: Supervisory or peer review is performed of key data fields in the Accounts Receivable module for new customer accounts to ensure accuracy and completeness. In addition, a checklist is used in guiding and documenting the review. This review is outside of the system (manual).

Detailed Results, Findings, Recommendations and Management Responses



- Review of Changes to Existing Accounts: Written procedures have been established for making changes to existing customer accounts in the Accounts Receivable module, including a required manual supervisory review of changes to certain key customer profile fields. A system report accumulates all changes made to key account fields. The report is reviewed by a supervisor or manager monthly for reasonableness. The review includes all accounts closed during the month to ensure that the billing cycle picks up all monthly activity.
- Accuracy of Disposal Transactions at the Landfills:
Disposal activity (such as cash receipting for cash/check customers and recording of disposal fees for deferred billing customers) is performed at the landfill sites using the WeighStation module. Monthly, the Accounting Unit runs a batch job to post the deferred billing customer charges from WeighStation into the Accounts Receivable module. The activity at the landfills was outside of the scope of our audit. However, during our audit we discussed the below WeighStation controls with the Accounting staff. We are providing the below controls for informational purposes only and we did not test or audit these controls:
 - WeighStation scales are calibrated and certified quarterly for an accurate tonnage read.
 - WeighStation issues a “soft” warning if the Fee Station Attendant (FSA) manually enters a decal number for the trailer or box associated with a different account.
 - Use of “decal cards” and transponders results in the system charging the appropriate account automatically, without human error.
 - WeighStation will prevent the FSA from processing a load from a jurisdiction where the hauler is not authorized to receive the WDA reduced rate.
 - WeighStation issues a warning to the FSA in the event of a suspected mismatch, but does not stop the FSA from moving on past the warning to process the transaction. The system requires the FSA to reenter the decal from the trailer or box to minimize data entry errors.
 - A system report identifying expired decals is reviewed periodically; customer follow-up initiates an updated decal.
- Strengths – Daily and Monthly Reconciliations:
Because of the small size of the Accounting Unit staff who work on the deferred billings (4 staff plus the Manager as a back-up), there are limits on how much the users roles can be properly segregated for the deferred billing processes within the Accounts Receivable module. There is also no system required supervisory approvals of deferred billing transactions. Therefore, the below supervisory reviews (outside of the system) and reconciliations are even more important.
 - Daily: The Paradigm system generates daily activity totals (total tonnage, total revenue, total count of transactions) which are used to reconcile between CompuWeigh and Accounts Receivable activity. In addition, the Accounting Unit staff performs a manual review or reconciliation of the daily balancing using excel spreadsheets.
 - Daily: Accounting Unit staff reviews the CompuWeigh “Charge Detail” report of the landfill transactions to identify tonnage inconsistencies.
 - Daily: Accounting Unit staff reconcile every Letter of Authorization (for haulers on account) with the corresponding gate ticket (of the transaction) to ensure the appropriate account was charged.
 - Monthly: Accounting Unit staff performs a reconciliation of deferred billing activity between CompuWeigh and Accounts Receivable, and the CAPS+ system (general ledger).

Detailed Results, Findings, Recommendations and Management Responses



- Strengths - Deferred Landfill Payments Deposit Procedure:
 - The Senior Accounting Assistant (who does not record payments) totals the checks received, endorses the check, and initials the tape.
 - The Accounting Specialist (Deposit Clerk) verifies the tape total and enters the payment information into the Accounts Receivable module. The Accounting Specialist prepares the cash receipt transaction in the CAPS+ system (general ledger).
 - The Accounting Supervisor receives all supporting documentation, verifies deposits are complete and accurate, and approves the CAPS+ cash receipt transaction.

- Strengths – Controls to Minimize Risk of Bad Debt:
 - OCWR requires all deferred billing customers to provide a security deposit (two months) for their account.
 - The Accounts Receivable module issues a warning when the account outstanding balances exceed 70, 80, and 90% of the security deposit amount.
 - The Accounting Unit staff maintains and distributes a list of customers that must pay using cash only because of returned checks.

See also strengths for adjustments to deferred billing transactions below under Objective No. 2.

CONCLUSION

Our audit found that OCWR has adequate internal controls for the deferred billing processes to ensure that transactions are valid, supported, authorized, and timely. No reportable findings or recommendations were identified.

Objective #2: Evaluate the adequacy of internal controls over adjustments to the deferred billing transactions to ensure that transactions are valid, supported, and authorized.

AUDIT STEPS AND RESULTS

To accomplish this objective, we performed the following work:

- Inquiry and meetings with the OCWR Accounting Unit/Accounts Receivable staff.
- Review of provided system documentation including: CompuWeigh System Administrator Manual, CompuWeigh System (data maintenance and reporting), Accounts Receivable & Aging Module (invoicing), and WeighStation Program (transaction processing).
- Review of documented policies and procedures including: Landfill Adjustments Procedure.
- Observation (walk-through) of the procedures performed for adjustments made to the deferred billings. Four adjustments were reviewed.

IAD identified the following key controls for adjustments to the deferred billing transactions:

- Strengths – Adjustments to Deferred Billings:
 - Adjustments identified by Accounting Unit staff in the course of the daily or monthly reviews and reconciliations are fully supported, reviewed, and approved by a supervisor (outside of the system) prior to posting.
 - Adjustments are reconciled monthly between an Excel spreadsheet (all adjustments are logged onto the spreadsheet) and CompuWeigh and Accounts Receivable reports.
 - Hauler-initiated adjustments are investigated by the Accounting Unit staff and any resulting changes to the billing are fully supported with back-up documentation, and are reviewed and approved by a supervisor (outside of the system) prior to posting.

Detailed Results, Findings, Recommendations and Management Responses



CONCLUSION

Our audit found that OCWR has adequate internal controls for adjustments to the deferred billing transactions to ensure that the adjustments are valid, supported, and authorized. No reportable findings or recommendations were identified.

Objective #3: Evaluate application controls specific to the deferred revenue process and certain computer general controls for the Paradigm system in the areas of access controls (password and account management and physical security), configuration management (change control), segregation of duties (as defined within Paradigm – Accounts Receivable & Aging module), and continuity planning (backup and recovery and environmental controls) to ensure that logical access to computing resources are authorized, errors are not introduced into programs when they are developed or subsequently modified, and service interruptions are mitigated.

AUDIT STEPS AND RESULTS

To accomplish this objective, we performed the following work:

- Inquiry and meetings with the OCWR Information Technology Unit staff.
- Review of provided system documentation including: CompuWeigh System Administrator Manual, CompuWeigh System, Accounts Receivable & Aging Module, and WeighStation Program.
- Review of policies and procedures including: User Provisioning/Deprovisioning, Accounting System Change Management Process, Change Management Plan, and SQL Maintenance Backup Procedures.
- Review of application and active directory system security settings.
- Performed a walk-through of the computing facility at 300 N. Flower Street, Santa Ana, CA (houses OCWR's computing resources including domain controllers, print servers, and intranet/internet facing applications) to observe controls to protect computing resources from environmental hazards and unauthorized personnel.

Strengths - Logical Security Controls:

- OCWR has written procedures for granting and removing user's access to OCWR's Paradigm system and include the following:
 - Only department management has the authority to add or modify access rights.
 - Authorization is documented using an online form and communicated via email.
 - Online forms are maintained within an intranet application.
- Paradigm application system security settings include:
 - System forces system password changes.
 - Limits number of times a password may be reused.
- Paradigm application users are authenticated by OCWR's Active Directory (for network access) prior to accessing the application. Active Directory security settings include:
 - Minimum password length.
 - System forced system password changes.
 - Limits number of times password may be reused.
 - Limits number of incorrect logon attempts before the account is locked.
 - Sets length of lock out period.
 - Sets length of time incorrect logon count is retained.

Detailed Results, Findings, Recommendations and Management Responses



Strengths - Application Change Management Controls:

- Written policies and procedures for implementing modifications to Paradigm application include:
 - User management notifies IT of requests in writing using Service Desk System.
 - IT logs request.
 - Change Control Board (consisting of users and IT staff) meet to approve change request.
 - Users are involved in the development of specifications and approve specifications.
 - Project priorities are established by Change Control Board.
 - All programming projects are entered into the vendor's change request system.
 - The application vendor is responsible for all programming of application changes.
 - OCWR tests vendor modifications in a "test environment" which is separate from the production environment.
 - Users are required to review and approve the changes initiated by them.
 - OCWR IT staff install application modifications in production after user testing/approval.
 - If production data is used during the testing process, it is adequately secured in a separate environment via network security configuration.

- Emergency change management procedures are the same as described above with the exception of an expedited review and approval process.

- There is a maintenance support agreement with the vendor and includes:
 - Vendor support is clearly defined during the requisition/purchasing process.
 - Vendor provides product fixes and enhancements in a timely manner.
 - A full range of training is available for the software packages.
 - Procedures for requesting software enhancements are clear and straight forward.
 - Installation documentation is provided by the vendor.
 - Software manuals explain product features and functions.
 - User procedural documentation is supplied.
 - System operations documentation is provided.
 - Documentation provided by the vendor is easy to read and easy to use.
 - Documentation for fixes is provided by the vendor.

Strengths - Business Continuity Planning (BCP) Controls

- OCWR participates in the CEO/IT contingency planning project and we noted by reviewing the Recover OC website (specifically, the BC/DR plan status tracking report) that OCWR had delivered 100% of the required documents for the BCP Refresh Phase I.

- Backup and recovery procedures include:
 - Full backups are performed daily with full database backups weekly.
 - Backup tapes are periodically write tested to ensure that they can be utilized if required.
 - The backup scheme allows the system to be restored to within 24 hours of the incident.
 - On-site backup tapes are stored in the computer room.
 - OCWR has contracted for off-site backup tapes storage.
 - Backup tapes are rotated between on-site (one week Monday through Thursday) and off-site (picked up Tuesday) storage facilities.
 - Backup and recovery procedures are documented.
 - The various parts of the recovery process have been tested.

- Loss of OCWR computing resources may be replaced via existing purchasing processes since the equipment is readily available, and the system can be restored using the backup tapes described above.

Detailed Results, Findings, Recommendations and Management Responses



Strengths - Physical Security and Environmental Controls

- The computer room housing OCWR computing resources is restricted to OCWR IT staff and includes:
 - Building is restricted to OCWR and OC Public Works employees. Visitors may access the building via the main entrance controlled by receptionist and elevators which use card readers at the ground floor. In addition, visitors need to check-in with the floor receptionist to gain access to the computer room.
 - Computer room is restricted to IT staff via card readers. The computer room is separate from the employee work areas.
 - Computer room has a separate AC system.
 - Computer room has emergency power shut off.
 - Smoke/Carbon Dioxide/Temperature detection devices are installed to provide early warning.
 - Automated fire extinguishing system (halon) is installed as well as water sprinklers.
 - Data center sensors are tied to a building panel monitored by the central facility.
 - One camera is installed in the computer room.
 - Hand held fire extinguishers located in the hallway.
 - Computers are secured in rack mounts that are secured to the floor.
 - Uninterrupted power supply (UPS) units are installed for all significant system components.
 - Emergency lighting has been installed.
 - Protection systems are maintained regularly by the applicable vendors.
 - Sensors (heat, power, smoke) alert OCWR staff of potential problems.

CONCLUSION

Our audit found that OCWR has adequate application controls specific to the deferred billing processes and certain computer general controls for the Paradigm system to ensure that logical access to computing resources are authorized, errors are not introduced into programs when they are developed or subsequently modified, and service interruptions are mitigated. No reportable findings or recommendations were identified.

Detailed Results, Findings, Recommendations and Management Responses



ATTACHMENT A: Report Item Classifications

For purposes of reporting our audit observations and recommendations, we will classify audit report items into three distinct categories:

▶ **Critical Control Weaknesses:**

These are Audit Findings or a combination of Auditing Findings that represent critical exceptions to the audit objective(s) and/or business goals. Such conditions may involve either actual or potential large dollar errors or be of such a nature as to compromise the Department's or County's reputation for integrity. Management is expected to address Critical Control Weaknesses brought to their attention immediately.

▶ **Significant Control Weaknesses:**

These are Audit Findings or a combination of Audit Findings that represent a significant deficiency in the design or operation of internal controls. Significant Control Weaknesses require prompt corrective actions.

▶ **Control Findings:**

These are Audit Findings concerning internal controls, compliance issues, or efficiency/effectiveness issues that require management's corrective action to implement or enhance processes and internal controls. Control Findings are expected to be addressed within our follow-up process of six months, but no later than twelve months.