



**JIM STRICKLAND
MAYOR**

EXECUTIVE DIVISION

TENNESSEE

April 6, 2016

Mr. Antonio Adams, Director
General Services Division
City of Memphis
125 N. Main, Suite 568
Memphis, TN 38103

Dear Director Adams:

We have completed our special investigation pertaining to the questionable charges discovered by your Fleet Management Finance Manager while reviewing the monthly Billing Detail report. The questionable charges involved inventory parts being charged to work orders which had been closed in prior billing periods.

The primary objective of this investigation was to determine whether the questionable charges were specifically attributed to fraud, and if so, analyze work order transactional data to identify employees involved in the potential fraudulent activities. Our secondary objective was to evaluate internal controls over the work order process to identify weaknesses and/or opportunities to strengthen controls for preventing and detecting such activities. The scope was limited to work order transactional data from Fleet Management's M5 System for closed work orders which were adjusted during the period January 1, 2014 to December 31, 2015.

To accomplish our objectives, we interviewed pertinent personnel to obtain an understanding of the work order process and the details pertaining to the potential fraudulent activities. We reviewed relevant policies and procedures and key information technology (IT) controls related to the work order process to identify internal control weaknesses. Finally, we analyzed work order transactional data to identify trends and patterns associated with the activities.

We concluded the activities related to adjusting closed work orders provided reasonable suspicion of fraud. We noted several key indicators that provided possible warning signs of fraudulent activities. Therefore, we requested the assistance of the Police Inspectional Services Bureau (ISB) to handle the administrative and/or criminal investigation.

REASONABLE SUSPICION

Fraud is typically characterized by the following three components: pressure, opportunity and rationalization. Of the three components, “opportunity” is the only element over which an organization has significant control. Consequently, weaknesses in internal controls provide the “opportunity” for fraud to occur. During our investigation, auditors recognized the opportunity for employees to commit and conceal fraud was highly likely, given inadequate system controls, lack of supervisory review, approval and monitoring of closed work order adjustments. Additionally, we determined the activities pertaining to closed work order adjustments was unusual in nature and varied from Fleet Management’s normal work order activities. When initially discovered, management believed the activities were related to a software glitch that Fleet Management was experiencing during that specific time. After reporting the issue to a M5 Software Representative, management was informed it was not, but was a result of actual adjustments to closed work orders. Subsequently, management learned the M5 System functionality would allow users to open closed work orders and add parts, resulting in additional charges. Auditors reviewed numerous closed work orders to determine reasonableness and noted unusual and suspicious activities like the following adjustments:

- 8 quarts of motor oil for a 2010 Dodge Charger added 1,365 days after the work order was closed.
- 15 quarts of transmission fluid for a 2009 Dodge Charger added 1,019 days after the work order was closed.
- 8 tires were replaced on a 2005 Ford Taurus with 4 tires added 385 days and another 4 added 342 days after the work order was closed.

When parts were added to closed work orders, they were no longer accountable through Fleet Management’s inventory. The lack of accountability provided ample opportunity for M5 users to misappropriate parts for their personal use. Furthermore, after the work orders were adjusted to include the new parts, a new invoice was generated resulting in service centers being charged for parts that some never received. Our analyses revealed the activities were widespread; 48 users had closed work order adjustment activities. Therefore, auditors believed the presence of these factors when considered together provided reasonable suspicion of fraud.

BACKGROUND

Fleet Management utilizes the FleetFocus M5 Software System by AssetWorks to manage fleet operations. The software is comprised of modules that provide comprehensive preventive maintenance scheduling, work order and labor tracking, as well as parts and inventory management. User access is based upon privileges that control how users can operate within the system. System and module functionalities are controlled through predefined user and system flags (i.e., define the number of fiscal periods, etc.).

The M5 work flow process is centered on jobs that require work orders to be created before any labor, parts or commercial charges can be made. Work order statuses are classified as “open”, “complete” and “closed”. Work orders should be closed when all charges are entered and jobs are completed. If work orders are mistakenly closed or changes need to be made, users must have system authorization to apply charges to closed work orders with corresponding adjustment reasons.

SUMMARY OF INVESTIGATION

Auditors noted the following internal control deficiencies:

1. *Inadequate System Controls*

- Although M5 system access is restricted to authorized users, we found that M5 active users had the ability to adjust closed work orders, including users outside General Services (Fire, Public Works, etc.). However, we did not evaluate user access rights for the other users (Fire, Public Works) to determine if there was adequate segregation of system access rights and privileges, since that was outside the scope of the investigation. Adequate system controls should encompass all users.
 - As of January 7, 2016, we noted 186 users with the “Adjust Closed Work Order” privilege, which allowed users to add parts charges to a closed work order and ultimately invoice the service centers for parts that may not have been added to vehicles. Since many of the adjustments were more than 90 days after the work order was closed, it was reasonable to believe these adjustments were performed after the vehicles were returned to the internal customers. Consequently, this privilege was not restricted to users whose job functions may require it.
 - We noted three generic user accounts with adjustment transactions that were not traceable to specific users. We found no valid reason why generic user accounts were being utilized since every authorized user was granted access via approved access request forms. The use of generic user accounts makes it easier for users to perpetrate and conceal frauds.

NOTE: In an audit report issued on May 27, 2010, external auditors identified M5 internal control deficiencies that are still in existence (noted above in the first two bullets). The auditors noted inadequate segregation of duties since employees with Administrative Clerk role-access had full access to add and change data. It was also noted that charges could be added to a closed work order.

- The security logging feature, which allows the recording of key events such as granting and revoking of privileges, and creation and deletion of application and database user accounts was disabled. Therefore, no audit trail existed to document when user privileges, application and database user accounts were added or deleted from the system.
 - We found no evidence system flags and user accounts were evaluated periodically to ensure they accurately reflected current business practices and user privileges were commensurate with job functions.
- ### 2. *Lack of supervisory review, approval and monitoring of closed work order adjustments*
- We found no evidence management reviewed and approved closed work order adjustments. We found no evidence management monitored work orders to include review of exception reports,

performance of analytical reviews or increased supervisory oversight to identify and investigate questionable activities.

3. *Lack of written guidance related to closed work order adjustments*

- We found no written policies and procedures related to closed work order adjustments.
- During subsequent interviews with management, we noted closed work orders were not expected to be re-opened for purposes of adding new charges. According to management, parts that were not initially charged to work orders were expected to be charged against the vehicles, resulting in new work orders. Furthermore, the new work orders should have referenced the initial work orders. Auditors noted that it was standard industry practice to add new charges in this manner. However, the lack of written guidance was the root cause of the adjustment activities.

4. Data Analyses

We obtained a data extract of closed work order adjustments that occurred during the period January 1, 2014 to December 31, 2015. We performed data analyses using the data analytics software Audit Command Language (ACL). Our data analyses revealed the following:

- 6,641 closed work order adjustments totaling approximately \$601,380 were billed during the review period. We sorted the adjustment transactions by the 48 users and attempted to scan for unusual and suspicious activities. For some transactions, we could clearly see offsetting entries indicating possible errors. However, the sheer volume of transactions reviewed made the process for isolating suspicious activities to distinguish between errors and irregularities very meticulous and time consuming.
- Total adjustment transactions by user ranged between 1 and 1,077 occurrences. The top five users with the highest number of adjustment transactions are noted in the following table.

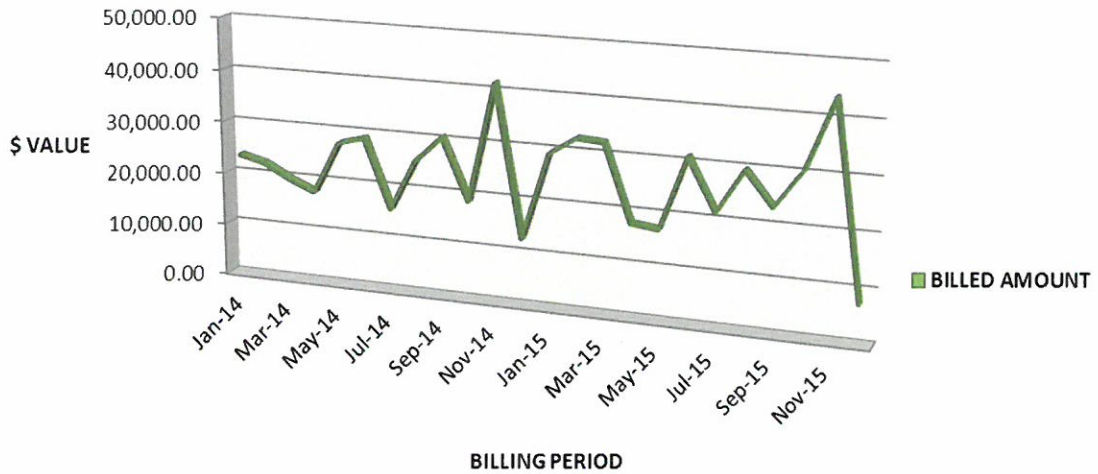
TABLE 1 – HIGHEST NUMBER OF ADJUSTMENT TRANSACTIONS BY USER

M5 USER	TOTAL TRANSACTIONS
INV-FARR	1,077
FARR-MEC	942
INV-FIRE	730
INV-PARK	586
INV-ST.J	348

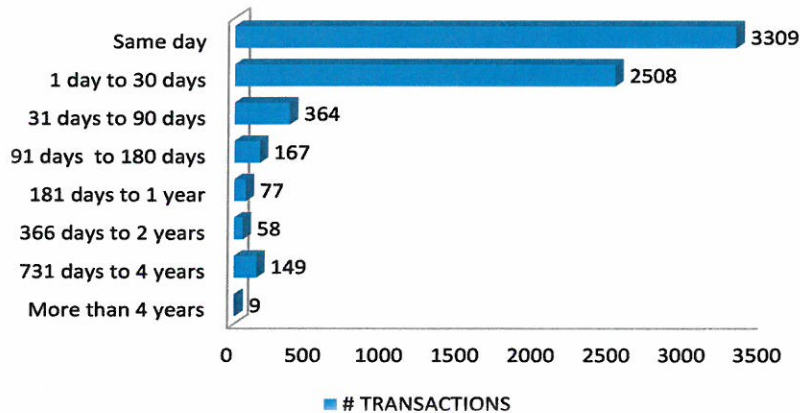
- We noted adjustments were made every billing period with no plausible explanation for the adjustments. Auditors noted a significant drop in activities during the month of December 2015 with

a total of approximately \$7,477 closed work order adjustments. Billed adjustments averaged approximately \$25,791 and ranged between \$12,743 and \$43,800. The following charts provide a graphical depiction of our analyses of closed work order adjustments by billing period and range of days.

GRAPH 1- CLOSED WORK ORDER ADJUSTMENTS BY BILLING PERIOD



GRAPH 2 – CLOSED WORK ORDER ADJUSTMENTS BY RANGE OF DAYS



NOTE: According to management, adjustments of 90 days or less were considered to be reasonable.

- Staff was instructed to account for inventory variances by reviewing work conducted during the quarter to identify work that included labor charges with missing corresponding parts charges. The missing parts charges were expected to be applied to a new work order. Therefore, we compared the

monthly adjustments to the quarterly inventory variances we obtained from management. However, we could not attribute the adjustments to inventory reconciliation, as noted in the following table.

TABLE 2 – COMPARISON OF CLOSED WORK ORDER ADJUSTMENTS AND INVENTORY VARIANCES

BILLING PERIOD	MONTHLY ADJUSTMENT TOTALS	INVENTORY VARIANCE TOTALS
Oct-14	\$18,790.49	\$185.52
Mar-15	\$32,181.50	\$223.61
Jun-15	\$31,050.95	\$223.44
Oct-15	\$30,415.26	\$441.95

- In the previous illustration (Table 2 above), the comparison depicts only the post adjustments that remained after the staff performed quarterly due diligence to identify missing parts charges. The audit trail pertinent to inventory reconciliation efforts prior to the post adjustments was not available so we were unable to compare the monthly adjustments to the inventory reconciliation adjustments made as a result of the due diligence efforts. Additionally, we found no written guidance for inventory reconciliation.
- We traced a sample of work order adjustments to Fleet Management’s monthly billing reports and the applicable service centers’ transaction listing for City shop charges (account 052116). We confirmed the adjustment charges were billed to the various service centers. Due to the large volume of adjustment transactions and relaxed controls over closed work order adjustments, auditors contacted ISB to conduct the administrative and/or criminal investigation.

RECOMMENDATIONS

We recommend that management implement the following to address control deficiencies:

1. Immediately restrict access for adjusting closed work orders. The privilege to adjust closed work orders should be granted to a supervisor. Further:
 - Work orders should not be closed until all work is completed and applicable charges have been added.
 - Generic user accounts should be disabled since authorized users are granted access via access request forms.
 - Enable the security logging feature to capture the creation and deletion of application and database user accounts and the granting and revoking of user privileges.

- Periodically review and evaluate system flags and user accounts to ensure system flags accurately reflect current business practices and user privileges are commensurate with job duties.
2. Management should provide supervisory review, approval and monitoring of closed work order adjustments. Monitoring should include, but not be limited to review of exception reports and performance of analytical reviews to identify and investigate questionable activities.
 3. Management should establish written policies and procedures to provide guidance for closed work order adjustments. Procedures should also cover the inventory reconciliation process related to the research and resolution of inventory variances during the quarterly inventory counts. Supporting documentation pertaining to the inventory reconciliations should be maintained. Management should also provide training as needed, to ensure compliance with established policies and procedures.
 4. Management should establish a process for reviewing closed work order adjustment activities greater than 90 days to determine the reasonableness of adjustments, identify service centers that were improperly invoiced as a result of the adjustments and make restitution, if applicable.

The work performed in this investigation does not constitute an audit under Government Auditing Standards. We appreciate the cooperation of the management and staff of General Services, Information Services, MPD and AssetWorks representatives during our investigation. Please do not hesitate to call me at (901) 636-6241 if you have any questions or need additional assistance.

Sincerely,



Debbie Banks, CFE, CICA, CMFO
City Auditor

c: Jim Strickland, Mayor
Doug McGowen, Chief Operating Officer
Patrice Thomas, Deputy Chief Operating Officer
Michael W. Rallings, Interim Director, Police Services Division
Gina Sweat, Director, Fire Services
Robert Knecht, Director, Public Works
Brent Nair, Director, Information Services
Mike Ryall, Deputy Director, Police Services Division
Michael Jubirt, Deputy Director, Fire Services
Phillip Davis, Deputy Director, Public Works, Solid Waste
Rowena Adams, Deputy Chief, Administrative Services, Police Services Division
Gregory Woods, Deputy Director, General Services
Tom Pullen, Finance Manager, Fleet Management
Eric Hunter, Administrator, Fleet Management
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