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April 28, 2008

Honorable Mayor and Members of the City Council:

We conducted this performance audit in response to Resolution 08-R-0088. We focused on assessing whether the problems encountered in the first payroll run in Oracle had been corrected. We also determined the cause of these problems and assessed if appropriate steps have been taken to prevent these problems from reoccurring.

Our recommendations are intended to address the problems identified in the first payroll run in Oracle. The Department of Finance and the Department of Information Technology agreed with our recommendations, and their responses 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. We appreciate the courtesy and cooperation of city staff throughout the audit. The team for this project was Gerald Schaefer and Damien Berahzer.

Leslie Ward
City Auditor

Fred Williams
Audit Committee Chair

Cc:
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Performance Audit:
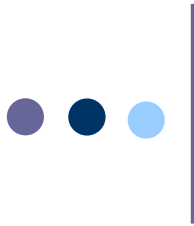
Review of the Oracle ERP First Payroll Run

What We Found

Four types of errors affected the city's first payroll run in Oracle: breakdown in communication between Wachovia Bank and city staff; incorrect mileage reimbursement; overtime overpayments; and underpayment of some employees. Of these errors, only incorrect mileage reimbursement was specific to the Oracle system. While overtime computation poses an ongoing risk to the city, the city has addressed the other payroll errors.

- Wachovia Communication breakdown: Wachovia failed to inform the city that an error in the payroll file had suspended processing. The error resulted from the Oracle implementation team's change to the file header information. However, had Wachovia followed its own protocol to inform the city that the file didn't process, the city could have identified and resolved the error before pay day.

- Incorrect Mileage Reimbursement: The implementation team incorrectly coded the mileage reimbursement rate within the Oracle system as $40 per mile instead of 40¢ per mile, resulting in overpayment of about $375,000 to 18 employees. The city identified and corrected the error and has recovered all but approximately $41,000 mistakenly paid to two of the employees.

- Overtime Overpayments: Overtime was miscalculated for nearly 1,700 employees due to improper data entry into the Kronos timekeeping system. Payroll staff identified and corrected errors for 91 employees before pay day, preventing overpayments of approximately $74,500. However, staff did not identify errors affecting an additional 1,583 employees who were overpaid for a total of 18,734 hours, at an estimated cost of $242,680. The city provided additional training to timekeepers, and our analysis of a subsequent pay period found a 95% reduction in errors. However the payroll process is still vulnerable to timekeeping errors. The city intends to recover overpaid amounts for all payroll periods to date.

- Underpayment of Some Employees: Some employees were underpaid due to incomplete time records or classification discrepancies. Oracle logic prevented employees who are filling exempt positions out-of-class from earning overtime. Also, some time keepers were unable to complete employees' time records because they were locked out of Kronos or could not access records due to chart of accounts conversion errors. These errors were corrected on a case-by-case basis.

Why We Did This Audit

Employees did not receive direct deposits as expected on January 4th, 2008--the city's first payroll run from its new Oracle system--and some employees reported that they were not paid the amounts expected. The City Council passed Resolution 08-R-0088 requesting an audit review of all issues encountered during the first Oracle payroll run.

What We Recommended

Our recommendations are intended to address timekeeping errors and resultant overtime computation errors that continue to pose a risk to the city. Addressing this risk will require a collaborative effort among departments and divisions within departments, because the primary source of error is timekeeping, not the Oracle system.

The chief information officer should:
- Implement detect/validation controls focusing on the Kronos timekeeping system and its interface with Oracle. These controls should be automated to the extent possible and should cover all potential errors in reported hours.
- Facilitate the analysis of timekeeping errors that continue to occur in the Kronos system and work with the Controller to devise courses of action to address them.

The controller should:
- Establish and document a formal process to address errors identified during the detection process.
- Work with the Controller to devise courses of action to address continuing timekeeping errors in Kronos.

Please contact Gerald Schaefer at 404.330.6876 or gschaefer@atlantaga.gov for more information.

Management Responses to Audit Recommendations

Summary of Management Responses

Recommendation:	1. The Chief Information Officer should implement detect/validation controls. • Focus for these controls needs to be on the Kronos system as this is where the errors are occurring. • These controls should be automated/semi-automated. Checks should analyze all errors (OT, UXT transfers, Regular time over 80 hours etc.).	
Department:	Information Technology	Agree
Response & Proposed Action:	DIT will write SQL queries to compare Kronos data with the csv file to Oracle to highlight errors prior to the final payroll processing, the results of which will then be forwarded to payroll resources for review and action. Once payroll and COA auditors sign off on the validity of the data, DIT will create Discoverer reports in E-Business Suite, which will check for potential payroll errors. DIT will collaborate closely with payroll resources to analyze and trend data when necessary and, when requested, will include additional pay code errors.	
Timeframe:	DIT has created the queries to run against the archived payroll data to be verified by COA auditors. These result sets will be available by May 2 at the latest. Data verification is still outstanding.	
Recommendation:	2. The Controller should establish a formal documented process to address errors identified during the detect/validation process. • This process answers the question: "What is the best way to deal with errors in overtime payment now that they have been identified". • This process should be a collaborative effort between DIT developers, Kronos, and Payroll groups.	
Department:	Finance	Agree
Response & Proposed Action:	Notifying timekeepers that correction is needed in Kronos before the file can be loaded to Oracle should be included in the process. Quick action is imperative for the payroll team to meet processing deadlines.	
Timeframe:	Process in place by 05/02/08	
Recommendation:	3. The Chief Information Officer should facilitate the analysis of errors that occur or continue to occur in the Kronos system and work with the Controller to devise courses of action to address recurring misuse.	
Department:	Information Technology	Agree
Response & Proposed Action:	Once payroll and COA auditors have verified a sample of data, Discoverer reports will be created based on specifications by payroll and finance. DIT will collaborate closely with payroll and finance to analyze and trend time data, and is currently working with an experienced HR trainer in an effort to improve the in-house Kronos training.	
Timeframe:	New query development may take several weeks, but once the results have been validated, Discoverer development and testing can be completed in 10 days.	

Review of the Oracle ERP First Payroll Run

City Auditor's Office
Leslie Ward, City Auditor
Amanda Noble, Deputy City Auditor
Audit Team: Damien Berahzer and Gerald Schaefer

April 30, 2008

Reasons for Audit

The City Council passed resolution 08-R-0088 requesting analysis of what went wrong in the new payroll system and why because:

- Employees did not receive direct deposits as expected
- Some employees were not paid the amount expected
- Payroll division noted overpayment of some employees with overtime

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The city processed its first payroll in Oracle on January 4, 2008, covering hours worked December 13 through December 26, 2007.

This payroll marked the first time the city was using Oracle, the first time the city paid employees in a single pay group instead of six pay groups, and the first time all employees were paid on a biweekly pay cycle.

Audit Objectives

- What problems occurred with the first payroll run in Oracle?
- What caused these problems to occur?
- Have appropriate steps been taken to prevent these problems from recurring?

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Audit Scope & Methodology

- Reviewing test files and project plan documents
- Reviewing Kronos training materials and attendance records
- Reviewing daily and weekly Oracle implementation status reports
- Analyzing payroll data, Kronos data, and ACH files
- Interviewing city staff and consultants and Wachovia Bank officials
- Reviewing the results of Wachovia's internal review

    We conducted this audit in accordance with generally accepted government auditing standards.

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Our initial scope was limited to reviewing the January 4th payroll run. After briefing finance and ERP team staff on the results of our fieldwork, we expanded our scope at their request to review the magnitude of overtime overpayments in the March 14th payroll run (covering hours worked from February 21 through March 5, 2008).

What problems occurred with the first payroll run in Oracle?

- Error in processing the ACH file sent to Wachovia
- Some employees on the payroll received $0 direct deposit advices
- Inaccurate mileage reimbursement calculation resulted in overpaying 18 employees about $375,000
- 1,674 employees were overpaid an estimated $317,000 in excess overtime
- Some employees did not receive expected overtime for extra hours worked

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This slide summarizes the problems that occurred in the January 4th payroll processing. We'll describe in more detail on the next several slides what caused the various problems and our assessment whether steps taken to address the problem should be sufficient to prevent them from happening again.

The first bullet deals with the delay in direct deposits being posted to employees' accounts, which resulted from an error in processing the ACH file the city sent to Wachovia. ACH means Automatic Clearing House and refers to a nationwide system for transferring funds electronically.

While most of the employees expecting direct deposit on January 4th received wire transfers later in the day, some employees were later issued paper checks because the initial payroll run showed payments due of $0. The rest of the problems relate to over- and underpayment of employees.

- Lack of communication between the city and Wachovia
  - City changed file header information without notifying Wachovia
  - Wachovia operator failed to follow protocol to notify the city that the file suspended without processing
- Incomplete testing
  - Tested file transmission, but not processing before first payroll

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Two errors occurred in processing the ACH file for the January 4th payroll. In the first, the city failed to send file control totals that the bank uses to validate the payroll file before processing the individual payments. Wachovia informed the city of the omission and the ERP team responded.

The second error resulted from a change in header information within the ACH file. This is information that the system reads to define the file. The city didn't provide the lead developer with the correct header information. "CoA" was put in as a placeholder for the correct value. Although the files went through several levels of testing and approval, the header was not corrected. Wachovia's system didn't recognize the file origin without the correct header information and processing suspended – stopped. The Wachovia operator failed to follow the bank's protocol to notify the city of the second error that had prevented processing. The city did not discover the error until direct deposits were delayed. Wachovia accepted responsibility for not notifying the city in time to resolve the problem before the start of business on January 4th.

The city and Wachovia tested transmission protocol before the first payroll run but did not test processing. In other words, tests ensured that the new system would generate a file and the bank would receive it. The city assumed the protocol testing included processing testing by Wachovia and Wachovia assumed only protocol testing was needed and no change in file format was planned.

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Has the city fixed the problem?

- The city and Wachovia have worked collaboratively to test the file format
- Wachovia conducted and reported on an internal review of where the process failed
- Wachovia acknowledged its responsibility for failing to follow protocol and issued an apology to the city

These steps appear adequate.

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The processing problem has been resolved. Following the problems with the January 4th payroll, the city and Wachovia conducted over 60 hours of processing tests. In addition, Wachovia conducted and reported on an internal review of where the process had failed. Wachovia acknowledged its responsibility for failing to follow protocol by issuing a written apology to city employees on January 10th.

The technical problem (incorrect header information) was simple to identify and resolve. Had Wachovia notified the city when processing suspended, the city could have corrected the error and the bank could have processed the payroll before payday.

This was a one-time transition problem affecting employees who changed their bank accounts or switched from being paid by check to direct deposit after data were pulled from PeopleSoft into Oracle but before the first pay period in Oracle. The Oracle system worked as intended. Oracle automatically generates a $0 advice to test the validity of new account numbers. The affected employees were later issued pay checks rather than having funds deposited directly into their bank accounts. Employees who left city employment during the conversion period also received $0 pay advices but there is no indication that any funds were distributed to terminated employees.

Some errors in wire transfers also occurred because some employees had changed their accounts at Wachovia but neither the employee nor Wachovia notified the city of the change. Wachovia had routed ACH transmissions from the old account to the new account. The city had the old account number on file and was therefore unsuccessful in wiring funds after the direct deposit processing failed because it was trying to wire funds to a closed account. This problem has since been corrected and the city has the employee's current account on file

Why were employees overpaid for mileage reimbursements?

- Programming error set reimbursement rate at $40.00 per mile instead of $0.40 per mile
- The city discovered the error, which overpaid 18 employees by $375,296
- Programmers have corrected the calculation
- The city has recovered all but about $41,000 of the overpayments

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A few employees were overpaid for mileage because the reimbursement rate was incorrectly programmed to be $40 per mile instead of $0.40 per mile. Finance discovered the error when affected employees came forward. Finance reported the problem to us and we confirmed that the error was limited to 18 employees. Managers had discouraged employees from submitting reimbursements on the first payroll run.

This problem has largely been resolved. The city corrected the reimbursement rate in the system and has recovered the overpayments from 16 of the 18 employees. The city is in the process of recovering the remaining money – about $41,000 - from the two other employees.

What caused overpayment of overtime?

- Timekeepers not using Kronos correctly
- Informal workarounds
- Insufficient testing
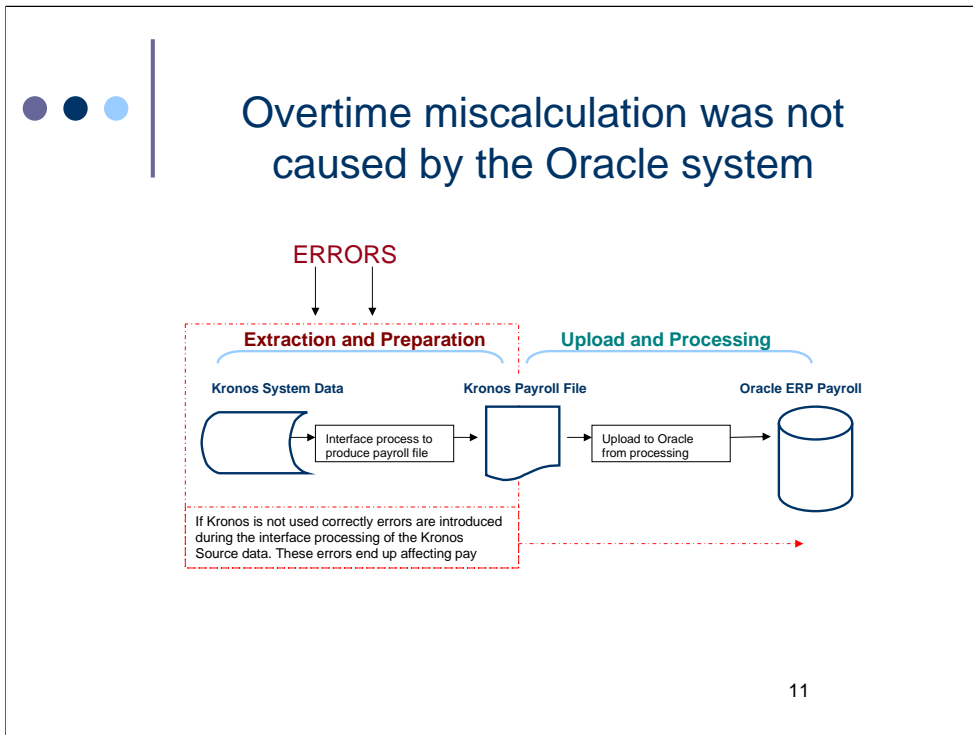- Poor training attendance

	Total	Minimum Number Not Attending	% Not Attending
Time Keepers	389	177	45.50%
Approvers	447	317	70.90%

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Nearly 1,700 employees, mostly in the Department of Watershed Management, were overpaid an estimated $243,000 in excess overtime in the January 4th payroll. On average these employees were overpaid $153.30. The problem resulted from incorrect time entries in Kronos – the city's timekeeping software system, which is interfaced with Oracle. The new interface between Kronos and Oracle required timekeepers to account for time differently than they had when the system was interfaced with PeopleSoft. Timekeepers now need to use an "effective date" value. Some timekeepers, however, used an informal practice of entering all overtime for an employee into one entry for the pay period, rather than recording the actual hours worked. This resulted in errors in calculating overtime in Oracle.

Kronos technicians were unaware of this informal timekeeping practice so it wasn't addressed in training or in testing the interface. Our analysis of training rosters found that at least 45% of timekeepers and 70% of approvers did not attend the Kronos training. These figures are most likely much higher as we removed the number of signatures we could not identify from each group.

Several key stakeholders have suggested that not enough testing occurred during the pre-implementation stages of the Oracle project. KPMG reports also identified the payroll process, which includes time entry for employees, as a source of risk.

Overtime miscalculation was not caused by the Oracle system

ERRORS

Extraction and Preparation | **Upload and Processing**

Kronos System Data — Kronos Payroll File — Oracle ERP Payroll

Interface process to produce payroll file

Upload to Oracle from processing

If Kronos is not used correctly errors are introduced during the interface processing of the Kronos Source data. These errors end up affecting pay

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This slide illustrates the interface between Kronos and Oracle. The overtime errors occurred during the extraction and preparation process when timekeepers did not enter time properly into Kronos. The Oracle system didn't cause the errors.

The Time Entry to Employee Pay Process may be divided into two categories:

1. Extraction and Preparation: During this process the timekeepers' entries are extracted and prepared via the Kronos-Oracle interface for upload into Oracle. The result of this process is the Kronos payroll file that is stored on a server.

2. Upload and Processing: During this process the Kronos payroll file produced during the extraction and preparation process is uploaded into Oracle. Oracle then calculates payments based on the information located in this file.

## Has the city fixed the problem?

- Finance's method to identify overpayments focused on high payments to individuals
- Finance identified overpayments to 91 employees made adjustments to recover about $74,450
- We identified another 18,734 excess overtime hours paid to 1,583 employees for an estimated cost of $242,680

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The city has not yet fixed the problem. Resolution includes both identifying and recovering amounts already overpaid and implementing controls to prevent the problem from recurring. We'll address detection and recovery of overpayments first.

Payroll staff noticed and began to address questionable overtime figures before the payroll run. Staff efforts identified $74,450 in miscalculated overtime to 91 employees. Payroll staff noted entries that seemed unreasonably high, submitted them back to the department timekeepers for verification, and made adjustments based on timekeepers' feedback. This manual method of checking is time-intensive and misses overpayments to a lot of employees. The graph on the following slide shows the distribution of overpaid hours by employee.
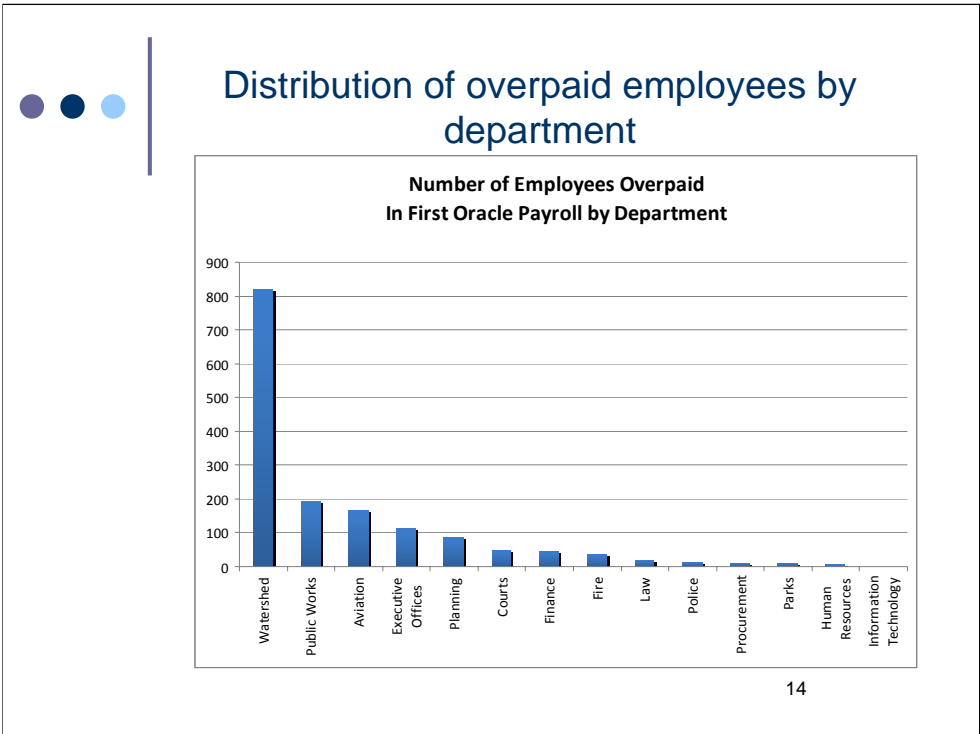
Distribution of overpaid employees by number of hours overpaid

Distribution of Employees with Overpaid Hours

About 180 employees fall into the category of 30 hours OT or more
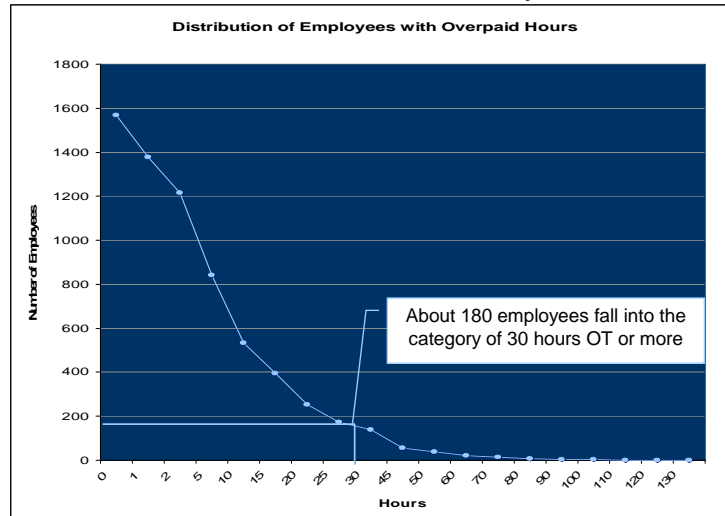
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The majority of employees were overpaid by fewer than ten hours. This is important because the manner in which payroll tried to address the problem was to look for and reverse the largest overpayments. The distribution shows that a lot of loss occurred when the number of hours overpaid per employee was relatively small.

We used computer-assisted audit techniques (CAATS) to compare source data from Kronos to the payroll file to identify all employees whose overtime was computed incorrectly. We sampled 100 of these employees to estimate the total amount of overpayment. We shared our method with finance and the project team for their use in detecting problems in subsequent payroll runs.

Distribution of overpaid employees by department

**Number of Employees Overpaid
In First Oracle Payroll by Department**

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Our analysis of the first payroll identified 1,583 employees who were overpaid. Most of these employees, 832, work in the Department of Watershed Management. Public works had 193 overpaid employees and aviation had 169 overpaid employees.

Efforts to correct the overtime problem have centered on training. Following the first payroll, the city undertook an effort to train timekeepers in the proper use of the Kronos system, including producing and publishing a video on the intranet and a presentation to illustrate how to properly move overtime. In addition, the city is currently working on publishing a Kronos Quick Guide.

Despite these efforts, the city still does not know how many people attended training, who attended, and whether gaps in knowledge continue.

At the finance department's request, we analyzed payroll records from the March 14 payroll run, covering hours worked from February 21 through March 5, 2008, to identify overtime overpayments. We found considerable improvement, but the city still overpaid 145 people for about 635 hours. The distribution of employees by department changed - parks had the highest number of overpaid employees with 43, followed by the executive offices with 28, and public works with 16.

The Kronos team initially proposed addressing the problem by providing payroll staff with a printed report containing the time summary for each employee so that payroll staff could determine whether the time in Oracle equaled the time in Kronos. This manual process of reviewing hundreds of pages of reports would be highly inefficient. Also, because the errors are occurring in the Kronos payroll interface process rather than in Oracle, the Kronos group should be responsible for identifying errors.

- Some timekeepers had problems accessing the system and could not update employee information resulting in some employees not being paid fully
- Some employees' information was not accessible in Kronos due to changes in the chart of accounts
- Some employees filling exempt positions out-of-class were not paid overtime for extra hours worked

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Finally, some employees reported that they were underpaid in the January 4th payroll. We're not sure how many employees were affected, but the problems were corrected on a case-by-case basis.

•Some timekeepers had problems accessing the Kronos system and could not update employee information, resulting in some employees not being paid fully. There is a lot of email communication illustrating this. For these employees change sheets were submitted and payroll corrected the errors.

•Some employees' information was not accessible in Kronos due to changes in the chart of accounts. There were a few employees where the new chart of accounts affected who had access to their information. For these employees change sheets were submitted and payroll corrected the errors.

Some employees were not paid overtime that they expected for extra hours worked. These employees were filling positions out-of-class that are exempt from the Fair Labor Standards Act and based on the position would not be eligible for overtime. The Oracle system was set up to prevent payment of overtime to exempt employees, which is consistent with our previous audit recommendations. Because managers said that the employees were fulfilling duties that would be eligible for overtime – even though the positions that they're nominally filling are not eligible – the program team changed the setting to allow such overtime. We did not assess whether the employees were in fact eligible for overtime and will follow up on this as we assess the status of our prior recommendations.

Implement detect/validation controls

Focus for these controls needs to be on the Kronos system as this is where the errors are occurring

These controls should be automated/semi-automated

Manual controls are highly time consuming and thus highly inefficient: The initial plan was to provide payroll with a PDF printout and have them manually check for differences is not an effective approach. There is no reason to put the emphasis on Payroll to identify differences when this error is occurring before the data even gets into Oracle.

Check should analyze all errors (OT, UXT transfers, Regular time over 80 hours etc): We noted trends in the data the point to UXT hours being added to other pay groups such as OT, regular pay, holiday pay etc). While the majority of errors appear to occur in OT there are errors in other areas as well.

Establish a formal documented process to deal with errors identified during the detect/validation process (Formal and documented is important because the city needs to have an established process to deal with this issue.)

This process answers the question: "What is the best way to deal with errors in overtime payment now that they have been identified"

This process should be a collaborative effort between DIT developers, Kronos, and Payroll groups (The best way to address the exceptions should come out of a candid discussion from both key stake holders. One deciding what is best and forcing it on the other will result in inefficiencies.)

Analyze errors and devise a course of action to address recurring misuse of the Kronos system (Continued issues with the time entries indicate that other steps need to be performed, such as training of the timekeepers who regularly encounter errors when using the system or investigation into those time keepers or departments that continue to have issues.)