Performance Audit:
Aviation Terminal Leases

August 2009

City Auditor's Office

City of Atlanta

File #08.08

CITY OF ATLANTA
City Auditor's Office
Leslie Ward, City Auditor
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Why We Did This Audit

We undertook this audit of airport terminal leases at the request of the airport deputy general manager. Aviation staff expressed concern that the department's billing system did not properly interface with the city's financial management system and data in the two systems did not reconcile.

Additionally, the external auditor's letter on management controls for fiscal year 2008 described the need for the enterprise funded departments to provide more timely financial information to the city's finance department.

What We Recommended

- The Department of Information Technology should involve key stakeholders and application owners early in the change management process.
- The Department of Aviation should review all user IDs to remove any inappropriate access.
- The Department of Aviation should develop and document a policy for determining the appropriate level of access for PROPworks users.
- The Department of Aviation should ensure all leaseholders are invoiced monthly.
- The Department of Aviation should seek to include a late payment provision when renegotiating the lease agreements in 2010.
- The Department of Aviation should propose a change in city code to establish a penalty for late payment for all leaseholders.

For more information regarding this report, please contact Eric Palmer at 404.330.6455 or epalmer@atlantaga.gov.

What We Found

The Department of Information Technology hired a consultant to make changes to the city's Oracle financial system to fix a faulty interface between the Department of Aviation's billing system – PROPworks – and the city's Oracle system. While the proposed change should address aviation's concerns, some system stakeholders were excluded from decisions regarding the interface. Making changes to Oracle rather than to PROPworks poses some risk to Oracle, and it is not clear that the problem resides in Oracle. DIT and aviation should have followed the city's defined process for evaluating proposed system changes in Oracle.

Aviation should also develop a policy to govern user access in PROPworks and strengthen access controls. Information security best practices recommend that users be granted only the system privileges necessary to do their jobs in order to reduce risk of errors, fraud, misuse, or unauthorized changes. We found that several employees who no longer work for the department still had access to the system and some current employees have more access than they need to do their jobs or their access enables them to perform incompatible job functions.

Each month, aviation bills leaseholders for terminal leased space. Aviation staff appears to have entered billing data into PROPworks accurately. Staff expressed concern that electronic bank payment data could be uploaded into Oracle more than once and that financial records of their transactions were incomplete due to interface problems. After testing and analysis, we found that neither of these concerns presents significant risk.

Aviation generated and posted invoices by the first of the month for 35 of the 36 invoices we reviewed, but the department did not invoice one leaseholder for February 2008. Aviation management told us that the leaseholder had released some of its space and requested an adjustment; however, the department had yet to invoice it as of June 2009. About one third of the invoices we reviewed were paid late. While the newer lease agreements include a late payment penalty, the majority of lease agreements and the municipal code do not explicitly address late fees.

Management Responses to Audit Recommendations

Summary of Management Responses		
Recommendation #1:	**The Department of Information Technology should involve key stakeholders and application owners early in the process in order to provide time for meaningful analysis of options and identify risk to the system to address future problems with the system.**	
Response & Proposed Action:	The Department of Information Technology will modify the process for requesting and receiving approval for change requests to the ERP System to include notification and formal sign-off by module and functional team leaders before initiation of the change (i.e. any work done) and again before submission to the Change Control Board.	**Agree**
Timeframe:	No later than August 11, 2009	
Recommendation #2:	**The Department of Aviation should review all user IDs to remove any inappropriate access, in order to reduce the risk of errors, fraud, misuse or unauthorized alteration.**	
Response & Proposed Action:	The Department of Aviation has begun to review (and at least once every 6 months) all PROPworks user ID to remove any inappropriate access.	**Agree**
Timeframe:	December 2009	
Recommendation #3:	**The Department of Aviation should develop a documented policy for determining the appropriate level of access for PROPworks users. This policy should govern user addition, user transfers, user terminations, and periodic review of user access level and incompatible duties.**	
Response & Proposed Action:	The Department of Aviation has forms in place to grant the appropriate level of access to end users; will update and develop a documented policy; and has an access termination form to be included with the DOA employee exit package.	**Agree**
Timeframe:	October 2009	
Recommendation #4:	**The Department of Aviation should ensure all leaseholders are invoiced monthly.**	
Response & Proposed Action:	The Department of Aviation will ensure all leaseholders are invoiced monthly by generating a Bill Work Area Summary Report; performing reconciliation between the prior and current month's activity; generating Bill Rule Activity and Bill Rule Check Reports that identify inactive and pending billing rules; and researching and identifying variances resulting from additions, rate changes, and deletions.	**Agree**
Timeframe:	August 2009	
Recommendation #5:	**The Department of Aviation should seek to include a late payment provision when renegotiating the lease agreements in 2010.**	
Response & Proposed Action:	The Department of Aviation will seek to include a late payment provision on payments not received thirty days after the City issues it invoices, when renegotiating the lease agreements in 2010.	**Agree**
Timeframe:	September 2010	
Recommendation #6:	**The Department of Aviation should propose a change in city code to establish a penalty for late payment for all leaseholders.**	
Response & Proposed Action:	The Department of Aviation has included and will continue to include a late fee penalty provision in all future leases.	**Partially Agree**
Timeframe:	Ongoing	

CITY OF ATLANTA

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August 26, 2009

Honorable Mayor and Members of the City Council:

We initiated the audit of Aviation Terminal Leases at the request of the airport deputy general manager. Aviation staff expressed concern that the department's billing system did not properly interface with the city's financial management system and data in the two systems did not reconcile. Additionally, the external auditor's letter on management controls for fiscal year 2008 described the need for the enterprise funded departments to provide more timely financial information to the city's finance department. Our objective focused on whether the Department of Aviation's financial management information regarding aviation terminal leases is accurate and timely.

We found that financial management data is generally accurate and timely. However, the Department of Information Technology and Aviation did not follow the city's defined process for evaluating proposed system changes in Oracle, which poses some risk. In addition, Aviation does not have a policy governing user access in PROPworks and needs to strengthen its access controls. Our recommendations focus on minimizing system risk and improving payment timeliness. Both departments agree with our recommendations. Their full responses to our recommendations are appended to the report.

The Audit Committee has reviewed this report and is releasing it in accordance with Article 2, Chapter 6 of the City Charter. Two members of the audit committee did not review the report because of conflicts of interest regarding the airport. We appreciate the courtesy and cooperation of city staff throughout the audit. The team for this project was Dawn Williams, Brandon Haynes, and Eric Palmer.

Leslie Ward
City Auditor

Fred Williams
Audit Committee Chair

Aviation Terminal Leases

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List of Exhibits

Introduction

We conducted this performance audit of the Department of Aviation's terminal leases pursuant to Chapter 6 of the Atlanta City Charter, which establishes the City of Atlanta Audit Committee and the City Auditor's Office and outlines their primary duties. The Audit Committee reviewed our audit scope in January 2009.

A performance audit is an objective analysis of sufficient, appropriate evidence to assess the performance of an organization, program, activity, or function. Performance audits provide assurance or conclusions to help management and those charged with governance improve program performance and operations, reduce costs, facilitate decision-making and contribute to public accountability. Performance audits encompass a wide variety of objectives, including those related to assessing program effectiveness and results; economy and efficiency; internal controls; compliance with legal or other requirements; and objectives related to providing prospective analyses, guidance, or summary information[1].

We undertook this audit of airport terminal leases at the request of the airport deputy general manager. Aviation staff expressed concern that the department's billing system, PROPworks, did not properly interface with the city's financial management system, Oracle, and data in the two systems did not reconcile. Problems with the interface could impair the completeness and accuracy of financial data. Additionally, the external auditor's letter on management controls for fiscal year 2008 described the need for the enterprise funded departments to provide more timely financial information to the city's finance department.

Background

The Hartsfield-Jackson Atlanta International Airport (HJAIA) leases airport space to air carriers and management and security agencies. Rental fees are based on the number of square feet leased and the terms established in either the Central Passenger Terminal Complex

[1]Comptroller General of the United States, *Government Auditing Standards,* Washington, DC: U.S. Government Accountability Office, 2007, p. 17-18.

(CPTC) lease agreement or the Hartsfield-Jackson Atlanta International Airport (HJAIA) lease agreement. Some entities hold multiple leases.

- Aviation established the CPTC lease agreement terms in the 1970s to recover costs associated with construction of the terminal and concourse buildings; aircraft parking and ramp area; pedestrian mall; and automated transit system. The terms established formulas to calculate annual facilities rental charges for exclusive leased premises, pro rata shares of joint leased premises, an operations charge, and a monthly concessions revenue credit against other charges. The formulas are based on project costs and debt service. Charges can increase only when a majority of leaseholders approve new projects.[2] The CPTC lease agreement prohibits the Department of Aviation from offering more favorable terms to subsequent leaseholders without extending such terms to existing leaseholders. Until 2000, any entity leasing space at the airport signed a CPTC lease agreement.

- Aviation established the HJAIA lease agreement in 2000 to increase competition at the airport. Rent is calculated and assessed based on a schedule set by the Department of Aviation. The department can change rental rates during the term of the agreement with proper notification and the agreement is cancelable by either party. The agreement sets a pro rata share of maintenance and operations charges.

All existing airport lease agreements expire in September 2010.

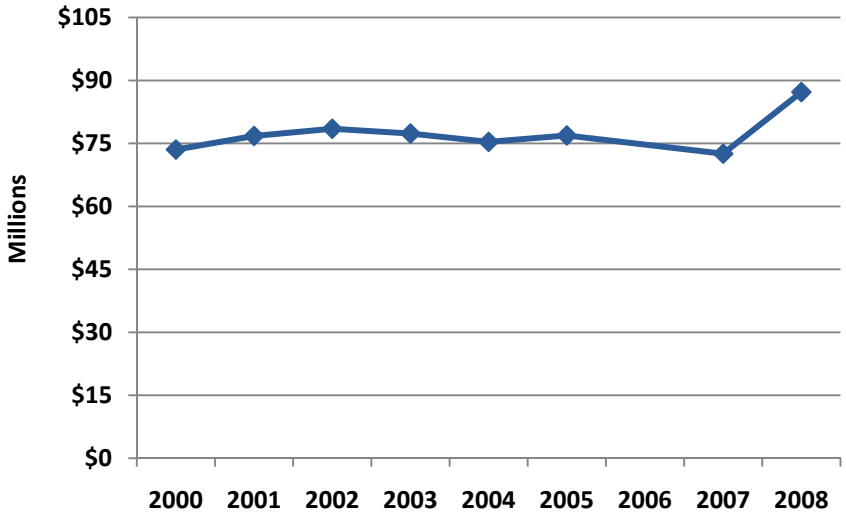
Legacy Cost Recovery Agreements Restrained Revenue Growth

Because the CPTC leases were intended to recover specific costs, airport space is leased at below-market rents, according to aviation staff. Little turnover in space and provisions in the CPTC agreement kept revenue flat until completion of airline-approved cosmetic upgrade projects increased revenue in fiscal year 2008.

[2] The lease agreements define a majority-in-interest as at least 51% of contracting airlines that lease 75% or more of exclusively leased terminal buildings and aircraft parking aprons.

Annual lease revenue averaged $76 million between fiscal years 2000 and 2007. Annual lease revenue was flat from fiscal year 2000 to fiscal year 2007. Revenue decreased slightly from $73.5 million in fiscal year 2000 to $72.5 million in fiscal year 2007. Rental revenue decreased as a percent of total operating revenue from 28.9% to 20.6% over the same period. Concession sales, parking and car rental fees accounted for larger portions of revenue in recent years. Rental revenue increased 20% in fiscal year 2008 due to completion of airline-approved CPTC projects, increase in fuel farm rates, and a new duty-free agreement (See Exhibit 1).

Exhibit 1
Aviation Lease Rental Revenue, Fiscal Years 2000-2008[3]



Source: Aviation Audited Financial Statement FY 2008

Less than one percent of airport terminal space is leased at market rates. Ninety-nine percent of terminal space is leased under the terms of the CPTC agreement. Eleven airlines hold 14 leases that account for 9.2 million square feet – 61% of the leased space. The average length of the leases is just over 25 years. Two management and security agencies working on behalf of airline leaseholders under the CPTC or a successor agreement hold 11 leases accounting for 39% of the terminal's leased space. The average length of these leases is 6 years. HJAIA lease agreements account for less than 1%

[3] Fiscal year 2006 revenue is excluded because it covered a 6-month period.

of all terminal leased space, and have an average length of about 4 years (See Exhibit 2).

Exhibit 2
Airport Leased Spaced by Agreement Type[4]

Agreements	Total SQ FT		Number of Agreements	Number of Agreement Holders	Average Length
CPTC Lease (all)	**15,069,651**	**99.28%**	**25**	**13**	**16.95**
Airline CPTC Lease	9,205,184	61%	14	11	25.5
Other Entity CPTC Leases	5,864,467	39%	11	2	6.0
HJAIA Lease (all)	**109,334**	**0.72%**	**12**	**11**	**4.25**
Airline HJAIA Leases	66,797	61%	8	8	3.7
Other Entity HJAIA Leases	42,536	39%	4	3	5.4
TOTAL	**15,178,985**	**100%**	**37**	**22**	**12.83**

Source: Aviation's PROPworks Data

Aviation Bills Lease Holders Monthly

Aviation negotiates and executes agreements with leaseholders. Once an agreement is executed, aviation staff enters the agreement data into its billing system, PROPworks. Each month, aviation staff members generate and mail invoices to leaseholders. Payments are due by the first day of the following month.

The department started using PROPworks to manage its lease contracts and generate invoices in 2003. PROPworks is an Oracle-based system that was created by the consulting group Air-Transport IT Services, Inc. (AirIT). Aviation continues to contract with AirIT for system support and maintenance. Aviation uses three of PROPworks nine modules for billing:

- Company/Contact Management – maintains customer contact and address data on each entity that has a business relationship with Aviation;

[4] Entities can hold multiple leases. Delta, Atlantic Southeast, and Northwest airlines each have two separate CPTC lease agreements. AATC has two CPTC lease agreements; TBI has nine separate agreements. TSA has two separate HJAIA lease agreements; ASIG has one HJAIA lease agreement. Delta and AirTran Airways have both CPTC lease and HJAIA lease agreements.

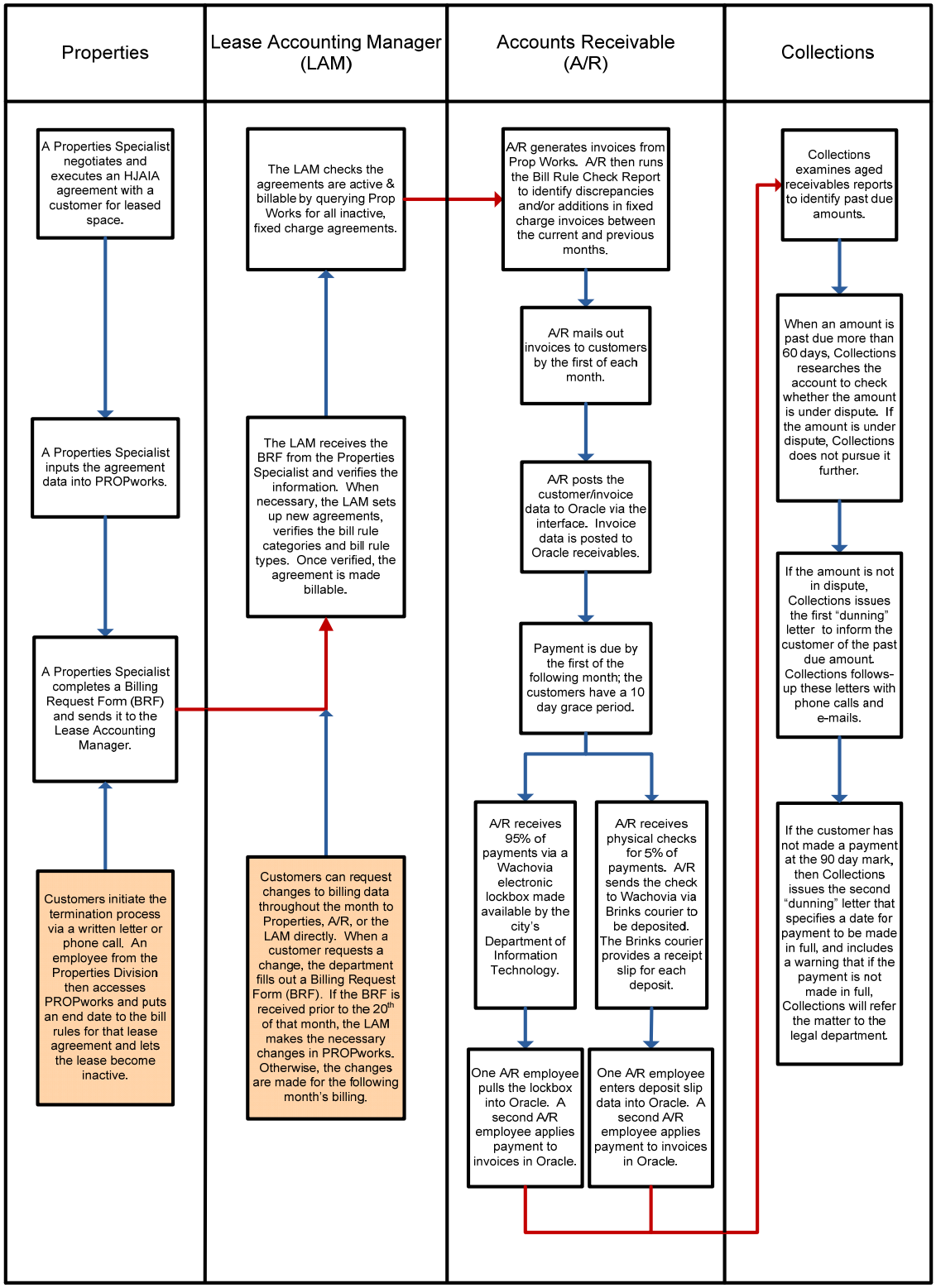
- Agreement Management – tracks information about each entity that has a contract with the Aviation, such as the type of agreement, contract number, effective and expiration date, and data to calculate the fees for the invoice, called bill rules. The entity may occupy space, operate at the facility or provide a service.
- Billing and Invoicing Management – performs complex billing calculations and generates invoices.

Aviation generates approximately 750 invoices per month, approximately 220 are for terminal leases.

Four Department of Aviation divisions are involved in the invoicing process (see Exhibit 3):

- Properties – negotiates and executes or terminates agreements with leasing entities. Properties staff also enters the agreement data into PROPworks;
- Lease Accounting – verifies the accuracy of data entered into PROPworks, sets up new agreements as needed, and makes an agreement billable;
- Accounts Receivable (A/R) – generates and mails the invoices to leaseholders. A/R staff also posts customer and financial data to Oracle; and
- Collections – reviews unpaid balances and works with leaseholders to make payments.

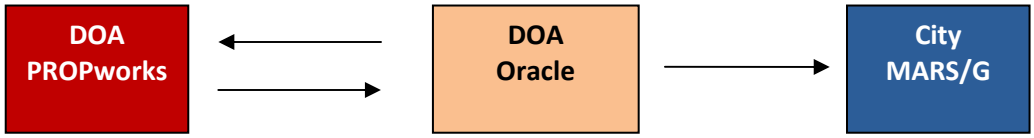
Exhibit 3
Department of Aviation Lease Invoicing Process



Source: Aviation's standard operating procedures and interviews with accounts receivable staff

Aviation sends customer and financial data from PROPworks to the city's financial system. Aviation's PROPworks system feeds into the city's financial management system. Before the citywide Oracle implementation went live in January 2008, Aviation sent billing data generated in PROPworks to its own Oracle system, which it used for financial management. Aviation's Oracle system sent payment records back to the PROPworks accounts receivable (A/R) module. Overall financial data was transferred from aviation's Oracle system to the city system, MARS/G, in a monthly file. Exhibit 4 illustrates these system interfaces – mechanisms used to transfer data from one system to another.

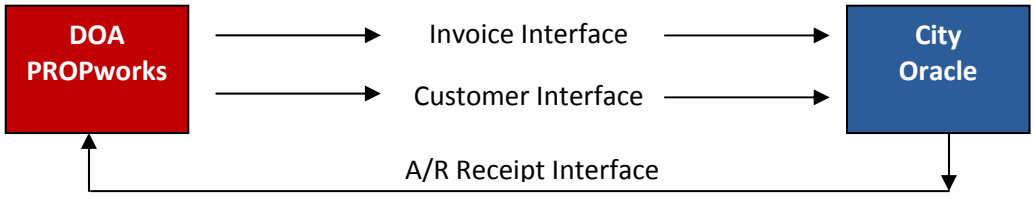
Exhibit 4
Interfaces between PROPworks, Aviation's Oracle System, and MARS/G



Source: Interviews with Aviation staff

After implementation of the citywide Oracle system, Aviation no longer needed its own Oracle system and planned direct links from PROPworks to the city's financial management system. Exhibit 5 shows how the interfaces between PROPworks and the city's Oracle system are intended to function. Customer and invoice data generated in PROPworks feeds into Oracle via the interface to create accounts receivable records; payments recorded in Oracle are transferred back through the interface to PROPworks.

Exhibit 5
Interfaces between PROPworks and the Citywide Oracle System



Source: Functional design documents obtained from ERP staff

The airport deputy general manager requested that we review the system interfaces. Billing staff expressed concern that the interfaces were not working and consequently questioned the reliability of financial data.

Audit Objectives

This report addresses the following objective:

- Is the Department of Aviation's financial management information regarding aviation terminal leases accurate and timely?

Scope and Methodology

We conducted this audit in accordance with generally accepted government auditing standards. We conducted our audit fieldwork from January 2009 through May 2009. Generally accepted government auditing standards require that we plan and perform the audit to obtain sufficient, 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.

Our audit methods included:

- Documenting and assessing risks in the invoicing process;
- Reviewing airport lease agreements;
- Evaluating the timeliness of payments for leased space;
- Assessing the accuracy of data entered into PROPworks;
- Interviewing city and aviation staff to understand the policies implemented to help protect the integrity of data transferred from PROPworks to the city's Oracle system;
- Examining the relationship between PROPworks and the department's former Oracle system;
- Testing the accuracy of receipt data in the city's Oracle system.

Findings and Analysis

Change Management and Access Controls Needed to Address System Risks

The Department of Information Technology has hired a consultant to make changes to the city's Oracle financial system to fix a faulty interface between the Department of Aviation's billing system – PROPworks – and the city's Oracle system. While the proposed change should address aviation's concerns, some system stakeholders were excluded from decisions regarding the interface. Making changes to Oracle rather than to PROPworks poses some risk to Oracle, and it is not clear that the problem resides in Oracle. The Department of Information Technology and aviation should have followed the city's defined process for evaluating proposed system changes in Oracle.

Aviation should also develop a policy to govern user access in PROPworks and strengthen access controls. Information security best practices recommend that users be granted only the system privileges necessary to do their jobs in order to reduce risk of errors, fraud, misuse, or unauthorized changes. We found that several employees who no longer work for the department still had access to the system and some current employees have more access than they need to do their jobs or their access enables them to perform incompatible job functions.

Customer Interface between Aviation's Billing and Financial Systems Has Not Worked as Intended

Aviation's PROPworks consultant developed three interfaces between PROPworks and Oracle based on technical designs prepared by the city's Oracle consultant. User acceptance testing identified problems with data conversion and two of the interfaces in fall 2007. Aviation signed off on satisfactory completion of the work in December 2007, but the customer interface problem re-emerged a few months later, as some invoices failed to post to Oracle due to mismatches in customer information. Staff developed a workaround to clear the queue of invoices and close the fiscal year 2008 books; however, staff told us that the workaround has since stopped working. Between August 2008 and May 2009, 92 transactions were hung up in the

interface, amounting to about $83,000 in invoices and $34,000 in credit memos.

The interface from Oracle accounts receivable to PROPworks has never worked as intended. Aviation officials have decided to drop this effort and rely on Oracle as the system of record. We support their decision.

PROPworks contractor developed interfaces. Aviation contracted with AirIT, its PROPworks consultant, to develop, implement, and test three interfaces between PROPworks and Oracle in early 2007. City staff started corresponding with AirIT about the interfaces in fall 2005, when the city decided to incorporate aviation into the city's Oracle implementation to replace its stand-alone, custom system. The city's Oracle consultants developed functional and technical design documents for the interfaces in spring 2006.

Customer interface problems re-emerged after "go-live." Test documents for the Oracle implementation show that the ERP team identified problems with the customer interface from PROPworks to Oracle in fall 2007. In phase one, the team found a defect with aviation's conversion of customer data. In phase two, the team found that several customer files failed to transfer from PROPworks to Oracle via the interface table. While aviation staff signed off on successful completion of the interfaces in December 2007, the problem re-emerged a few months later as some invoices generated in PROPworks failed to post to Oracle due to mismatches in customer contact information.

Workaround fixed problem temporarily. Aviation and ERP staff worked together to identify a workaround, enabling PROPworks users to modify the general ledger accounting string and flag updated customer contact data before generating an invoice. Aviation also asked their consultant to fix the customer interface. Staff was able to clear the queue of invoices that had failed to post to Oracle to close the books for fiscal year 2008, but told us that the workaround subsequently stopped working (see Exhibit 6).

Exhibit 6
Timeline of Interface Development

Fall 2005	• ERP, Aviation and AirIT consultants corresponded on how to develop the interface between PROPworks and the city's Oracle system.
Summer 2006	• Oracle consultants developed functional design documents for: (1) Customer Interface; (2) Invoice Interface; and (3) A/R Receipts to PROPworks Interface. • Oracle consutlants developed technical design documents for all three interfaces. ERP and Aviation staff were unable to provide copies of the technical design documents for the customer and invoice interfaces.
Fall 2006	• ERP staff and Oracle consultants developed conversion mapping plans and test scripts.
Winter 2006	• Aviation negotiated its first agreement with AirIT for the development, implementation and testing of the interfaces - Phase I work. • Procurement issued a notice-to-proceed to AirIT in January 2007.
Spring/ Summer 2007	• AirIT performed Phase I work. • During the first phase of testing, ERP staff found a customer conversion defect and an error in the invoice extract files, and recommended Aviation clean its files. • During the second phase of testing, ERP staff found an invoice reconciliation defect; they could not reconcile data between PROPWorks and Aviation's Oracle system.
Fall 2007	• AirIT completed Phase I work and received payment of $70,041. • During the second phase of testing, ERP staff found several lines in the customer data files failed validation and did not process through the customer interface.
Winter 2007	• Aviation negotiated a second agreement with AirIT for preparation and execution of production cutover of the interface - Phase II work. However, neither procurement nor Aviation staff signed-off on the agreement. • ERP, Aviation and AirIT staff met to discuss why MARS/G, PROPworks and Aviation's Oracle systems did not reconcile. • Aviation reported the successful testing of the customer and invoice interfaces to ERP and AirIT staff.
Spring 2008	• AirIT performed and completed Phase II work, despite the lack of a signed agreement. • Aviation went live with all three interfaces. However, the A/R receipts interface was not functional. Aviation subsequently discontinued using it, because the department had the functionality in Oracle. • ERP, Aviation and AirIT staff agreed on a workaround for the invoices caught in the customer interface due to customer data issues in March 2008.
Summer 2008	• Procurement and AirIT reached a memorandum of agreement for Phase II work; AirIT received payment of $45,783 in September 2008. • The customer interface workaround no longer worked after July 2008; some invoices and credit memos were caught in the interface.
Fall 2008 to Present	• Aviation and AirIT staff informed DIT of the customer interface problem. • DIT agreed to pay Oracle consultants $13,000 in April 2009 to reconfigure the customer interface and debug the code in the Oracle accounts receivable module. • DIT moved the customer interface to production in June 2009.

Source: Documents obtained from AirIT consultants, Aviation, and ERP staff

Interface errors prevented a small number of transactions from posting to Oracle. Between August 2008 and May 2009, 92 PROPworks transactions (88 invoices and 4 credit memos) failed to post to Oracle. The invoices totaled about $82,700 and the credit memos totaled about $34,200. Most of the transactions failed to post due to mismatches in customer information (see Exhibit 7). Aviation estimates that it sends 750 invoices per month.

Exhibit 7
Errors Preventing PROPworks Transactions from Posting to Oracle

Number of Transactions:	Description of Error:
72 (78%)	The address reference must exist in Oracle receivables, and it must be assigned to a customer
40 (43%)	The contact reference must exist in Oracle receivables, and it must be assigned to a customer
60 (65%)	The supplied GL date is in a closed period
21 (23%)	Invalid customer reference
2 (2%)	Cannot get remit to address

Source: Oracle execution report dated 05/28/09

Receipt interface from Oracle to PROPworks never worked. In addition to problems with the customer interface between PROPworks and Oracle, the interface from Oracle accounts receivable to PROPworks has never worked as intended. When the department had its own stand-alone Oracle financial system, it had interfaced Oracle to PROPworks to maintain payment records and receivables in PROPworks. The interface, however, did not record aged receivables correctly, ultimately resulting in a $155 million discrepancy between PROPworks and aviation's Oracle system – and consequently with the city's financial system (MARS/G), which uploaded data from aviation's Oracle system. While aviation has a similar interface between the citywide Oracle system and PROPworks, the interface has not worked. Officials have since recognized that it is unnecessary because the Oracle system has the functionality needed. We agree with their decisions to discontinue using the PROPworks accounts receivable functionality and to drop the accounts receivable receipt interface.

Planned Interface Fix Carries Risk

Aviation's consultant told us that they are unable to fix the customer interface from PROPworks to Oracle. The Department of Information Technology has hired an Oracle consultant to make changes to the city's Oracle financial system to fix the interface. While the proposed solution may address the immediate problem causing posting errors, changing Oracle rather than PROPworks poses some risk of unintended consequences in Oracle. Further, the proposed solution did not go through the city's established change management process. Key system stakeholders were not involved in the discussions, and have not agreed on how best to solve the problem.

PROPworks consultant could not resolve the problem. Aviation's consultant told us in February 2009 that they were unable to fix the interface because the problem is with Oracle. The consultant expressed concern that the city changed the interface configuration prior to going live with Oracle in January 2008. They said they had proposed to the city's Department of Information Technology in December 2008 subcontracting with an Oracle consultant to fix the interface.

Changing Oracle may not be the best solution. The Department of Information Technology entered into an agreement with an Oracle consultant in April 2009 to reconfigure the interface and "debug" the code in the Oracle accounts receivable module. However, Oracle may not need to be changed; the issue may lie with PROPworks. The Oracle consultant who assessed the problem did not analyze PROPworks to arrive at the current solution. Neither aviation nor Department of Information Technology staff has corroborated the PROPworks consultant's conclusion; city Finance and ERP staff perceives the problem to be with PROPworks. We requested functional and technical design documents prepared in 2006 for all three planned interfaces. Neither aviation nor the city's ERP staff was able to provide the technical design documents for the customer or invoice interfaces. Making changes to Oracle, particularly without these documents, could result in unintended consequences that affect data integrity.

Key stakeholders were excluded, contrary to change management policy. The Department of Information Technology is now spearheading the effort to modify the customer interface, but the department is unaware of the history of issues and previously

identified solutions. Neither Finance and ERP staff nor members of the ERP steering committee were involved in deciding the current solution. According to the Department of Information Technology's policy, "all changes or modifications to Information Resources shall be approved by the owner department that is responsible for their integrity. On a jointly owned system by multiple departments (such as ERP) in which a change to an instance of application may affect other instances, approval from all owner departments must be obtained before proceeding with the change." In this case, all of the key stakeholders have not been involved and or agreed upon the proposed solution. Lack of input from key stakeholders increases risk that the city could introduce new problems into the system by altering the application. In addition, neither the city's Department of Information Technology nor aviation's Information Systems Division know who is responsible for maintaining the interface going forward.

We discussed our concerns with the city's chief information officer and the ERP steering committee in April 2009. The interface work was completed in June 2009. To address future problems with the system, the Department of Information Technology should involve key stakeholders early in the process in order to provide time for meaningful analysis of options and identify risk to the system.

Weak Access Controls Add Unnecessary Risk to Aviation's Billing System.

Aviation should strengthen controls over user access to PROPworks. Information security best practices recommend that users be granted only the system privileges necessary to do their jobs in order to reduce risk of errors, fraud, misuse, or unauthorized changes. We found 14 employees who no longer work for the department still had access to the system; 5 users were unknown to the database administrator; and 2 users had more system access than needed for their job functions. In addition, 17 users had access that would allow them to perform incompatible job functions. Aviation does not have a formal policy to govern user access.

Terminated employees retained access to the system. We reviewed the 73 user accounts with access to PROPworks as of February 2009. Three of the user IDs belonged to employees who had retired, and 11 belonged to employees who no longer worked for the department. Information security best practices recommend that management establish and follow "procedures to ensure timely action

relating to requesting, establishing, issuing, suspending and closing user accounts."[5] Allowing terminated users to retain access to the system increases risk of inappropriate or unauthorized access to data, which increases risk of error, misuse, or fraud.

The database administrator was unable to identify the users associated with 5 of the 73 accounts. Information security best practices recommend assigning a unique user ID to each individual using a system and verifying user identity as part of operation system access control. Because aviation is unaware of the identity of these users, it is possible that these users should not have access to the system. We also found one user with two PROPworks accounts. Having two accounts increases the risk of unauthorized access of one of the accounts.

Two users had more system access than needed for their jobs. Four users were granted the master-level role in PROPworks, which provides full access to system functions. While the role appeared to be appropriate for two of the users, the other two did not need this level of access based on their assigned job functions. Aviation staff confirmed that these users should not be assigned master-level access.

Lack of segregation of duties in the system could allow users to perform incompatible job functions. Separating incompatible business duties is a key control to prevent undetected errors and fraud. Of the 73 user accounts, 19 had access to create, update, and delete agreements, as well as to create, update, and delete invoices in PROPworks. Of the 19 users, four no longer work for the department. These incompatible duties pose a risk that authorized users could inappropriately delete invoices and receive payment from leaseholders.

Aviation should establish a formal policy to govern user access. Aviation officials gave conflicting responses about who is responsible for approving and granting user access. Moreover, Aviation does not have a policy in place to guide decisions on user access. Information security best practices recommend that management follow a defined process in granting and documenting user access.

[5] ISACA COBIT Mapping of ISO/IEC 17799-2000

In order to reduce the risk of errors, fraud, misuse or unauthorized alteration, the Department of Aviation should review all user IDs to ensure that each user is identifiable, has a unique user ID, and has system access appropriate to his or her job duties. The department should also develop a formal policy for determining the appropriate level of access for PROPworks users. This policy should govern adding users, terminating users, and periodically reviewing user access levels compared with current job duties and incompatible duties.

Financial Management Data Is Generally Accurate and Timely

Aviation staff appears to have entered billing rules into PROPworks accurately. Staff expressed concern that electronic bank payment data could be uploaded into Oracle more than once and that financial records of their transactions were incomplete due to interface problems. Neither of these concerns presents significant risk.

Aviation generated and posted invoices by the first of the month for 35 of the 36 invoices we reviewed, but the department did not invoice one leaseholder for February 2008. Aviation management told us that the leaseholder had released some of its space and requested an adjustment; however, the department had yet to invoice it as of June 2009. About one third of the invoices we reviewed were paid late. While the HJAIA lease agreement includes a late payment penalty, neither the CPTC lease agreement nor the municipal code explicitly address late fees.

Financial System Data Appears to Be Accurate, but Could Be Incomplete

Aviation staff accurately entered billing rules into PROPworks. Our random sample of 50 of 814 billing rules found one error that resulted in the department under-billing an airline by only 38 cents per year. While staff had expressed concern that electronic bank payment data could be uploaded into Oracle more than once, we confirmed that system controls prevent such duplicate records of payment. We also reviewed 12 payments received at the Department of Aviation; staff accurately recorded these manual payments into Oracle. While aviation staff expressed concern that financial records of their

transactions in Oracle could be incomplete, the net value of transactions caught in the interface is small relative to airport revenue, and most of the department's $2.1 million in unapplied receipts as of May 2009 were advance payments.

Aviation staff accurately entered billing data into PROPworks. During interviews, Aviation staff told us that they manually enter data into PROPworks, which is used to generate invoices. This method of data entry is prone to inaccuracies. To test the accuracy of the data entered, we randomly reviewed 50 of the 814 billing rules for the top nine revenue-generating leaseholders. These entities accounted for 98% of airport's leased space. We found one error that resulted in the department under-billing an airline 38 cents per year. From our sample results, we estimate there is a 95% probability that the error rate is less than or equal to 5.2%. Based on this result and the very low magnitude of the error we found, we conclude the department's controls are working effectively.

Aviation's risk that receipts are overstated in Oracle is minimal. Aviation staff told us that electronic bank payments could be uploaded into Oracle twice, thus overstating receipts. Approximately 95% of leaseholders' payments are electronic. Staff uploads these payments into Oracle once per day. Because more than one staff person is capable of uploading the payment data, staff expressed concern that the data could be uploaded twice, creating duplicate records. Our tests show that Oracle has built in controls to prevent Aviation staff, including those assigned different responsibilities in Oracle, from duplicating these payments.

Staff accurately recorded manual payments. Approximately 5% of leaseholders' payments are made directly to aviation. Accounts receivable staff completes a deposit slip and sends the payments via courier to the bank to be deposited. The courier returns with a receipt and accounts receivable staff enters receipt information into Oracle. Because cash payments carry inherent risk, we matched a random sample of 12 manual payments to the deposit slip and record in Oracle. All were accurately recorded.

Oracle records could be incomplete, but risk is small. Aviation staff expressed concern that financial records of their transactions in Oracle could be incomplete due to the interface problems. We confirmed that 92 transactions between August 2008 and May 2009 did not process from the interface table; the net value of these

transactions was about $49,000. The failure of the transactions to post to Oracle results in:

- Current receivables reported in Oracle do not include all outstanding items;
- Aviation's unapplied revenue balance is increased because accounts receivable staff cannot apply a payment until these items exist in Oracle; and
- Aged receivables reports may not include all transactions.

The net value of transactions caught in the interface is small relative to airport revenue. In addition, most of the department's $2.1 million in unapplied receipts as of May 2009 were advance payments.

Aviation Manages the Timeliness of Terminal Lease Invoicing, but Not Payments

Aviation's accounts receivable division invoiced 35 of the 36 leaseholder monthly invoices we randomly selected for review. One leaseholder received no invoice for February 2008 and had yet to be invoiced for that month as of June 2009. Although division staff generally generated and posted invoices by the first of the month, about one third of the invoices we reviewed were paid late. While the HJAIA lease agreement includes a late payment penalty, neither the CPTC lease agreement nor the municipal code explicitly address late fees.

Almost all tested leaseholders were invoiced for the months selected. Lease agreements and aviation procedures require staff to invoice each leaseholder each month. We randomly selected 12 of 22 leaseholders from PROPworks and randomly selected three months per leaseholder to assess whether aviation staff generated and posted invoices in a timely manner, and whether aviation received prompt payment of those invoices. Of the 36 invoices in our sample, aviation staff invoiced 35 or 97%.

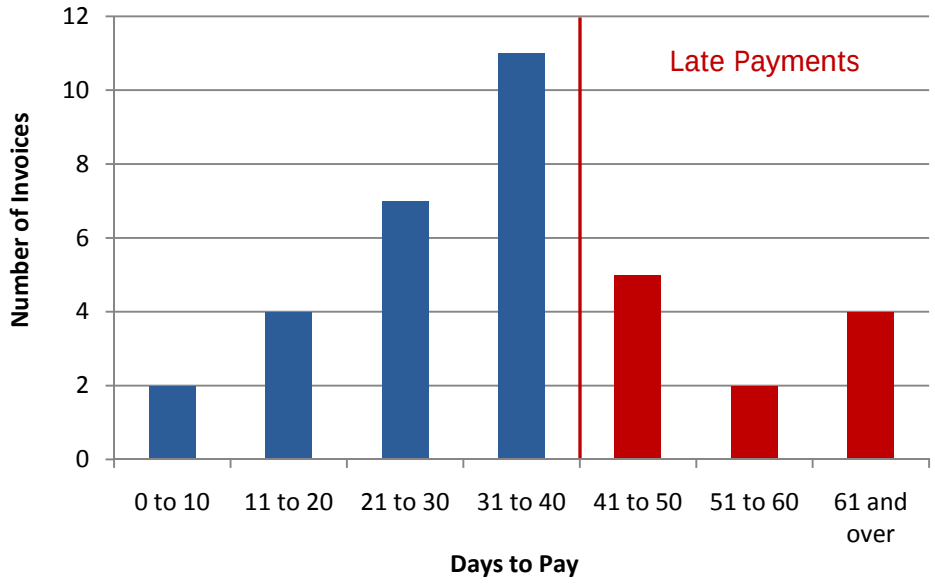
One leaseholder in the sample, Aircraft Service International Group (ASIG), was not invoiced for one of the months selected - February 2008. According to the Aviation's billing system, ASIG has leased approximately 6,600 square feet of airport space. As of June 2, 2009, ASIG had yet to be invoiced for February 2008 rent. Aviation management told us that ASIG had released some of its lease space

and requested an adjustment. Properties division staff is determining the appropriate adjustment.

Aviation generated and posted invoices to Oracle timely. Department procedures require accounts receivable staff to generate invoices on the last day of the month to be printed and sent by the first. All 35 invoices that we reviewed were dated the first of the month. Aviation staff told us that they post the invoices to Oracle financials after they generate the invoice. We also verified that all 35 invoices were posted on the first of the month.

Aviation could improve payment timeliness by imposing late payment penalties. According to both CPTC and HJAIA lease agreements, lease rental payments are due on the first of the month following the invoice; the HJAIA lease agreement includes a ten-day grace period. Aviation management confirmed that all invoices are late if not paid within ten days of the due date – or 40 days after the invoice date. Of the 35 invoices we reviewed, 11 (31%) were paid late. Four of the invoices were paid more than a month late (see Exhibit 8).

Exhibit 8
Timeliness of Monthly Lease Payments



Source: Wachovia bank records and Oracle receipt data

The HJAIA lease agreement stipulates that any amount not paid within 10 days of the due date is subject to a late payment of 10% per month of the unpaid balance until paid. The CPTC lease does not address late fees. According to the department's accounts receivable staff, the department no longer charges late fees although PROPworks is set up to charge the 10% late fee. Aviation management said they suspended the practice because of numerous customer complaints and disputes on the validity of the late payments, resulting from invoicing delays and adjustments.

City code does not require late fees. The code itself does not include a penalty for late payment of lease fees, but appears to give the department discretion for establishing late payments in the lease agreements. City code section 22-82 states that any user of the airport operating under written permission shall pay all charges and fees under the terms thereof.

The Department of Aviation should seek to include a late payment provision when renegotiating the lease agreements in 2010. The Department of Aviation should also propose a change in city code to establish a penalty for late payment for all leaseholders.

Recommendations

1. The Department of Information Technology should involve key stakeholders and application owners early in the process in order to provide time for meaningful analysis of options and identify risk to the system to address future problems with the system.

2. The Department of Aviation should review all user IDs to remove any inappropriate access, in order to reduce the risk of errors, fraud, misuse or unauthorized alteration.

3. The Department of Aviation should develop a documented policy for determining the appropriate level of access for PROPworks users. This policy should govern user addition, user transfers, user terminations, and periodic review of user access level and incompatible duties.

4. The Department of Aviation should ensure all leaseholders are invoiced monthly.

5. The Department of Aviation should seek to include a late payment provision when renegotiating the lease agreements in 2010.

6. The Department of Aviation should propose a change in city code to establish a penalty for late payment for all leaseholders.

Appendices

Appendix A
Management Review and Response to Audit Recommendations

Report # 08.08	Report Title: Department of Aviation – Aviation Terminal Leases	Date: 08/05/09

Recommendation Responses

Rec. # 1	**Recommendation 1.** The Department of Information Technology should involve key stakeholders and application owners early in the process in order to provide time for meaningful analysis of options and Identify risk to the system to address future problems with the system.	**Agree**
Proposed Action:	The Department of Information Technology will modify the process for requesting and receiving approval for change requests to the ERP System. The modification will minimally involve notification and formal sign-off by module and functional team leaders (for the respective area) of a requested change, before initiation of the change (i.e. any work done) and again before submission to the Change Control Board.	
Implementation Timeframe:	No later than August 11, 2009	
Responsible Person:	Jaci Vickers and Ken Amakor	
Rec. # 2	**Recommendation 2.** The Department of Aviation should review all user IDs to remove any inappropriate access, in order to reduce the risk of errors, fraud, misuse or unauthorized alteration.	**Agree**
Proposed Action:	The Department of Aviation has begun to review (and at least once every 6 months) all PROPworks user ID to remove any inappropriate access in order to reduce the risk of errors, fraud, misuse or unauthorized alteration.	
Implementation Timeframe:	December 2009	
Responsible Person:	Sharon Jones (ISD); Carver Joseph (Accounting)	
Rec. # 3	**Recommendation 3.** The Department of Aviation should develop a documented policy for determining the appropriate level of access for PROPworks users. This policy should govern user addition, user transfers, user terminations, and periodic review of user access level and incompatible duties.	**Agree**
Proposed Action:	The Department of Aviation Information System Division (ISD) has forms in place to grant the appropriate level of access to end users. The Department of Aviation will update and develop a documented policy. The policy will govern the appropriate level of access for PROPworks and other internal systems. An access termination form will be included with the DOA employee exit package.	
Implementation Timeframe:	October 2009	
Responsible Person:	Carver Joseph (Accounting); Sharon Jones (ISD)	

Rec. # 4	**Recommendation 4.** The Department of Aviation should ensure all leaseholders are invoiced monthly.	**Agree**
Proposed Action:	The Department of Aviation will ensure all leaseholders are invoiced monthly by: - Generating a Bill Work Area Summary Report. - Performing reconciliation between the prior and current month's activity. - Generating Bill Rule Activity and Bill Rule Check Reports that identify inactive and pending billing rules. - Research and identify variances resulting from additions, rate changes, and deletions.	
Implementation Timeframe:	August 2009	
Responsible Person:	Carver Joseph (Accounting); Sharon Jones (ISD)	
Rec. # 5	**Recommendation 5**. The Department of Aviation should seek to include a late payment provision on payments not received thirty days after the City issues its invoices, when renegotiating the lease agreements in 2010.	**Agree**
Proposed Action:	The Department of Aviation will seek to include a late payment provision on payments not received thirty days after the City issues it invoices, when renegotiating the lease agreements in 2010.	
Implementation Timeframe:	September 2010	
Responsible Person:	Bill Murphy	
Rec. # 6	**Recommendation 6.** The Department of Aviation should propose a change in city code to establish a penalty for late payment for all leaseholders.	**Partially Agree**
Proposed Action:	The Department of Aviation has included and will continue to include a late fee penalty provision in all future leases.	
Implementation Timeframe:	Ongoing	
Responsible Person:	Bill Murphy	