Internal Audit Service Center

Property and Evidence Report
Police Services Division
June 29, 2012

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City of Memphis
TENNESSEE

A C WHARTON, JR. - Mayor
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EXECUTIVE DIVISION
Internal Audit Service Center
LEON PATTMAN, CIA, CISA
City Auditor

June 29, 2012

Mr. Toney Armstrong, Director
Police Services Division
City of Memphis
201 Poplar Avenue, Suite 1205
Memphis, Tennessee 38103

Dear Director Armstrong:

We have completed our performance audit of the Property and Evidence (P&E) Room. The findings and recommendations contained in this report should assist management in conducting a more effective and efficient operation.

The objective of this audit was to evaluate the effectiveness and efficiency of the entire P&E operation. To accomplish our objective, we interviewed management and staff, reviewed documentation, and conducted selective transaction testing generally for the audit period July 1, 2010 to June 30, 2011 and comprehensive testing of the VisionsRMS database and the perpetual inventory.

We concluded that overall internal controls over the P&E operations environment were satisfactory with opportunities for improvement. Based on thorough testing of key components of the control environment which included information technology systems controls, operating controls over day-to-day activities, and the physical existence of inventory items, we noted the following findings:

- The adequacy and effectiveness of internal controls over systems supporting the P&E bureau were satisfactory. However, we identified a significant control deficiency noted for the individuals having "delete privileges" over the system's audit trail information which potentially could bring overall data integrity into question.

- Internal controls over P&E operations were satisfactory. There were opportunities for improvement specifically related to items entered into P&E custody prior to 2006 and we noted several exceptions when compared to the current practice.

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- The physical existence of P&E inventory items was satisfactory; again with needed improvement to retrieve older P&E items in a timely manner.

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 that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Our audit may not necessarily disclose all weaknesses related to the P&E operation. The following pages provide the details of our findings and recommendations.

Our audit process provides management with the option to submit a written response to the draft report for inclusion in the final report; or to submit a written response within 30 days after issuance of the final report. We presented you with the draft report dated May 11, 2012. You elected to submit your response after issuance of the final report. We are requesting your written response for corrective actions, including your timeline for implementation by July 29, 2012. We will evaluate the response and the adequacy of corrective action during a follow-up review.

We appreciate the cooperation of management and staff. If we can be of further assistance, please advise.

Sincerely,

Debbie Banks, CFE, CICA
Project Manager

APPROVED:

Leon Pattman, CIA, CISA
City Auditor

c: A C Wharton, Jr., Mayor
George M. Little, Chief Administrative Officer
Don Boyd, Deputy Director, Police Services Division
Jim Harvey, Deputy Chief, Administrative Services, Police Services Division
Richard Borgers, Major, Property and Evidence, Police Services Division

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BACKGROUND

The background information provides relevant and pertinent information to assist the reader with gaining a reasonable understanding of the activity under review. Additionally, the information helps to provide the reader with the best possible context for which to understand the nature of audit findings, observations, and recommendations.

The Property and Evidence bureau (P&E) is responsible for maintaining security and control over items taken into Memphis Police Department (MPD) custody. The processes in the P&E operations include, but are not limited to receiving, storing, safekeeping, and ultimately providing for the proper disposition (return to owner, destruction, and transfer to the Courts and/or State) of items. The P&E operation is governed by laws and regulations designed to ensure the integrity of P&E items is maintained; P&E items are secured from theft, loss, and contamination; and the efficient retrieval of items for disposition. Applicable guidance is included in Tennessee Code Annotated (TCA) and the Internal Control and Compliance Manual for Tennessee Municipalities (ICCMTM). P&E also has written procedural guidelines that outline the acceptable methods for handling P&E items in its standard operating procedures (SOP). Also, the P&E operation is subject to the Commission on Accreditation for Law Enforcement Agencies, Inc. (CALEA) standards. P&E is subject to annual audits and inspections by MPD Accreditation Office.

When items are received into custody, each item is assigned a property receipt number and relevant information is entered into the P&E support system VisionsRMS. The item is packaged, labeled and stored according to established policies and procedures. The chain of custody must be documented to monitor the movement of all P&E items. There are specific guidelines for both evidence (items held in connection with investigations or law enforcement matters) and non-evidentiary items (commonly referred to as general property).

Current P&E management has been in place since approximately 2005. Management felt that around 2006 they had begun to make noticeable improvements to the internal control environment and overall operations of the department. The process improvement efforts primarily focused on operations going forward, at that time (2006) and not necessarily applying the new procedures (controls) to items already in the inventory. Therefore, in the following pages you will see auditors make specific references to items inducted into the P&E function prior to 2006.

OBJECTIVES, FINDINGS & RECOMMENDATIONS

OBJECTIVE 1:

To review and evaluate the adequacy and effectiveness of internal controls related to systems supporting P&E.

FINDING 1:

Overall and given the limited system security capabilities, the adequacy and effectiveness of internal controls over systems supporting the P&E bureau were satisfactory. We noted a significant control deficiency for individuals having deletion privileges over the P&E audit log and evidence tables. Also, we identified several opportunities for improvement.

Auditors used audit objectives in the control framework established by ISACA (formerly Information Systems Audit and Control Association) referred to as Control Objectives for Information and Related Technology (COBIT) to assess the control environment. Additionally, we used Audit Command Language (ACL) to analyze P&E data, review system access and privileges information, and test for control deficiencies.

The internal controls over the systems supporting the P&E function consisted of most of the requirements (control objectives) outlined in COBIT such as password administration, identity management, database accountability, physical security, backup and recovery, change management and disaster recovery. We did not note a comprehensive policy and procedures document that prescribed guidance for maintaining adequate control over the systems. We analyzed each control objective and noted the following presented in priority order:

1) **Identity Management** – objective focused on each system user having a unique user ID (accountability), approved by management (authorization) for only access and privileges needed to perform their day-to-day job functions.

   - P&E had some aspect of identity management in place such as access forms, segregation of duties, unique user accounts, etc. Auditors performed data analytics with ACL on the P&E tables within the SQL database that included the user access and audit trail tables. We analyzed user access and segregation of duties for control deficiencies. We noted the following deficiencies:

     - Auditors identified 10 (ten) user accounts that had improper access (privileges) level to delete entries in the audit trail tables. Two of the 10 user accounts were generic which means that there is no individual accountability for the use of those user IDs. We also verified that the audit trail table is used by the system to record modifications and deletions to P&E inventory tables. The ability to delete entries to the audit trail tables represents a significant deficiency in internal controls. The delete capability allows an individual to perpetrate an irregularity and conceal it with no possible systematic means of detection. Furthermore, there is no legitimate business need for the delete capability for the audit trail.

NOTE: See database accountability section below for details on delete activity.

- Auditors identified nine user accounts that have improper access level to delete items in the evidence tables. We found no legitimate need for the personnel to have the capability. One of the nine was a generic user account for Organized Crime Unit (OCU) which means that there is no individual accountability for the use of that account. We did not detect any system activity for the generic OCU user account.

MPD IT Management's Response to Identity Management Finding

MPD IT management disagreed with auditors over the issue of IT staff having delete privileges of the evidence records. IT management contends that the access is needed on a full-time basis for the technicians to perform their duties.

Auditor's Rebuttal

Based on best practices for controlling access for system users with elevated privileges such as the privileges granted to system technician, the technicians should only have the access needed to perform day-to-day job duties. We reviewed the deletion activity based on the user accounts and found no evidence that the IT staff used the privilege in the period July 1, 2010 to February 13, 2012. Therefore, we concluded that the access is not needed to perform day-to-day duties. Rather, the system security administer should grant elevated privileges to IT staff on an as-needed basis to ensure strict accountability for any changes/modifications made during the period the technician had elevated privileges.

- We also noted that the Disposition Review Team (DRT) had "add" capabilities that is not required for them to perform their duties. P&E management confirmed that only the Property Room Attendants (PRAs) should be adding items to the database. We found 13 add transactions by four users on the DRT team. The last transaction was made on January 5, 2010.

- Four of seven access forms completed for the audit period were not properly signed. We found no documentation stating who was authorized to approve access level over the P&E module.

- There was no documented process to periodically review the entire access list on a routine basis. We did note that MPD IT receives a listing with MPD assignments (Special Order) that they review regarding access.

2) **Database Accountability** – objective focused on integrity and accountability for records in the database to ensure data reliability.

- VisionsRMS has a deployed audit logging function. All transactions, including data entry, user ID, date, time, and specific action performed by users are recorded to the audit trail table. Also, P&E used the delete functions to make corrections to data entry errors

in the items table. The controls over the delete activity included a form to document the transactions and approval by supervisors. We analyzed the deletion activity regarding the items table as noted below. Additionally, P&E management received a daily report to review for suspicious activity, but the report is not designed to capture delete activity.

NOTE: Auditor previously noted significant deficiency regarding individuals that have "delete" capability for the audit table.

- Auditors used our data analytics tool to perform a completeness test and we identified 586 records that were missing from the items table and had no corresponding entry in the audit trail and data audit tables. We identified the missing records based on a gap analysis in the sequential numbering for records in the items table and matching the gaps to the audit tables. The missing records represent a significant impairment to the overall data integrity.

MPD IT Management's Response to Data Accountability Finding

MPD IT management contends that the 586 missing (gaps in record sequence) records identified by the ACL software were not caused by intentional acts by personnel that had the privilege to delete records from the audit log. Rather, they provided the opinion of a VisionsRMS technician and blogger article which stated that the system sometimes creates breaks in the system's sequential numbering scheme for various reasons (such as rolling back a transaction or changing a seed value). Additionally, the information presented to auditors showed that the system "default" setting was set in the position that would not allow entries to the audit log to be deleted.

Auditor's Rebuttal

Auditors do not have technical information to refute any of the assertions made by the VisionsRMS technician. MPD technicians did not provide any evidence that the "gaps" (586 missing records) had been caused by any of the activity noted by the VisionsRMS technician or blogger. Thereby, based on the controls deficiencies that individuals had the delete privilege and the potential that the default setting could have been changed without detection; it is also plausible that the records could have been deleted as a result of irregularities. Typically, audit logs are created as "read only."

- We noted that 852 records were deleted from the items table for the audit period by two user accounts to correct data entry errors. Records deleted from the items tables were stored in the data audit tables and an entry for each deletion was stored to the audit trail table. On a sample basis, we tested 90 of the deletion transaction forms and found that 89 of the 90 were approved and documented according to their process.

- Auditors reviewed the daily management report with additions and noted that it is unlikely that exceptions or suspicious activities would be detected due to the large number of entries on the report; particularly normal data entry items. The report is not a

true exception/suspicious activity report.

3) **Disaster Recovery** – objective focused on adequacy of planning for local and/or regional disasters.

- Currently, MPD does not have a viable disaster recovery (DR) plan. MPD ITs DR plan will be a part of the City of Memphis comprehensive DR business continuity initiative/project. The City's DR project is in the planning phase according to the City's Chief Information System Officer.

4) **Normal Operating Backup and Recovery** – objective focused on adequacy of planning for system failures.

- The VisionsRMS P&E has an adequate backup and recovery strategy. The plan required daily backup of systems and data files to another MPD (offsite) location. The backup application confirmed the successful files backup.

- We found no evidence that the restore function had been tested to ensure they can be effectively and efficiently restored to operational status in a timely manner.

5) **Password Administration** – objective focused on controls to avoid unauthorized use of a valid system user's credentials by gaining access to passwords.

- VisionsRMS version 3.1.1 had limited password security features when compared to current industry password administration standards. We noted the following:

  - We found that MPD IT enforces password changes every 90 days. We also received a copy of the script that executes every morning to deactivate accounts that have not had the password changed. The script deactivates accounts that have not been changed in 90 days. A report of daily security changes is also produced.

  - We also observed the password file field and noted that it was encrypted to protect against unauthorized access.

6) **Physical Security and Environment Controls** – objective focused on having adequate physical security and climate control processing environment.

- We found that overall physical security and environment controls were adequate with an opportunity to improve power supply management. The MPD data center is located in a secure area (Real Time Crime Center (RTCC)) with adequate access control measures and video surveillance and monitoring. We noted adequate environment controls that included power supply management capabilities (UPS and building generators), climate control, and fire suppression.

- We found no evidence that temporary power supply generators were tested and

operational readiness confirmed and documented on a regular basis. Management informed auditors that building maintenance has the responsibility for generators. However, MPD IT management does not verify the operational readiness for generators at the RTCC or the offsite backup location.

7) **Change Management** – objective focused on ensuring that only approved, tested and needed modifications are made to the computing environment.

- MPD IT stated that they adhere to the City of Memphis Change Management process. We reviewed change management documentation for the audit period and noted no material exceptions.

RECOMMENDATIONS:

MPD should make "all" audit logs (tables) within the entire VisionsRMS system "read only" to eliminate any questions regarding the integrity of the records written to the permanent logs. There is no acceptable reason for anyone to have manipulation privileges (edit, add, purge (delete), etc.) regarding any of the audit logs (tables).

MPD IT should work with the VisionsRMS technician to thoroughly investigate, document, and repair any potential technical causes for the 586 missing records (gaps) to allay legitimate concerns regarding the reliability, completeness, and integrity of the records in the database.

MPD's P&E and IT management should consider developing comprehensive applications and general IT controls policies and procedures.

MPD P&E should terminate all (P&E and IT staff) delete privileges immediately for all tables (items, audit, and data audit). If needed by the IT staff to perform database maintenance, the security administrator should grant it to the technician on a temporary and limited basis. Additionally, the P&E supervisors only should have the access/privilege to correct data entry errors. The error corrections should be captured on the exception/suspicious activity report.

MPD should consider implementing a process to review access rights on a periodic basis (i.e., quarterly, semiannual, etc.) to ensure all user accounts and access/privileges are justified and necessary.

MPD P&E should work closely with MPD IT to add the deleted items to the P&E's daily management report and remove normal daily data entry (additions) activity.

MPD IT should continue to work with City IT to develop and implement an approved DR and business continuity plan.

MPD IT should periodically test the backup restore capability to ensure a timely restoration of operational capabilities in the event of a system failure.

OBJECTIVES, FINDINGS & RECOMMENDATIONS

OBJECTIVE 2:

To evaluate internal controls over P&E operations.

FINDING 2:

Overall, current internal controls were satisfactory. There are opportunities to improve control over items inducted into P&E prior to the most recent process improvement implemented by management.

Through inquiries and observations, we identified significant internal controls relative to receipting, storing, and disposition of P&E items. Our evaluation of controls included an assessment of compliance with 25 significant criteria from the P&E SOP, ICCMTM, and TCA. We also judgmentally selected a sample of 125 disposed items and reviewed corresponding support documentation to further assess effectiveness and efficiency of operations and overall compliance with governing laws and regulations. Our sample of 125 included high risk items from sensitive areas (narcotics, firearms, jewelry, currency, and general property) selected from the entire VisionsRMS database (2000 to 2011), since P&E maintains a perpetual inventory.

Based upon our observations, P&E management implemented several controls to detect and prevent undesirable activity, and to provide guidance for ensuring effective and efficient operations since our last audit in 2006. Control methods we observed, included, but were not limited to:

- Biometric security system for vault access
- Security cameras
- Barcode scanner for tracking P&E items
- Restricted access to P&E facilities
- Segregation of duties relative to intake, storage, and disposition of P&E items (disposition duties restricted to authorized personnel)
- Written policy and procedure manual (SOP) for providing guidance relative to established business practices for P&E operations

Overall, internal controls were satisfactory. We found adequate controls to ensure compliance with governing laws and regulations. We also found adequate documentation to support items disposed during the audit review period (FY 2011), with minor discrepancies noted. However, we noted the following, which provides an opportunity for improvement:

- The SOP did not provide adequate procedures relative to routine control activities for monitoring the P&E operation. We noted that the Daily Activity Reports identified items that were reviewed by management, but did not identify the attributes reviewed, or the results of the review. Therefore, we could not determine the adequacy and overall effectiveness of the monitoring activity.

- We found no evidence that P&E management focused specific monitoring activity on older

items to address past process deficiencies.

- We found no evidence that P&E management performed periodic reviews of control forms used to document item storage and disposition (i.e., correction forms, property release forms, etc.) to ensure proper approvals, completeness and accuracy of information.

- We did not always find adequate documentation to support the disposition of some P&E items. We noted insufficient documentation, and in some cases no documentation to support the disposition of 39 of 125 (30%) items tested. The discrepancies were related to older P&E items for which current practices and procedures were not applicable

- We found no evidence that "found" currency (deemed "abandoned" because there is no individual associated with the currency) is reported to the State in accordance with TCA 66-29-113. We also found no process to ensure timely disposition activity for "abandoned" currency.

RECOMMENDATIONS:

P&E management should revise monitoring procedures to ensure monitoring activity includes relevant reviews to identify and address whether internal controls are working, management directives are being followed, and procedures are effective and efficient. The procedures should also include, but not be limited to periodic reviews of key forms used to document P&E items (i.e. correction forms, release forms, etc.). This should ensure compliance, enhance the safekeeping of P&E items, and help management identify and correct procedural deficiencies.

P&E management should enhance monitoring activity to include a review of older P&E items. All discrepancies that result from the review should be documented and corrected according to established policies and procedures. Additionally, management should ensure that the attributes reviewed and results of the review are documented on the Daily Activity Sheet. This should ensure the continuity of the custody of all P&E items entrusted to P&E. This should also assist management in providing a sufficient audit trail of monitoring activity.

P&E management should establish a process for classifying "found" currency that is deemed "abandoned," and reporting it to the State in accordance with TCA 66-29-113. This should ensure compliance with applicable laws and regulations related to abandoned property (currency).

OBJECTIVES, FINDINGS & RECOMMENDATIONS

OBJECTIVE 3:

To verify the physical existence of inventory.

FINDING 3:

The overall accountability for the physical existence of P&E inventory was satisfactory, with needed improvement for inventory items taken into custody prior to 2006.

NOTE: Auditors took into consideration that significant process improvements within the P&E operation did not commence until late 2005/2006. Therefore, auditors made the effort to relate testing exceptions/discrepancies to a period prior to 2006 or thereafter.

From VisionsRMS, we extracted a list of all items that were presumed to be in inventory since they were not associated with a disposition code. We selected a sample of high risk items from the sensitive areas (narcotics, firearms, jewelry, currency, and general property) to verify their existence.

We randomly selected 188 items from their storage location and vouched them to VisionsRMS. We also judgmentally selected 150 items from VisionsRMS and traced them to their storage location. Our sample included items from the entire VisionsRMS database.

We noted the following based upon our testing to verify that all items physically existed:

- The testing where auditors judgmentally selected P&E items from storage locations and compared the identifying information with the VisionsRMS database was satisfactory. We were able to vouch all 188 items from their storage location back to VisionsRMS, with minor discrepancies noted (i.e., incorrect barcode on item, incorrect serial number, etc.).

- The testing where auditors selected random and judgmental samples of P&E items from the VisionsRMS database to physically inspect and verify all identifying information revealed significant discrepancies for 89 of 150 (59%) items. The discrepancies ranged from items not being in their designated storage area, to items that were inaccurately reflected in the VisionsRMS database. The discrepancies noted are summarized in Table 1 below.

TABLE 1 – SUMMARY OF DISCREPANCIES

Description	Total # of Issues	Issues for FY 2011	Issues Prior to FY 2011
System showed in inventory, but item had been released	12	12	0
Discrepancy with identifying information (bar code, missing property receipt number, inaccurate property receipt number, etc.)	20	14	6
Item not in designated storage area	32	32	0
Unsecured item packaging (torn, no wrapping, unsealed, etc.)	3	0	3

- Auditors were unable to physically inspect 17 individual items (firearms, narcotics, jewelry, etc.) due to the fact that the P&E personnel could not locate the items. All of the items were taken into property room prior to 2006 and before process improvements were implemented. Auditors could not determine why the items could not be located.

- We found no evidence that P&E management conducted periodic and comprehensive inventories of all P&E items. More specifically, items taken into custody prior to 2006 were not inventoried to ensure accountability and/or identify discrepancies that may have resulted from the prior criminal activity, as noted in the State's audit report dated June 17, 2004.

OBSERVATION

During the course of the audit, we observed discrepancies being attributed to the period where known irregularities within P&E resulted in a criminal arrest. However, we found no evidence P&E management had identified items that may have been affected by past criminal activity. P&E management should conduct 100% inventory of items received prior to 2006 to have full accountability of items and to make proper adjustments and notations for any discrepancies noted. The prior criminal activity should no longer be used as justification for not having strict accountability for items received prior to 2006. In essence, P&E management should have the ability to identify potential errors and irregularities for its entire inventory.

RECOMMENDATIONS:

P&E management should implement policies and procedures to adequately monitor the processes for receipt, storage, and disposition of items. The procedures should include, but not be limited to consistently reviewing high risk items from sensitive areas (narcotics, firearms, jewelry, currency, and general property) for current and past years, in order to ensure compliance and to deter theft. Additionally, management should monitor the operation to ensure employees follow processes outlined in the SOP for documenting receipt and storage of P&E items. Providing recurring or familiarization training on a quarterly basis should increase employee awareness of new procedures. Additionally, management should maintain documentation of monitoring and training activities.

P&E management should establish procedures for conducting cycle counts of all items maintained in inventory to ensure accuracy and accountability. The procedures should include a periodic inventory of high risk items from sensitive areas on a continuous basis. Additionally, management should correct any discrepancies found during inventory. This should enhance the safekeeping of P&E items, and help management identify potential errors and irregularities for all items maintained in the entire VisionsRMS database.

P&E management should conduct a complete inventory of high risk items (from sensitive areas) taken into custody prior to 2006. The inventory should be performed on a periodic basis until all items have been reviewed. During the inventory, all seals should be opened and the contents verified and documented prior to resealing. The replacement seals should be initialed, dated and witnessed. This should ensure the continuity of the custody of P&E items.

P&E management should investigate and correct all items found to be misplaced. For items with inadequate information to connect them to a case, management should include the item on the "Found Property" report, hold the item for the statutory period, and then dispose of in accordance with governing laws and regulations.