

**TAMPA FIRE RESCUE
FIRE MAINTENANCE DIVISION
AUDIT 07-09
SEPTEMBER 26, 2008**



CITY OF TAMPA

Pam Iorio, Mayor

Internal Audit Department

Roger Strout, Internal Audit Director

September 26, 2008

Honorable Pam Iorio
Mayor, City of Tampa
1 City Hall Plaza
Tampa, Florida

RE: Tampa Fire Rescue, Fire Maintenance Division, Audit 07-09

Dear Mayor Iorio:

Attached is the Internal Audit Department's report on Tampa Fire Rescue, Fire Maintenance Division.

The Fire Maintenance Division has already taken positive actions in response to our recommendations. We thank the management and staff of the Fire Maintenance Division for their cooperation and assistance during this audit.

Sincerely,

/s/ Roger Strout

Roger Strout
Internal Audit Director

cc: Dennis Jones, Fire Chief
Darrell Smith, Chief of Staff
Tom Forward, Assistant Fire Chief - Administration
Dick Guerra, Maintenance Center Supervisor

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Not available to sign

Auditor

/s/ Roger Strout

Audit Director

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INTRODUCTION

The Fire Maintenance Division consists of a Maintenance Center Supervisor, a Fleet Technician Supervisor, 3 – Master EVT (Emergency Vehicle Technician) Technicians, 1 – Fleet Technician III, 2 – Fleet Technician IIs, and an Automotive Service Attendant.

Tampa Fire Rescue’s vehicle inventory consists of 195 different pieces of equipment. In addition to combat equipment (fire engines, aeriels and rescue units), the inventory includes support vehicles (boats, cars, vans) and auxiliary equipment (forklifts, trailers and many other types of equipment). During the period under audit (January 1, 2006 to December 31, 2007), the Division completed 3,071 work orders. According to Tampa Fire Rescue policy, combat and support vehicles receive preventive maintenance three (3) times per year. The Division, on a cost reimbursement basis, also services fire apparatus vehicles owned by the Hillsborough County Aviation Authority stationed at Tampa International Airport.

STATISTICS

	<u>FY05</u>	<u>FY06</u>	<u>FY07</u>
Operating Expenditures	\$489,991	\$484,868	\$512,769
Personnel Expenditures	<u>635,671</u>	<u>719,135</u>	<u>687,673</u>
Total	<u>\$1,125,662</u>	<u>\$1,204,003</u>	<u>\$1,200,442</u>

Source: Financial Management Information System (FAMIS).

STATEMENT OF OBJECTIVES

This audit was conducted in accordance with the Internal Audit Department's FY07 Audit Agenda. The objectives of this audit were to ensure that:

1. Tampa Fire Rescue vehicles and equipment are maintained in accordance with the preventative maintenance policy.
2. The Fire Maintenance Division addressed repairs and service requests efficiently and effectively.
3. Assist Fire Maintenance Division with identifying its level of compliance with the Commission on Fire Accreditation International, Inc.’s Accreditation Standards.
4. The labor rate used by the Fire Maintenance Division was reasonable.

STATEMENT OF SCOPE

The audit period covered Fire Maintenance Division activity that occurred from January 1, 2006, to December 31, 2007. Source documentation was obtained from Fire Maintenance Division. Original records as well as copies were used as evidence and verified through physical examination.

STATEMENT OF METHODOLOGY

To achieve the audit's objectives, reliance was placed on computer-processed data contained in the MaintStar database maintained by the Fire Maintenance Division. MaintStar is used to record vehicle repair information. We assessed the reliability of the data contained in the system and conducted sufficient tests of the data. Based on these assessments and tests, we concluded the data was sufficiently reliable to be used in meeting the audit's objectives.

Microsoft Access was used to extract data from the MaintStar database. Microsoft Access and Excel were used to analyze the data. When appropriate, judgmental sampling was used to improve the overall efficiency of the audit. The review of the accreditation standards was based on interviews and observations. Management's assertions were traced to supporting documentation as considered necessary.

STATEMENT OF AUDITING STANDARDS

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.

AUDIT CONCLUSIONS

Based upon the test work performed and the audit findings noted below, we conclude that:

1. Tampa Fire Rescue front line emergency response vehicles are maintained substantially consistent with preventative maintenance policy, however, equipment used less frequently such as reserve equipment, low-use sedans, and some utility equipment did not have preventative maintenance performed as often as documented TFR policy requires. TFR vehicle maintenance policy should be up-dated to reflect current "usage based" PM practices.
2. The Fire Maintenance Division operations were effective; however, monitoring of technician efficiency could be improved.

3. The Fire Maintenance Division generally complied with the Commission on Fire Accreditation International, Inc.'s Accreditation Standards; however, documentation supporting that compliance could be improved.
4. The labor rate used by the Fire Maintenance Division should be periodically reviewed.

While the findings discussed below may not, individually or in the aggregate, significantly impair the operations of the Fire Maintenance Division they do present risks that can be more effectively controlled. Before we completed our audit, Tampa Fire Rescue personnel began to implement some of the Internal Audit Department's recommendations.

PREVENTATIVE MAINTENANCE

TFR maintenance policy prescribes that emergency response vehicles (i.e., rescues, fire apparatus) and certain applicable support vehicles should receive preventative maintenance three times a year. The Fire Maintenance Division prepares the preventative maintenance schedule and posts the schedule on Tampa Fire Rescue's Intranet website and sends a department wide email. Our test of preventive maintenance (PM) performed for the two year period of January 1, 2006, to December 31, 2007 found that regularly operated emergency response vehicles substantially met this requirement, however, equipment used less frequently such as reserve equipment, low use sedans, and some utility equipment did not have preventative maintenance performed as often as TFR policy requires. Management represented that in these cases the PM frequency was appropriately adjusted to reflect the vehicle's low usage and PM's were performed less frequently than normal use vehicles.

Since routine preventative maintenance is intended to identify and repair faults before they become major problems, and appropriate scheduling is key to a successful PM program, scheduled PM frequencies should reflect each vehicles application and usage, and be reflected in departmental maintenance policy.

RECOMMENDATION 1

The preventative maintenance policy should be revised to specifically state the required preventative maintenance for all categories and /or types of equipment. The policy should include PM schedules that reflect "best practices" and include a usage criteria as well as time. Preventative maintenance schedules should be aligned in accordance with the revised policy.

AUDITEE RESPONSE

We agree and will review and revise our maintenance policy as appropriate. Our focus will remain on emergency responding units and we will provide for adjustments to scheduled maintenance on non-emergency responding vehicles when it is appropriate and cost-effective to do so.

PREVENTATIVE MAINTENANCE – Daily and Weekly Checks

Currently, Fire Rescue vehicles and apparatus receive preventive maintenance three times per year. In between scheduled maintenance, apparatus are to receive daily and weekly maintenance at the fire stations. According to Standard Operating Guidelines (SOG) 901.00 to 903.00, drivers are to perform prescribed tasks at the start of every shift and during and after pumping operations. Compliance with the SOGs is documented by the operator signing a Daily Apparatus Maintenance & Inventory Record Sheet that is maintained in the Apparatus Maintenance Book, which is stored in each vehicle. For the Apparatus Books examined during the audit, we noted that the Daily Apparatus Maintenance & Inventory Record Sheet was not always signed every day by the drivers. Consequently, evidence that the required daily and weekly checks were performed in accordance with the SOGs was not available. Standard Operating Guideline 903.04 states that “The Division or District Chiefs are responsible for reviewing all of the daily checklists and repair requests to monitor the overall status and condition of the fleet.”

RECOMMENDATION 2

The Daily Apparatus Maintenance & Inventory Record Sheets should be signed each day by the drivers to document their performance of the required checks. Additional monitoring by Division or District Chiefs should be performed to ensure inspections and maintenance is performed as prescribed.

AUDITEE RESPONSE

We agree. The Division/District Chiefs will review these records on each monthly inspection. The Division/District Chiefs will also rotate districts for inspection purposes on a quarterly basis.

LABOR RATE

The hourly labor rate used by the Fire Maintenance Division has not been recalculated in several years. The current hourly labor rate used by the Fire Maintenance Division is \$57.27. The Division utilizes the labor rate to record the labor costs for vehicle repairs in the MaintStar database, as well as, for preparing the monthly invoice to the Hillsborough County Aviation Authority for reimbursement of maintaining the Authority's ARFF (Airport Rescue Fire Fighting) vehicles located at Tampa International Airport. As a result of not using an up-to-date labor rate, vehicle repair costs may be understated in the MaintStar database and the Authority may be under billed for the labor cost of repairs. Prudent business practices require that the labor rate be recalculated on a periodic basis. The Department of Public Works, Fleet Maintenance Division recalculates their labor rate at the beginning of each fiscal year.

RECOMMENDATION 3

The labor rate should be recalculated at the beginning of every fiscal year.

AUDITEE RESPONSE

We agree. Labor rates will be evaluated annually at the beginning of each fiscal year and updated appropriately.

PERFORMANCE MEASURES AND MANAGEMENT REPORTING

As a result of the previous audit's recommendation, the Fire Maintenance Division created a TaskID Labor Time Summary Report which averages the repair times for completed repair tasks by vehicle type for a specified period (the Division uses a 3-year time period). The average repair times are then used as a guideline to monitor technician efficiency. However, during our review we noted that there is no method for documenting the evaluation of technician efficiency against the internal guidelines created from the TaskID Labor Time Summary Report. The Fire Maintenance Division relies on direct mechanic supervision to ensure mechanics are efficiently performing their duties in accordance with the guidelines. Documenting the measurement of technician efficiency could identify trends and opportunities to improve performance.

When time standards are used, a second performance measure, direct labor productivity, which compares the actual direct labor charged to available hours, may also be used. The Fire Maintenance Division's direct labor productivity goal is 75%. However, it does not track or report this measure to management. It was represented that the direct productivity ratio was not calculated due to not being able to access employee leave data from the City's payroll system, PeopleSoft.

RECOMMENDATION 4

The Fire Maintenance Division should create a report that provides the technician's task repair times by vehicle type. This report could then be used to measure technician efficiency by comparing the technician repair times to the Division's guidelines established by the TaskID Labor Time Summary Report.

AUDITEE RESPONSE

We agree. The Fire Maintenance Division will create a report that provides technician's task repair time by vehicle type. This report will be used to measure technician efficiency.

RECOMMENDATION 5

The Fire Maintenance Division should calculate the direct labor productivity ratio. The ratio should be tracked and reported to management on a periodic basis. To calculate the ratio, the Division will need to obtain from the City's Payroll Division the earnings type information for each technician.

AUDITEE RESPONSE

We agree. Fire Maintenance will calculate the direct labor productivity rates. The Division will arrange for monthly reports from the City's Payroll Division and report quarterly findings to management.

RECOMMENDATION 6

The indirect labor hours should be recorded in MaintStar with a description of the activity performed. The indirect labor hours should be tracked and reported to management on a periodic basis.

AUDITEE RESPONSE

We agree. Indirect labor hours should be recorded in MaintStar with a description of the activity performed. Indirect labor hours will be tracked and reported to management on a periodic basis.

MANUAL WORK ORDERS

The parts used and tasks completed for vehicle repairs are manually recorded on a work order and subsequently entered into the MaintStar database by the Fleet Mechanic Supervisor. In our test work, we noted a few instances where the information recorded on the manual work order did not agree to the information recorded in MaintStar. It was represented that an independent verification of the input of the manual work order into MaintStar was not performed. The data recorded in MaintStar is used to make repair and/or replace decisions. If the data is not accurate, an improper decision could be made. Proper internal controls require that data input be independently compared to the source document to ensure its accuracy.

In addition, we noted that the filing system used by the Division for the manual work orders was not well-organized and did not allow for easy retrieval. Best business practices require that supporting documentation and related correspondence be filed in a systematic and orderly manner.

RECOMMENDATION 7

The Maintenance Center Supervisor should review, on a test basis, the data entry of manual work orders into MaintStar and such reviews should be documented. Consideration should be given to verifying work orders with a significant number of tasks.

AUDITEE RESPONSE

We agree. The Maintenance Center Supervisor will review on a test basis, the entry of manual work orders into MaintStar, documenting this review. Work orders with numerous tasks will be a priority.

RECOMMENDATION 8

The Division should file the manual work orders systematically, facilitating efficient retrieval with related supporting documentation attached (e.g., contracted services and parts invoices).

AUDITEE RESPONSE

We agree. Manual work orders will be filed with all supporting documentation attached, in a systematic manner supporting easy retrieval.

PART UNIT COSTS

Part unit costs are not always updated in a timely manner in the MaintStar database. Our test work identified instances where the part unit cost provided on the manual work order by the Fleet Inventory Technician did not agree with the part unit cost recorded in MaintStar. As a result, total part costs on work orders could be under or over-stated.

RECOMMENDATION 9

Part costs recorded in MaintStar should be updated in a timely manner. To assist in this process, the Fleet Inventory Technician could be given access to MaintStar to update part unit costs.

AUDITEE RESPONSE

We agree. Parts costs in MaintStar will be updated and verified in a timely manner. The Fleet Inventory Technician will be given access to MaintStar to update part unit costs.

SPECIFICATION COMMITTEE

Tampa Fire Rescue uses the Specifications Committee to develop apparatus specifications. As a result of the prior audit's recommendation, a document stating the makeup, duties, and responsibilities of the Specifications Committee was created. However, the current Maintenance Specifications Supervisor was not familiar with the document because it had not been incorporated into the Tampa Fire Rescue's Standard Operating Guidelines Manual. Consequently, there could be a misunderstanding of the duties and responsibilities of the Specifications Committee. Proper internal controls and best business practice require that the makeup, duties, and responsibilities of established committees be documented in an entity's policies and procedures manual.

RECOMMENDATION 10

Management should review and update the makeup, duties, and responsibilities of the Specifications Committee document. The revised document should be incorporated into TFR's Standard Operating Guidelines Manual.

AUDITEE RESPONSE

We agree. Management will review and update the Specifications Committee document. The revised document will be incorporated into TFR's Standard Operating Guidelines manual.

NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS

The Fire Maintenance Division utilizes National Fire Protection Association Standards (NFPA) 1901 – Standard for Automotive Fire Apparatus, 1911 – Standard for Fire Apparatus Preventive Maintenance Program, and 1710 – Standard for Emergency Vehicle Technician Professional as guidelines for its operations. However, when we asked to review these standards, the Fire Maintenance Division did not have a copy on file but had to obtain a copy from the Fire Marshal's office. Prudent business practices require that the most current standards utilized by an organization should be on site or accessible via the computer.

RECOMMENDATION 11

Current editions of the NFPA standards used by the Maintenance Division should be on site or made available on the computer.

AUDITEE RESPONSE

We agree. The Fire Prevention Bureau will make a copy of the pertinent NFPA standards available to the Maintenance Division.