



OFFICE OF THE CITY AUDITOR
Long Beach, California

R-8

LAURA L. DOUD, CPA
City Auditor

February 9, 2010

HONORABLE MAYOR AND CITY COUNCIL
City of Long Beach
California

RECOMMENDATION:

Receive and file the attached Technology Services Inventory Controls Audit Report.

DISCUSSION:

We recently concluded our Technology Services Inventory Controls Audit. Attached for your consideration is our audit report that highlights areas of improvement and recommendations for Management.

Internal controls are policies, procedures, and practices established to safeguard an organization's assets, check the accuracy and reliability of accounting data, promote operational efficiencies, and ensure adherence to prescribed management policies. Computer and related equipment expenditures on behalf of departments supported by the Technology Services Department (TSD) totaled more than \$3 million over a two year period (fiscal years 2007 and 2008). Proper controls and accountability are critical to safeguard these City assets.

Our audit identified several needed improvements to the existing asset database used to track computers. Specifically, we recommend that TSD update records in a timely manner, restrict database access for employees with incompatible duties, and develop a plan to properly record or remove salvaged or missing items from the database. Our audit also identified the need for updated policies and procedures to incorporate critical functions, such as accountability for assets that are deployed to departments, maintenance of accurate inventory records, and proper safeguarding of asset inventory. Finally, we found that controls over small computer components and accessories susceptible to loss or theft, such as hard drives and memory cards, need to be improved. A detailed discussion of all issues examined in our audit is contained in the attached report.

The Technology Services Department concurs with our report in its attached response and agrees to implement the recommendations. We would like to thank the Technology Services Department for their cooperation with the audit, and for implementing the changes as outlined in their response.

TIMING CONSIDERATIONS:

Action by the City Council is not time sensitive.

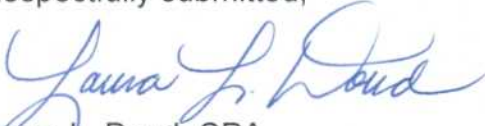
FISCAL IMPACT:

Proper internal controls protect city resources by ensuring that valuable City assets are appropriately tracked and safeguarded.

SUGGESTED ACTION:

Approve recommendation.

Respectfully submitted,

A handwritten signature in blue ink that reads "Laura L. Doud". The signature is fluid and cursive, with the first name being the most prominent.

Laura L. Doud, CPA
CITY AUDITOR

Attachment



**City of Long Beach
Office of the City Auditor**

**Technology Services Inventory Controls
Audit Report**

February 2010

Laura L. Doud, CPA
City Auditor

Office of the City Auditor

Audit Report

Technology Services Inventory Controls

February 2010



Audit Staff

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Table of Contents

Executive Summary	1
Background	3
Audit Objectives, Scope, and Methodology	5
Issues and Recommendations	
Issue #1 – Significant Discrepancies Between Inventory Records and Inventory Observed	7
Issue #2 – Inadequate Procedures for Computer Asset Transfers and Returns Result in Missing or Unaccounted for Items	10
Issue #3 – Inappropriate Access to the Remedy System	10
Issue #4 – Existing Policies and Procedures Need to be Updated to Include Critical Functions	11
Issue #5 – Lack of Security and Tracking Over Computer Components and Accessories Susceptible to Theft	11
Appendix A	
Management's Response.....	12
Appendix B	
Status of Prior Audit Recommendations.....	18

Executive Summary

We recently concluded our audit of the inventory controls in the Technology Services Department (TSD) Customer Services Bureau. The purpose of the audit was to determine whether internal controls over inventory under TSD's oversight are in place and adequate to ensure that City assets are properly safeguarded. The scope of our audit was limited to personal computers, monitors and printers under the management of the Customer Services Bureau.¹

To accomplish this, we analyzed TSD's system of internal controls over inventory. Internal controls are policies, procedures and practices established to safeguard an organization's assets, check the accuracy and reliability of accounting data, promote operational efficiencies and ensure adherence to prescribed management policies.

Our testwork included performing physical inventories of computers and related equipment (computer assets) at TSD's storage facilities, conducting physical inventories of a sample of computer assets at selected City departments, interviewing management and staff, assessing access to TSD's Remedy system (used to track TSD's inventory, service and equipment requests, and other updates), evaluating access to storage facilities, reviewing salvaged asset records and analyzing parts and accessory purchases.

As a result of our audit, we identified internal control weaknesses over the inventory held by TSD that need to be strengthened to ensure that City assets are properly accounted for and safeguarded. The following briefly highlights the findings that are addressed in this audit report:

Issue #1 - Significant Discrepancies Between Inventory Records and Inventory Observed

TSD uses a software program (Remedy) to track computer assets and to record Remedy tickets, which are service requests and other updates. We found significant discrepancies between TSD's Remedy system records and inventory observed and noted the following deficiencies in the computer system and records:

- Remedy System updates or "tickets" are not input in a timely manner. During our review, over 1,700 tickets were outstanding. Currently, one employee is assigned to input Remedy system tickets as one of several job duties and inputs about 7 tickets per day. The timely input of these tickets is necessary for proper tracking of inventory.

¹ The scope of this audit excluded software, telecommunications equipment (pagers, cell phones), audio/visual equipment, servers, mainframe, electronic infrastructure and other equipment that are not managed by the Customer Services Bureau. However, as part of the inventory of computer assets deployed to departments, we observed a sample of servers listed on the Remedy System Inventory report.

- Over 75% of computer assets (1,318 of 1,748) recorded in Remedy as being in storage were unobserved during our physical inventory. Management located 193 of the 1,318 items, leaving 1,125 unaccounted for items.
- Over 17% of a selected sample of computer assets (144 of 838) deployed to departments were recorded in Remedy but could not be located.
- Assets retired from service remain in Remedy due to lack of documentation to support that items may be removed.
- Remedy System reports contain errors, such as:
 - Incorrect or missing locations;
 - Inaccurate status of assets;
 - Duplicate computer asset serial numbers; and
 - Unrecorded computer assets that are in use but not in Remedy.
- A citywide physical inventory conducted by TSD in 2008 has yet to be reconciled.

Issue #2 – Inadequate Procedures for Computer Asset Transfers and Returns Result in Missing or Unaccounted for Items

Inadequate procedures and documentation for transferred or returned computer assets held by departments has resulted in missing or unaccounted for items. We noted the following internal control deficiencies:

- Departments move computer assets to different locations/users without notifying TSD. As a result, the new location/user is not reflected in the Remedy system.
- Departments return assets to TSD without maintaining evidence of the return and TSD does not require signed receipts to document returns. Without proper documentation it is difficult to track the proper return or disposal of equipment.

Issue #3 – Inappropriate Access to the Remedy System

Three employees who have access to the inventory storage rooms also have the ability to add and modify assets in the Remedy system. This lack of segregation of duties makes it possible for an employee to remove an asset and modify the asset's records in the system without detection.

Issue #4 – Existing Policies and Procedures Need to Be Updated to Include Critical Functions

TSD's existing policies and procedures need to be updated to include proper safeguarding of inventory, timely reconciliation of assets in the Remedy system, maintenance of complete and accurate inventory records, and accountability for assets once they are deployed/returned.

Issue #5 – Lack of Security and Tracking Over Computer Components and Accessories Susceptible to Theft

There is no security or tracking for highly desirable computer components and accessories, such as hard drives, memory cards, video cards and flash drives. These items are greatly susceptible to theft.

Details of the above issues, including background information, audit objectives, and scope and methodology are discussed in the body of this report. We thank TSD for their cooperation during this audit.

Background

The Technology Services Department (TSD) provides telecommunication and information systems services and support to the City and its departments. TSD's operations are organized into the following four Bureaus: Business Information Services, Customer Services, Infrastructure Services, and Operations Support.

The scope of our audit was limited to internal controls over computer assets under the management of the Customer Services Bureau (CS Bureau). The CS Bureau provides computer assets and support services to City departments, including personal computer (PC), printer and software installations and upgrades, troubleshooting and repairs, Capital Improvement Program (CIP) PC replacements, and Help Desk support.

The costs of computer assets and support services are charged to City departments or "users" through the use of Memorandums of Understanding (MOU's) and interdepartmental charges. TSD bills users monthly based on the cost of computer assets and related connections, plus a surcharge to allocate repair and maintenance costs. Some departments such as the Library and Police departments maintain independent information technology divisions and therefore utilize TSD on a limited basis. The Water and Harbor departments have their own autonomous technology operations.

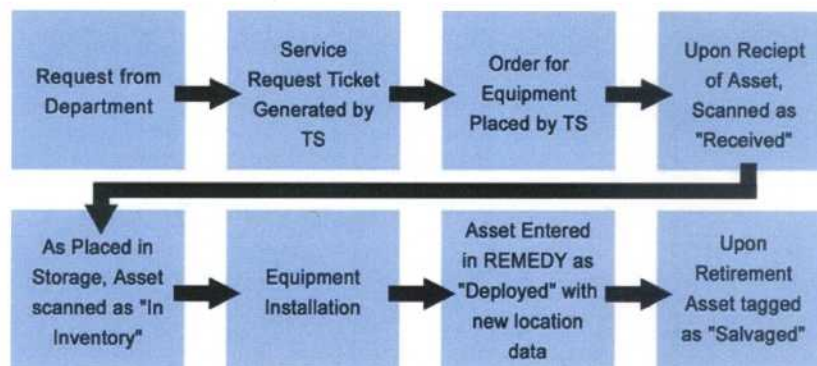
Beginning in fiscal year (FY) 2010, TSD is utilizing a new methodology for recovering costs. The new allocation model will move away from direct charges for services to allocating costs across all departments and funds. Benefits of the new model include

freeing up staff time by eliminating charge backs to customers for specific services and hardware. In addition, the new model will allow TSD to fully recover costs.

The CS Bureau supports approximately 190 user locations citywide. An estimated 1,300 to 1,500 pieces of computer and related equipment and software are installed, replaced, removed, or reassigned annually. In fiscal years 2007 and 2008, expenditures for computers and related equipment totaled approximately \$2.2 and \$1.1 million, respectively. Personal computers are currently purchased from Dell through an agreement established through a competitive bid process. Purchases of computer parts and accessories are generally made from one of three vendors that offers the lowest price on the item needed at the time of purchase.

In addition to computer replacements, the Bureau provides services based on Technology Services requests (TSR's) initiated by departments. The Bureau responds to TSR's related to desktop PCs, software and computer components, including installations and troubleshooting. In fiscal year 2008, TSD processed approximately 4,100 service requests many of which were completed by the CS Bureau.

The CS Bureau has responsibility over computer asset inventories, and uses the Remedy System to manage the inventory of their PC and related equipment including monitors, printers, servers, and laptops. Remedy tracks the entire life cycle of an asset from acquisition to disposal. Each asset is tagged with a unique serial number, description, location, and status as it moves within the City. The chart below briefly summarizes the life cycle of an asset tracked through the Remedy system.



In an effort to manage and track assets, TSD has implemented a plan to perform a citywide physical inventory of computers and related equipment every 3 years, with one third of departments inventoried each year.

Audit Objectives, Scope, and Methodology

The Office of the City Auditor has recently concluded our audit of the inventory controls in the Technology Services Department (TSD) Customer Services Bureau. The purpose of the audit was to determine whether internal controls over inventory under TSD's oversight are in place and adequate to ensure that City assets are properly safeguarded. The scope of our audit was limited to personal computers, monitors and printers under the management of the Customer Services Bureau.²

The scope of this audit covered fiscal years 2007 and 2008, from October 1, 2006 through September 30, 2008.

During the audit, we performed the following procedures:

- Obtained and reviewed TSD's policies and procedures;
- Reviewed the previous audit report on TSD's equipment inventory internal controls and determined whether prior recommendations have been implemented;
- Interviewed TSD's management and staff to obtain an understanding of the policies, procedures and internal controls over inventory;
- Toured the storage rooms where equipment inventory is held to assess the security over assets;
- Performed a walk-through of the inventory receiving and salvaging process with TSD personnel;
- Observed TSD personnel performing the inventory reconciliation process in the Remedy system;
- Assessed personnel's access to the inventory storage rooms for appropriateness;
- Reviewed and assessed TSD personnel's Remedy system access for appropriateness;
- Performed a physical inventory of assets in TSD's three storage rooms;
- Selected a sample of City departments and corresponding computer assets listed as "Deployed" in Remedy and performed a physical inventory of those assets;

² Ibid. p. 1

- Selected a sample of assets listed as “Salvaged” in Remedy to determine whether supporting documents exist for those salvaged items;
- Scheduled vendor invoices to determine the amount of computer parts and accessories purchases made by TSD in FY 2007 and FY 2008; and
- Reviewed the results of the citywide physical inventory conducted by TSD in 2008.

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Issues and Recommendations

Issue #1 – Significant Discrepancies Between Inventory Records and Inventory Observed

Inventory of Computer Assets in Storage Rooms

We conducted a physical inventory of TSD inventory in storage rooms in April 2009. Of the 1,748 computers and computer related equipment that were listed in the Remedy System as "In Inventory" or "Received", only 430 (or 25%) of those assets were observed in the storage rooms.

Inventory Count Summary

Total # of Assets "In Inventory"/"Received" per Remedy System	Total # of Assets Observed	Total # of Unobserved Assets
1,748	430	1,318

Workstations and monitors accounted for 81% of the total unobserved assets. The breakdown of the unobserved assets by category is shown in the table below.

Unobserved Assets by Category

Category	Total Unobserved	% of Total Unobserved
Workstations	541	41%
Monitors	528	40%
Laptops	157	12%
Printers	92	7%
Total	1,318	100%

Additionally, we noted the following issues regarding the System inventory report:

- Incorrect or missing locations;
- Inaccurate status of assets;
- Duplicate computer asset serial numbers; and
- Unrecorded computer assets that are in use but not in Remedy.

We presented our findings to Management and they were able to research and account for 193 (or 15%) of the 1,318 unobserved computer assets. We confirmed on a sample basis, that the 193 items tested were either deployed or salvaged; however, they were listed in Remedy as "In Inventory" or "Received". There are now 1,125 (64%) unaccounted for items in Remedy.

Inventory of Computer Assets at Departments

We selected a sample of 838 deployed computers and computer related equipment at seven City departments, and conducted an inventory of the selected items, which included workstations, monitors, printers, and laptops. The results of our inventory are presented in the table below.

Inventory Count Summary by Department

Department	# of Assets Selected for Inventory	# of Assets Observed	# of Unobserved Assets³	% of Unobserved Assets
Community Development	136	127	9	7%
Fire	82	73	9	11%
Health	136	80	56	41%
Library	112	104	6	5%
Parks, Recreation, and Marine	68	64	2	3%
Police	224	173	50	22%
Public Works	80	62	12	15%
Total	838	683	144	17%

We were unable to locate 144 (or 17%) of the 838 assets we selected for inventory. During our review, we noted several internal control weaknesses that have contributed to the discrepancies found between our physical inventory and TSD's inventory records as follows:

Remedy System Is Not Updated in a Timely Manner

The Asset Management Module of the Remedy system is used to track the life cycle of an asset from acquisition to disposition. Critical information such as an asset's location, serial number, type, model, status, and custodian are maintained in Remedy. One TSD employee is assigned to input service request tickets in Remedy; however, the employee is also assigned other job duties. During our audit, there were approximately 1,700 outstanding tickets not yet input into Remedy, and an average of 7 tickets were input into Remedy per day.

Routine, timely, and independent reconciliation processes ensures that inventory records are accurate and an effective management tool to track and safeguard assets.

Poor Record Keeping

Management informed us that poor record keeping in the past has left disposed of assets in Remedy that should have been removed. Management indicated that items such as monitors that have been replaced due to a warranty agreement still show up in inventory because TSD lacks the documentation to remove these items from Remedy.

³ We noted 11 additional assets that were unobserved; however, proper documentation was provided and therefore those assets are not included in the "# of Unobserved Assets" column in the table above.

Incomplete/Inaccurate Asset Information

As we noted earlier, we found issues regarding the Remedy Inventory Report. In some cases, the asset's location was not listed or the location listed was incorrect. Some assets were listed twice on the report.

The Remedy inventory report should contain complete and accurate information as a management tool to track assets.

Other City Personnel have Access to Inventory

Five TSD employees and Data Center personnel have swipe card access to enter the Data Center warehouse where most new assets are stored when received. Management indicated that Data Center personnel have access to the storage room in the event of an emergency, when they need to repair wiring that runs underneath the room. Access to computer assets in the storage room should be limited to a few TSD personnel.

2008 Citywide Physical Inventory Has Yet to be Reconciled

In 2008, TSD performed a citywide physical inventory of computers and related equipment. During our audit, we requested a copy of the inventory and found that TSD is still in the process of reconciling the physical inventory data to inventory records.

Timely reconciliation of physical inventory results to the inventory records is critical in developing complete and accurate inventory reports that serve as a management tool to track assets, identify discrepancies and take action to resolve them.

Recommendations:

- Determine the whereabouts of the 1,125 unobserved assets and update Remedy accordingly.
- Input outstanding tickets into Remedy; consider assigning staff to keep the system updated regularly to ensure that the Remedy inventory reports contain complete and accurate information as a management tool to track assets.
- Develop and implement a plan to remove non-existent assets that still show up in Remedy (i.e. duplicate serial numbers, replaced assets, etc.). Track these items separately. Consult with the City Manager's Office and City Attorney's Office regarding the approvals and procedures required to remove these items from Remedy.
- Limit access to the Data Center Warehouse to a few TSD personnel who do not have incompatible duties.
- Develop a policy and procedure that defines departments' responsibilities for the safeguarding of deployed technology equipment. The policy should address conducting periodic inventories, movement of equipment in the department and procedures for reporting missing or stolen equipment and accounting for missing or stolen items in TSD inventory records.

- Complete the citywide physical inventory initiated in 2008 and reconcile the physical inventory performed to inventory records.

Issue #2 – Inadequate Procedures for Computer Asset Transfers and Returns Result in Missing or Unaccounted for Items

During our physical inventory of computer assets, some departments explained that unobserved computers had been returned to TSD; however, TSD maintains that they have no record of the “returned” assets. Departments do not maintain signed receipts for items returned to TSD, nor does TSD require signed receipts to document returns. The combination of the lack of accountability for returned assets and inaccurate inventory records make it difficult to track and determine responsibility for these unobserved assets.

Further, it appears that departments transfer or reassign computer assets without notifying TSD, making it difficult to locate computer assets during a physical inventory or maintain accurate Remedy system records of computer asset locations.

Recommendations:

- Develop a process to require department and TSD personnel signatures when equipment is received by departments or returned to TSD. The form used to document equipment transfers should include the recipient’s name, location, date received/returned and equipment serial number.
- Develop and disseminate written communication to departments reaffirming that computers and related equipment can only be moved with TSD’s approval.

Issue #3 – Inappropriate Access to the Remedy System

All employees who are licensed to utilize the Asset Management Module of Remedy have the ability to add and modify assets in the System, including changing the status and/or location of an asset. We found that three employees with access to the Asset Management Module of Remedy also have access to the storage rooms where computers and related equipment are kept. Proper segregation of duties separates physical custody of assets from recording functions. This type of incompatible access would make it easy for an employee to remove an asset from the storage room and then modify the asset’s record; for example, change the status of that asset to “salvage” in Remedy without detection.

Recommendation:

- Develop a system of checks and balances so that one individual does not have the ability to perform incompatible duties, such as, add and modify assets in Remedy and have physical access to computer assets in storage.

Issue #4 – Existing Policies and Procedures Need to be Updated to Include Critical Functions

TSD's existing policies and procedures need to be updated to incorporate the following critical functions:

- a) Access to and safeguarding of computer asset inventory;
- b) Timely reconciliation of assets in the Remedy system;
- c) Adjustments/deletion of assets in the Remedy system (i.e. assets that are no longer with the City, duplicate records, etc);
- d) Discrepancies found between inventory records and the TSD's annual physical inventory; and
- e) Processes to document the receipt of assets deployed, transferred and returned.

Written policies and procedures are critical to ensure management's prescribed policies for safeguarding and accounting for computer assets are communicated to staff and consistently followed.

Recommendation:

- Update policies and procedures to address access to inventory and safeguarding of assets, timely reconciliation of assets in the Remedy system, reconciling discrepancies in physical inventories, and processes to document receipt and establish accountability for assets that are deployed, transferred and returned to TSD.

Issue #5 – Lack of Security and Tracking Over Computer Components and Accessories Susceptible to Theft

During fiscal years 2007 and 2008, the TSD purchased computer parts and accessories totaling approximately \$337,000 from two vendors. These purchases included hard drives, memory cards, flash drives, cables, mice, and video cards. Although the prices of these items individually are not high, these are highly desirable items and susceptible to theft. Access to highly desirable items should be limited and items should be tracked to reduce loss through shrinkage.


Currently, five employees have access to the workroom where these items are stored. Employees with access to the workroom can remove these items at any time. There is no tracking system in place to account for these items.

Recommendations:

- Develop and implement a system to track incoming and outgoing computer parts and accessories.
- Limit the number of employees who have access to the workroom warehouse.

Appendix A – Management's Response



Date: January 4, 2010
To: Laura L. Doud, City Auditor
From: Curtis Tani, Director of Technology Services 
Subject: **Management Response to Technology Services Inventory Controls Audit**

Attached for your review is the Technology Services Department's (TSD) Management Response to the Inventory Controls Audit. TSD appreciates the work of your team as it relates to the Audit Report. We agree with the findings and look forward to working with your team to rectify the identified deficiencies.

Should you have any questions or concerns, please contact me at 8-6234.

CT:SPS:sps
Attachment

cc: Patrick H. West, City Manager
Suzanne Frick, Assistant City Manager
Reginald Harrison, Deputy City Manager
James Johnson, Assistant City Auditor
Janet Day, Deputy City Auditor
Jyl Marden, Assistant to the City Manager

Management Response

The Technology Services Department (TSD) appreciates the City Auditor's Inventory Controls Audit. TSD takes very seriously the responsibility of maintaining the City's technology assets and supports the City Auditor's recommendations for improvement. The Department looks forward to working with the City Auditor in rectifying the record-keeping deficiencies identified in the Technology Services Inventory Controls Audit Report.

Over the last decade, TSD has experienced tremendous growth both in the number and complexity of technology equipment provided to our customers. The total number of personal computers, alone, has increased throughout the City by over 100 percent. In total, the department is responsible for over 10,000 personal computers, including laptops, monitors, and printers. In addition to the responsibility of tracking these technology assets, the Department is also responsible for procuring, deploying, maintaining, and salvaging these devices.

Since the last audit in 2003, the Department has made tremendous progress in maintaining the inventory and servicing the equipment, despite significant budget reductions to our technical support personnel. Several noteworthy improvements in the areas of asset management and inventory controls include:

- Continued implementation and development of a single, integrated, asset management tracking system, Remedy, which captures all personal computer-related equipment (desktop computers, laptops, monitors, printers);
- Implemented a four-year personal computer replacement program to capitalize on newer technology and avoid downtime and loss of employee productivity resulting from older computers;
- Instituted an annual computer equipment physical inventory, which captures 1/3 of all deployed equipment each year, or 100 percent of deployed equipment every three years;
- Enabled a Citywide multi-function device (MFD) program, aimed at reducing the number of printer assets and stand-alone copiers and fax machines via the implementation of MFDs, which can print, scan to email, and fax, all in one machine;
- Constructed a secure, onsite, storage facility in City Hall that has enabled a single location for the storage of inventoried personal computer equipment, prior to deployment and salvaged equipment prior to pick-up by the City's disposal/recycling vendor;

- Implemented a barcode scanning system that better enables us to track equipment through the various stages of its lifecycle, including receipt, deployment, and salvage;
- Developed a relationship with PropertyRoom.com for the documented disposal of technology assets; and,
- Worked with Dell Computers to create shipping box labels that enhance our inventory tracking process by providing a link between the purchase orders, order numbers, and asset serial numbers.

Inventory Controls Initiatives

The Department understands the importance of sound asset tracking and record-keeping practices. To that end, the Department has been and will continue to take appropriate steps to ensure greater integrity and reliability of the Remedy asset database. Several areas that are currently being addressed, and that are identified in the Audit Report, include:

- Correction of Previous Record-keeping Deficiencies
- Update of Policies and Procedures
- Reallocation of Existing TSD Personnel to Enhance Record-keeping Efforts

Response to Identified Issues

Issue #1: Significant discrepancies between inventory records and inventory observed.

Response: TSD agrees with the Auditor's finding. The Department recognizes the importance of maintaining a reliable, accurate asset database. There are several contributing factors to the number of unobserved assets identified in the Audit Report. First, the lack of proper record-keeping in years past has greatly perpetuated the problem today. Specifically, the Department historically did not have appropriate end-of-life record-keeping procedures in place documenting when an asset was salvaged and removed from the City's possession. Essentially, when a piece of equipment was salvaged, there was no record of that transaction. The Department, lacking the proper disposal documentation, kept the asset in Remedy, knowing, however, that the asset was gone. This historical problem represents the vast majority of the unobserved equipment identified in the Audit Report.

To correct this record-keeping deficiency, TSD will work closely with the City Auditor and City Manager to properly write off equipment that is no longer with the City, yet is still included in the Remedy asset database.

Second, TSD currently has one employee responsible for documenting asset disposition changes in Remedy. When a service request is completed by one of the Department's desktop technicians to install, move, retire, or replace a computer-related

asset, this one individual is responsible for changing that asset's disposition (whether it's been deployed, moved, removed, etc.) in Remedy. There are currently hundreds of service requests that have been completed (meaning the work has been done), that are still awaiting the disposition change in Remedy. It is important to note, however, that the asset is properly accounted for, but it just has not been updated in the asset management software.

As noted above, to address this problem, the Department will reallocate personnel from another operation to assist in a timelier update of asset records. This action will double the resources dedicated to updating the asset records in Remedy and ensuring the database's accuracy. The Department is able to reallocate this position because of a new MOU billing methodology implemented in 2010, which will dramatically reduce TSD's time and effort in preparing monthly MOU bills.

Third, the Audit Report recommends that existing policies and procedures be strengthened to better account for changes in computer-related asset disposition. (Please note that this response incorporates Issues #2 and #4). TSD agrees with this recommendation and will work diligently to update existing policies or create new policies that will help address identified record-keeping deficiencies.

There are a couple of policies that could significantly enhance TSD's ability to strengthen its record-keeping. One such policy would speak specifically to the responsibility of moving computer equipment. Today, customer departments often move assets from one office to another or one location to another, without notifying TSD. Technology Services is unable to maintain accurate records without knowing about these changes.

To address this, a new policy (or re-written existing policy) will state that only TSD personnel are authorized to move computer related equipment. Additionally, the Department has recently implemented an internal procedure that addresses warranty replacements/returns and how those devices are to be accounted for in Remedy. This new procedure has already improved the integrity of our Remedy asset database by properly removing assets that have been returned to the manufacturer under warranty. Upon completion, the Department will request the City Auditor's assistance in determining the appropriateness of said policies in addressing the identified concerns.

Issue #3: Inappropriate Access to Remedy System

Response: TSD agrees with the Auditor's finding. This issue reflects the fact that personnel in the asset management operation have access to Remedy, where asset records can be modified. These employees currently need access to update Remedy because they are responsible for scanning in received assets (upon delivery from the vendor), scanning changes in inventory status (scanning an asset as "In Inventory" in the storage facility), and scanning out an asset to a desktop technician for installation. If any field is updated in the Remedy system, an audit log captures these changes and identifies what was updated and who made the change.

To address this issue, the Department will revisit the current duties of existing asset management personnel and endeavor to identify ways to separate the duties. It is important to note, however, that TSD has worked closely with Dell Computers by creating box labels that link the order, purchase order, and asset serial numbers to ensure that there are controls in place upon initial receipt of technology assets to minimize the possibility of any impropriety.

Issue #5: Lack of Security and Tracking Over Computer Components and Accessories Susceptible to Theft

Response: TSD agrees with the Auditor's finding. TSD has recently designed and implemented a database tracking system for these smaller parts. Before the part is released to a technician for installation, a parts tracking form must be filled out that lists the pertinent information, such as the technician's name, service request ticket number, date, and quantity of parts taken. The asset management team's workroom employee is then responsible for updating the parts database, which keeps a running history of all parts ordered and utilized.

However, it should be noted that the Department does not keep large quantities of computer components and accessories in stock. A purchase of these components is typically made based on an approved service request submitted by a customer department.

Conclusion

In summary, the Technology Services Department wishes to thank the Office of the City Auditor for their Inventory Controls Audit Report. This was an important review that will help the Department limit discrepancies in the asset database and ultimately improve service to our customers. TSD management agrees with the findings and will work diligently to address the record-keeping deficiencies identified in the Audit Report.

At the conclusion of our work to rectify any shortcomings, TSD will request that the City Auditor's team return to validate that corrections are sufficient.

Appendix B – Status of Prior Audit Recommendations

On January 7, 2003, the former City Auditor's Office issued their report, *Technology Services Equipment Inventory Internal Control Review*. The purpose of the audit was to determine the adequacy of internal controls in place to prevent or detect the loss of City assets and to determine if those controls are operating effectively.

The details of the prior audit findings, recommendations, and management's responses, along with the current status of the recommendations, are summarized below.

Finding #1: The Department has no single system for tracking equipment, there is redundancy in information entered into various tracking systems and there are no controls to ensure accurate input of this information.

The Department relies heavily on its TSO Billing System to track equipment. This system, however, was not designed to track equipment from its order point, or point of receipt, to a storage facility. Essentially, the system is designed only to track equipment in use and being billed to user departments. The system used to track receipt of equipment (the TSO Inventory System) does not integrate with the TSO Billing system and is not used to track the physical movement of equipment. Similarly, spreadsheets are used to track laptop equipment that has been rented to departments. The use of multiple tracking systems is ineffective in identifying the whereabouts of a particular piece of equipment at any given time. The use of multiple systems is also inefficient. Information is redundantly entered into several systems by various individuals.

In addition, there are inadequate controls over the entering of data into these various systems by various individuals. For instance, there is no independent review of the information entered into the Remedy System (i.e. add, delete, update or close work orders). This represents an inadequate segregation of duties as technicians installing the equipment should not also maintain records.

Finally, there are no controls to ensure all equipment that is installed is entered into the TSO Billing System. One individual scours the Remedy work order system daily and transfers any information about installed equipment to the TSO Billing System without independent review or verification. In addition to the loss of proper billing data, this lack of verification may also result in loss of equipment tracking information, as the TSO Billing System is currently the Department's primary record of equipment in use.

Recommendations:

We recommend that the Department select a single system to track equipment from the point of receipt to final disposition. Once a system is implemented, controls over input of information and an appropriate segregation of duties should be implemented.

Management's Response:

We agree with the Auditor's conclusion on the need for a single integrated billing and inventory system. Some of the systems are in some cases over 15 years old and are

not adaptable to fit the new technology areas. Most of the billing and inventory systems were developed for a specific purpose and cannot be effectively modified to produce one or combined billings to the departments. We have not been able to identify a software solution that will satisfy all of our billing and inventory needs, but we do plan on expanding the use of our service request/work order system (Remedy) to serve as the central equipment inventory point.

Current Status:

The following recommendation was implemented:

- The Department uses the Remedy System as the single integrated billing and inventory system. Remedy is used to track equipment (including laptops) from the point of receipt to final disposition.

The following recommendation was not implemented:

- There is still a lack of segregation of duties issue. Three people with access to inventory storage rooms also have access to the Asset Management Module of Remedy allowing them to add and/or update an asset's information in the system.

Finding #2: The Department has no policies and procedures for tracking equipment or performing periodic physical inventories.

There are no policies and procedures for the processes of ordering, receiving, storing, moving, tracking and disposing of computers and related equipment.

The last physical inventory of personal computer and related equipment was conducted 2 ½ years ago.

Recommendation:

In conjunction with its selection of a single inventory tracking system, we recommend that the Department establish policies and procedures for equipment procurement, receipt, movement, storage and disposition. Management should periodically verify that these controls are operating effectively. The Department should also develop a policy to cyclically conduct physical inventories of all equipment, particularly that in the possession of the Department (i.e. the storeroom).

Management's Response:

We will be requesting the assistance of the City Auditor to help us develop the appropriate inventory procedures as well as clarifying the organizational responsibilities that have contributed to existing conditions. A decision on funding or resources to conduct an annual inventory to reconcile records will also need to be addressed.

Current Status:

The following recommendations were implemented:

- The Department uses the Remedy system as their single tracking system.

- Policies and procedures for equipment procurement, receipt, storage, movement, and disposition were established.
- The Department has established a 3-year physical inventory plan. In 2008, the Department performed a citywide physical inventory; however, as noted in our audit report, the results of the inventory have yet to be reconciled.

Finding #3: There is a lack of controls and appropriate segregation of duties over the receipt and payment processes.

One technician has the ability to receive goods, input equipment information into the Storage Facilities Inventory Spreadsheet and remove equipment for installation. This represents a lack of adequate segregation of duties.

Packing lists are not consistently signed, or signed by the actual receiver. Furthermore, packing lists are not verified as to actual equipment serial numbers when received. Finally, there is no supervisory review of these packing slips prior to payment authorization.

Recommendations:

We recommend that the Department establish policies and procedures over the receipt of equipment and the related payment of vendor invoices. These policies and procedures should ensure that there are adequate controls and segregation of duties and management should periodically validate that controls are in place and operating effectively.

Management's Response:

The department has recognized the need for improved inventory control and finally was able to dedicate a portion of a person to the function of shipping, receiving, and releasing of equipment within the past year.

Another major issue has been the lack of facility space. Until recently, there was inadequate space to store equipment, and as a consequence, nearly a dozen different locations were used to store equipment in the City. This lack of space has been a major factor in controlling inventory. We have addressed this issue with the new facility at 5580 Cherry Avenue. This facility will now become the central location for receiving new equipment and preparing equipment for salvage, allowing for improved controls for both new and salvaged equipment.

This facility will allow us to institute better controls on access in the inventory area by designating only certain people as being able to receive and allocate inventory. Physically, security will also need to be addressed, and while this is an expense that has not been budgeted for, funding will also need to be allocated for this purpose.

Current Status:

The following recommendations were implemented:

- Policies and procedures have been established for receipt of equipment.

- Vendor payments are handled by the Department's Operations Support Bureau.
- The receiver signs the packing lists.

The following recommendations were not implemented:

- There is still a lack of segregation of duties. Three employees who are authorized to receive goods also have access to the inventory storage rooms and the ability to add/modify assets in the Remedy system.
- Packing lists are not verified as to actual equipment serial numbers when received. However, the Department verifies the quantity of items received to the quantity listed on the packing list.
- Supervisory review of packing slips is not performed prior to payment authorization.

Finding #4: There is a lack of physical controls over the storage of equipment.

Equipment is stored in multiple locations with City Hall, accessible to both Department personnel and other City Hall employees. The Data Center "storeroom", where the bulk of in-stock equipment is maintained, is accessible by keycode but all technicians have access and may remove equipment. The key code system is maintained by non-technician Data Center employees; so theoretically, all Data Center employees have access to the storeroom.

Department employees are allowed to access and remove ("log out") equipment from storerooms and the Office Machine Repair Room. Tracking sheets, or "PC and Monitor Tracking sheets", are supposed to be prepared by technicians to indicate what they've taken and where the equipment will be installed. However, this control is not considered sufficient.

Equipment with a cost of approximately \$192,000 at the Cherry Avenue location is in the custody of a telecommunications vendor employee while the vendor prepares its equipment for installation at the City's new telecommunications center. This warehouse is also accessible to approximately 40 Technology Services technicians from both the telecommunications and wireless divisions.

Small equipment with higher dollar value (>\$100) is maintained in a locked room within the Office Machine Repair Room and three individuals within the Department have keys. Equipment removed from this room is not adequately monitored.

Controls over laptop computers are weak. While the machines are locked in a separate room within the Office Machine Repair Room, individuals with access to this room may distribute laptops upon request.

Since March of 2002, the Department has abandoned the tracking of printers. Technicians may remove printers for installation at any time without recording the transaction.

Recommendations:

The Department should establish and enforce physical controls over the storage and movement of all equipment.

Management's Response:

The department has recognized the need for improved inventory control and finally was able to dedicate a portion of a person to the function of shipping, receiving, and releasing of equipment within the past year.

Another major issue has been the lack of facility space. Until recently, there was inadequate space to store equipment, and as a consequence, nearly a dozen different locations were used to store equipment in the City. This lack of space has been a major factor in controlling inventory. We have addressed this issue with the new facility at 5580 Cherry Avenue. This facility will now become the central location for receiving new equipment and preparing equipment for salvage, allowing for improved controls for both new and salvaged equipment.

This facility will allow us to institute better controls on access in the inventory area by designating only certain people as being able to receive and allocate inventory. Physically, security will also need to be addressed, and while this is an expense that has not been budgeted for, funding will also need to be allocated for this purpose.

Current Status:

The following recommendations were implemented:

- Equipment is currently stored at three different locations in the lower level of City Hall: "Workroom Warehouse", "25K Room", and the "Data Center Warehouse". The keycode system is no longer in use. The Workroom Warehouse and Data Center Warehouse both require swipe card entry access. The 25K Room uses a key lock with four employees who have access to the room.
- Laptops are stored in locked cabinets with only two employees who have keys.
- Printers are tracked in the Remedy system.

The following recommendations were not implemented:

- Data center personnel still have access to the Data Center Warehouse where most new equipment is stored when received.
- The Workroom Warehouse where computer parts and accessories are kept is not adequately monitored. Although access is now limited to five employees, there is no tracking in place to account for these items.

Finding #5: There are no controls over the retirement and disposal of equipment to ensure that all machines removed from service are properly salvaged.

There are no controls to ensure that all equipment removed from service is reflected in the various systems that track inventory. In particular, the Remedy system is not reconciled to Asset Retirement Forms to ensure that all retired items were properly included.

Sales of computer equipment may be negotiated by various individuals within the Department rather than being coordinated by the Parking & Property Division staff in charge of City surplus sales.

Parking & Property Division staff does not consistently verify equipment received for sale against the salvage report provided.

Recommendations:

We recommend that the Department establish policies and procedures for the disposal of equipment that will ensure that there are adequate controls and recordkeeping supporting each piece of equipment retired from service.

Management's Response:

The tracking of salvaged equipment as referenced in the audit findings has been a particular problem exacerbated by this lack of space and the need to constantly make room for new shipments. This facility (5580 Cherry Avenue) will allow us to institute better controls on access in the inventory area by designating only certain people as being able to receive and allocate inventory.

TSD will expand the use of Remedy as the central inventory control point to track the transfer, disposal or salvaging of equipment.

Current Status:

The Department now contracts with a 3rd party, Propertyroom.com, to pick up and sell salvaged equipment on behalf of the Department. Salvaged manifests are created for all salvaged equipment and reconciled in Remedy. However, as noted in our audit report, the Remedy system is not reconciled in a timely manner. Therefore, assets that have been salvaged may still show up in the system as "in inventory", "deployed, etc.

Finding #6: Due to the lack of an effective inventory system or adequate internal controls, it is difficult and time consuming to locate equipment and we were unable to locate some equipment.

For a sample of 99 items selected randomly from equipment invoices, we were unable to locate 9 of the 26 laptop computers, and 2 of the 22 printers, selected for identification. It should be noted that one of the two missing printers was received without a serial number attached. As such, the department was unable to search for it.

It took the Department weeks to identify and verify the location of much of this sample, once again underscoring the need for a seamless equipment inventory system. Such a system, complemented by appropriate internal controls, would minimize losses. Particular emphasis should be placed on items of a theftable or easily transportable nature.

Recommendations:

None.

Management's Response:

Another area that hampers inventory control is that vendors do not use a consistent approach for placing serial numbers on equipment. The Auditor's Office was shown cases where as many as three different tags on a piece of equipment that were identified as serial numbers. It is difficult to use a consistent practice in these instances. The serial number on the invoice is also sometimes inconsistent with what is placed in the inventory systems (because there are multiple serial numbers). We have also complained to the vendors about the actual location of the serial number tags on equipment. In the case of servers, it is located on the bottom of the unit, and if the server is placed in an equipment rack, there is no way to view this tag. So in order to validate the serial number the server must be brought down, disconnected, and all the wiring physically pulled out of the rack. This is a very disruptive process, must be done in off hours or on the weekends, and requires overtime to accomplish.

One of the significant inventory control issues is that TSD does not have physical control of the majority of the inventory. The equipment is installed in various departments and locations throughout the City, and TSD feels that departments have an equal obligation to ensure that inventory records remain current by validating the monthly billings they receive. A large number of items on the monthly billings have a make, model, and serial number, and inventories could be validated periodically based upon this information. If there are discrepancies, then the departments should be held accountable for notifying TSD so inventory record corrections can be made. In many cases, departments also have staff that are fully qualified to move and or swap equipment without TSD's involvement or knowledge.

TSD feels that although nine laptops and two printers were unable to be located, it should be noted that the total depreciated value of this equipment was minimal. The majority of this equipment was scheduled to be salvaged in 2003. Also, since the majority of the equipment that could not be located was portable, it again emphasizes the need to clearly define organizational accountability for equipment inventories.

Current Status:

Although the Department implemented a single inventory system (Remedy), we were unable to locate a significant number of assets during both our Technology Services inventory and citywide inventory. We found that the information contained in the Remedy system inventory report were incomplete and inaccurate and were not updated/reconciled in a timely manner. As a result, many assets could not be accounted for and it was difficult and time consuming to locate assets.