



CITY OF TAMPA

Pam Iorio, Mayor

Internal Audit Department

Cynthia D. Miller, Audit Director

April 29, 2004

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

RE: Electronics Division, Audit 04-08

Dear Mayor Iorio:

Attached is the Internal Audit Department's report on the Electronics Division.

We thank the management and staff of the Electronics Division for their cooperation and assistance during this audit.

Sincerely,

Cynthia D. Miller
Director of Internal Audit

cc: Steve Daignault, Administrator, Public Works and Utilities Services
Jack Morriss, DPW Director
Darrell Smith, Chief of Staff

**DEPARTMENT of PUBLIC WORKS
ELECTRONICS DIVISION
AUDIT 04-08
APRIL 29, 2004**

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Auditor

Audit Supervisor

Director

**DEPARTMENT of PUBLIC WORKS
ELECTRONICS DIVISION
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INTRODUCTION

The Electronics Division of the Public Works Department (DPW) is responsible for maintaining the communication equipment of all City departments, which includes over 5,000 radios. On average, approximately six hundred work orders are generated each month for equipment repair. Charges are entered and accumulated in the MCM software system by department and billed monthly. Billings include an overhead factor based on the number of radios assigned to a department. Repair charges are calculated on a mark up formula of parts and labor on a cost-reimbursement basis, which is customary for an Internal Service Fund. The Administrative and Fiscal Division of DPW prepare the mark up calculations annually although adjustments for unplanned deficits are made during the fiscal year. Overhead is calculated in the same manner. The installation of vehicle radios and servicing of pagers is outsourced. Most repairs are performed at the Division's facility; however, some are done in the field. Another service is to provide technical expertise to City departments that are acquiring new communications equipment.

The Electronics Division maintains all of the Federal Communication Commission licenses. They also assist in negotiating leases for the City's communication towers.

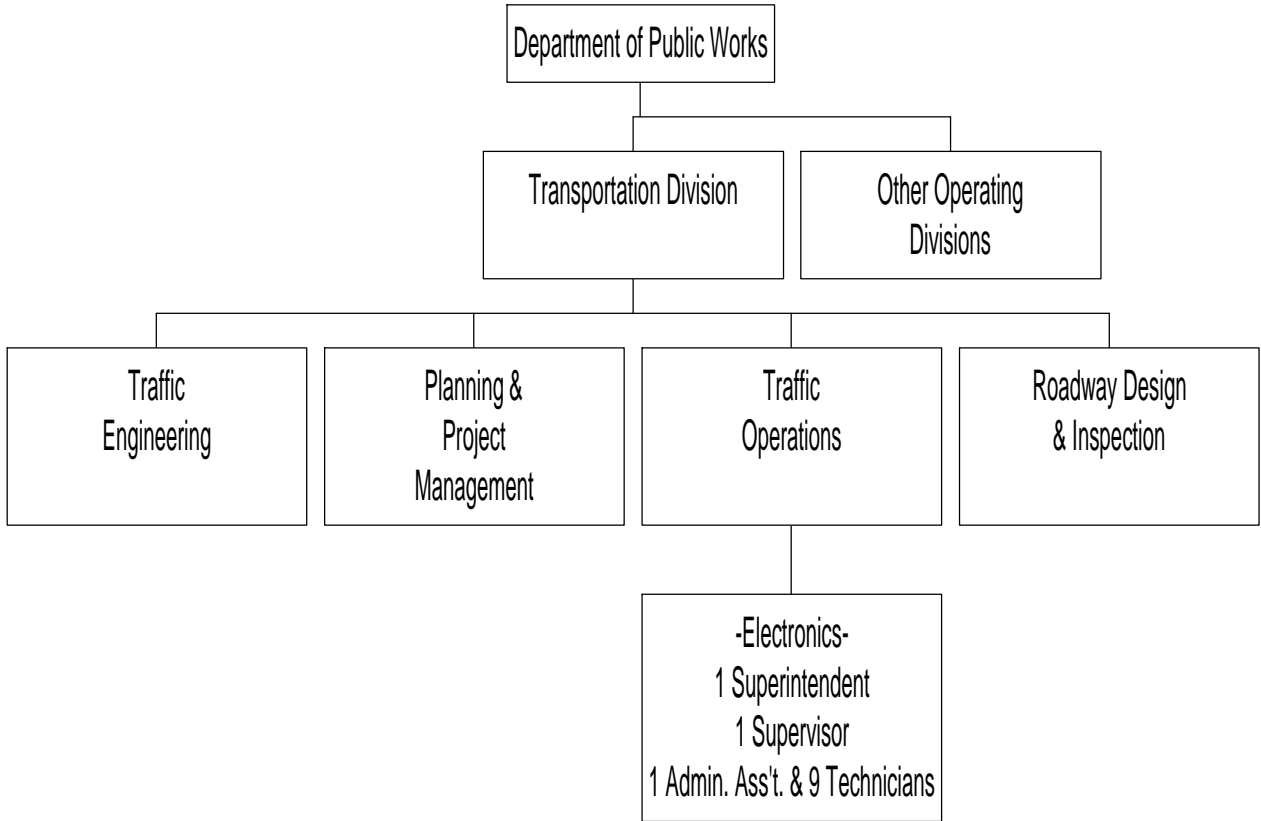
STATISTICS

	<u>FY03</u>	<u>FY02</u>	<u>FY01</u>
Revenue	\$ <u>1,206,535</u>	\$ <u>1,137,353</u>	\$ <u>950,288</u>
Operating Expenditures	733,698 ¹	386,536	385,009
Personal Services	<u>724,318</u>	<u>703,597</u>	<u>696,313</u>
Total Expenditures	<u>1,458,016</u>	<u>1,090,133</u>	<u>1,081,322</u>
Excess (deficiency) of Revenues over (under) Expenditures	<u>\$(251,481)</u>	<u>\$47,220</u>	<u>\$(131,034)</u>
Authorized Positions:	<u>12</u>	<u>12</u>	<u>12</u>

Source: Revenues and expenditures were obtained from the City's financial system. Authorized position numbers were obtained from the Administrative and Fiscal Division of DPW.

¹ Based on representations from the Revenue and Finance Department, the significant increase in Operating Expenses over prior years was due to an adjustment to depreciation expense. The adjustment was made to the General Ledger to reconcile it to the Fixed Asset Accounting System accumulated depreciation amount.

ORGANIZATION CHART (Partial)



STATEMENT OF OBJECTIVES

This audit was conducted in accordance with the Internal Audit Department's FY04 Audit Agenda. The objectives of this audit were to determine if:

1. Equipment repairs were cost effective;
2. Services provided by the Division were effective and efficient;
3. The parts inventory was in compliance with the City's policy; and
4. Communications equipment was housed in a secure environment.

STATEMENT OF SCOPE

The audit period covered the Electronics Division activity that occurred from March 1, 2003, to December 31, 2003. Source documentation was obtained from the Electronics Division and the City's financial system. Original records as well as copies were used as evidence and verified through physical examination.

STATEMENT OF METHODOLOGY

Government Auditing Standards require auditors to determine if computer-processed data are sufficiently reliable to be used in the audit process. The Electronics Division utilizes the MCM software program to process and record information relating to equipment repair and cost allocation. We performed certain procedures to assess the reliability of the computer-processed data. Based on the results of these procedures, the computer-processed data appears to be sufficiently reliable in all material aspects to be utilized in the audit process.

Test work was performed utilizing judgmental sampling since the configuration of information did not lend itself to statistical sampling.

STATEMENT OF AUDITING STANDARDS

We conducted our audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to afford a reasonable basis for our judgments and conclusions regarding the organization, program, activity or function under audit. An audit also includes assessments of applicable internal controls and compliance with requirements of laws and regulations when necessary to satisfy the audit objectives. We believe that our audit provides a reasonable basis for our conclusions.

AUDIT CONCLUSIONS

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

1. Repair costs for some equipment were excessive;
2. Services provided by the Division seem to be effective; however, it did not appear to be efficient;
3. All of the spare parts used by the Division were not on the City's inventory list; and
4. Communications equipment appeared to be housed in a secure environment. The Tampa Police Department will be conducting a more comprehensive security review in April 2004.

While the findings discussed below may not, individually or in the aggregate, significantly impair the operations of the Electronics Division, they do present risks that can be more effectively controlled.

TOTAL REPAIR COST

The cost (labor and parts) for each repair is recorded in the MCM software system. When the job is completed the applicable department is billed for the repair costs. We judgmentally selected a sample of sixty work orders for testing. The sample was selected from work orders that incurred a labor cost of \$400 or more and/or parts costs of at least \$150. The total repair cost of each work order was calculated and it was compared to the equipment's original cost and net value. We noted twenty-two instances (37%) where the repair cost exceeded the equipment's current value. Also, sixteen of the twenty-two exceptions (27%) exceeded the equipment's original cost.

We noted in a survey that the City of Austin, Texas has implemented standard guidelines to effectively monitor excessive repair costs. First, they allow only a two-hour maximum on billable repair activity. Second, a limit of \$300 is imposed for time and material on any repair. Supervisor approval is required to exceed any of these standards.

In the same survey, we also contacted the City of St. Petersburg. Although they have no established formal standards, they have implemented general guidelines to control repair costs. In this regard, if repair parts exceed fifty percent (50%) of the radio cost, the repair is not made. In older models, no more than twenty-five (25%) of the value in parts are allowed for repair.

RECOMMENDATION 1

Standards should be developed to determine if the proposed equipment repair would be cost effective. Consideration should be given to similar standards as implemented by the City of Austin, Texas and St. Petersburg, Fl.

AUDITEE RESPONSE

We are in the process of implementing standard guidelines to insure that equipment will not be repaired that could be replaced at a lower cost. However, some of items are critical to our communication system (i.e. voter receiver system) and are very costly to replace. New systems cost in the area of \$75,000 to \$100,000. This equipment will be evaluated by our upcoming Consultant study.

EFFICIENCY

The MCM software system accumulates repair information including technician hours. We compiled the total number of repair hours charged in FY02 and FY03; we divided those amounts by total available technician hours for each year to arrive at a productivity figure. In FY03 our analysis indicated that 62% of the available technician hours were charged to repairs compared to 73% in FY02. Although there was a decrease in available technician hours in FY03 due to a retirement (the position was not filled until four months later), we adjusted our calculations accordingly to ensure a valid comparison between the two years. The results for FY03 seemed low; therefore we attempted to obtain productivity standards to benchmark against.

In our productivity survey, we contacted ten cities within and outside of Florida. We also contacted Hillsborough County for benchmarking purposes. Of the cities contacted only Austin, Texas has a formal, written productivity rate standard although others do have general guidelines. Austin uses a 75% productivity rate standard for their radio installers and radio technicians. In addition, Austin has established guidelines to ensure maximum repair efficiency, which we documented in the preceding finding. In a previous audit (Audit 00-07, Tampa Fire Rescue Maintenance) we stated that the industry standard for mechanics was 70% of direct labor hours to available hours. The National Association of Local Government Auditors uses 72% of direct labor hours as the standard for audit departments. It appears that establishing a standard in the 70% to 75% range is reasonable for direct labor hours.

Of the remaining nine cities contacted in our survey, four outsourced all or a large portion of radio repair work. The remaining five cities had no formal standards implemented, although some, including the City of St. Petersburg had general guidelines in place (for discussion of St. Petersburg's guidelines, see the preceding finding). Hillsborough County had no formal standards; however they and some of the cities represented that they are re-evaluating their current system in favor of a formalized process to enhance repair efficiency.

In 1997 the Electronics Division, in conjunction with the Purchasing Department, completed a privatization review at the request of senior management. Based on the results of the review, radio repair services were maintained in-house.

RECOMMENDATION 2

Management should consider adopting a direct labor standard, for example 70% to 75%, as a means to monitor the shop efficiency. The Administrative and Fiscal Manager already prepares a periodic report of staff time for the Electronics Division. Also, guidelines should be considered regarding a maximum repair time and prior supervisory approval for potential excess repair time as implemented by the City of Austin.

AUDITEE RESPONSE

We are currently working with MCM (software program developers) to develop reports to monitor our employee's efficiency. In the meantime, we have implemented a paper form that requires employees to record all of their work everyday. This ensures the employee's time is being recorded. These forms are randomly checked for conformation.

RECOMMENDATION 3

The implementation of a direct labor standard should be coupled with an evaluation of the cost effectiveness of the current radio repair process. Possibilities to be considered include:

- **Complete outsourcing:** Several of the cities surveyed outsourced all radio repairs and were satisfied with the process. The arrangements were structured to take advantage of manufacturers warranties and other purchasing provisions.
- **Partial Outsourcing:** Two of the cities surveyed outsourced high volume radio repairs of departments such as the police. These types of arrangements were also structured to take advantage of manufacturers warranties and other purchasing provisions. In-house repairs were limited to low volume departments. The cities appeared to be satisfied with the arrangements.

AUDITEE RESPONSE

We continue to review our operations for the most efficient and cost effective service for the City. The changes that have been made were a result of internal Electronics Division recommendations to Senior Staff. Currently, we are in the process of selecting a consultant to review our complete communications system and make recommendations as to a replacement system. We will request that they review this area to determine the best practice of maintaining communications systems. However, besides providing normal repairs, we provide emergency service 24/7 and during disaster operations, i.e. Hurricanes.

INVENTORY

The Division maintains a parts inventory, valued at approximately \$5,000, that was not recorded in the City's perpetual inventory system. Our test work indicated that close to \$3,900 of the parts in this inventory appear to meet the criteria established for being in the perpetual inventory system. We were told that the "bench stock" parts were required to be on hand for repairs to vital communication equipment. We also noted that some of the non-inventory parts were obsolete.

RECOMMENDATION 4

The Electronics Division should coordinate with the Inventory and Stores Section to identify and move eligible parts from the "bench stock" into the perpetual inventory. As part of this review, obsolete parts being held in stock should be identified, and then disposed of in accordance with City procedures.

AUDITEE RESPONSE

In response to the Audit, we have implemented this recommendation and have removed numerous obsolete parts and are preparing the required paperwork to have the remaining items added to Inventory and Stores.