

**SOLID WASTE &  
ENVIRONMENTAL PROGRAM MANAGEMENT  
COMMERCIAL OPERATIONS  
AUDIT 16-15  
APRIL 4, 2017**



# CITY OF TAMPA

Bob Buckhorn, Mayor

Internal Audit Department

Christine Glover, Internal Audit Director

April 4, 2017

Honorable Bob Buckhorn  
Mayor, City of Tampa  
1 City Hall Plaza  
Tampa, Florida

RE: Solid Waste – Commercial Operations, Audit 16-15

Dear Mayor Buckhorn:

Attached is the Internal Audit Department's report on Solid Waste – Commercial Operations.

We thank the management and staff of the Department of Solid Waste and Environmental Program Management for their cooperation and assistance during this audit.

Sincerely,

/s/ Christine Glover

Christine Glover  
Internal Audit Director

cc: Dennis Rogero, Chief of Staff  
Sonya Little, Chief Financial Officer  
Brad Baird, Administrator for Public Works and Utility Services  
Mark Wilfalk, Director of Solid Waste and Environmental Program

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/s/ Stephen Mhere

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Auditor

/s/ Christine Glover

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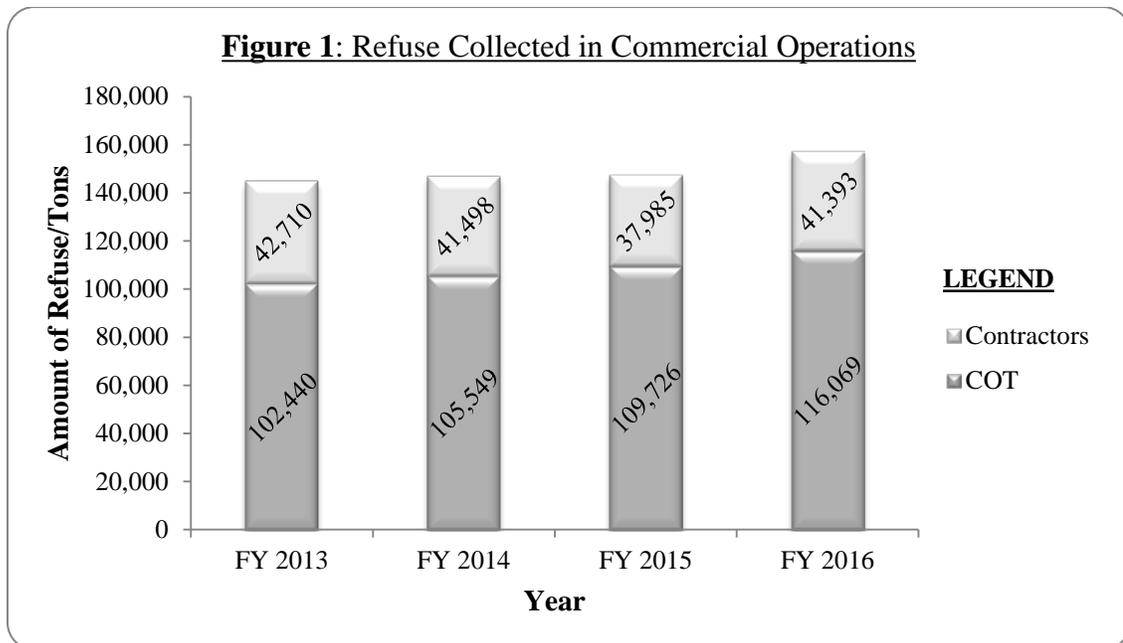
Audit Director

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**BACKGROUND**

The Department of Solid Waste and Environmental Program Management (Solid Waste) is responsible for providing refuse collection services to over 79,000 residential and commercial customers in the City of Tampa (COT). It is organized into seven divisions, namely Commercial Services (including Transfer Station), Residential Services, Recycling, Quality Control, Environmental Coordination, Audits & Contracts, and Asset Management. As of November 2016, Solid Waste had 180 full-time positions filled, and two part-time positions. In FY 2015, Solid Waste had total operating revenues and expenses approximating \$91 million and \$51 million, respectively.

The Commercial Services Division is responsible for collecting refuse generated primarily by COT’s business establishments and multi-family residential complexes. It had 50 full-time employees as of November 2016, servicing 8,186 commercial accounts<sup>1</sup>. While Solid Waste provides the bulk of commercial refuse collection services, it has contracted with private refuse haulers to service some of its customers. The graph below shows the tonnage of commercial refuse collected by both private contractors and COT from FY 2013 through FY 2016.



*Source: Auditor analysis of refuse haulage data provided by Department of Solid Waste.*

<sup>1</sup> The number of accounts often changes with time – the 8,186 commercial accounts were as of October 2016.

## **STATEMENT OF OBJECTIVES**

This audit was conducted in accordance with the Internal Audit Department's FY 2016 Audit Agenda. The objectives of the audit were as follows:

- 1) Determine if the department has implemented appropriate internal controls for inventory management of containers and repair workshop supplies.
- 2) Review the department's work order management practices.

## **STATEMENT OF SCOPE**

This audit only evaluated Solid Waste's Commercial Services Division. It did not include residential and private contractor operations because both were planned to be evaluated separately – they are both included in the FY 2017 Audit Universe. The focus of our audit analysis was on operational activities taking place in FY 2016. However, for comparative purposes, data for tonnage of refuse collected from FY 2013 through FY 2016 was compiled and analyzed.

In addition, we included an examination of internal controls in our audit scope, particularly with regard to the department's practices relating to inventory management.

## **STATEMENT OF METHODOLOGY**

We achieved our objectives for the audit by analyzing two months' worth of data from work orders processed in COT's Multi-Service System (MSS) in 2016. Our audit procedures also included analysis of relevant data documented in spreadsheets. We also looked at Solid Waste's organizational chart in our review of personnel resources in the department's Commercial Services Division.

We interviewed members of staff from Commercial Operations, as well as from Logistics and COT's Utilities Call Center. We reviewed policies and observed operational processes and procedures, including processes used in the repair workshop. We also reviewed work order processes for providing special services and repairing refuse containers, as well as delivering or removing them from customer premises.

## **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.

## **NOTEWORTHY ACCOMPLISHMENTS**

In spite of challenges that traditionally face all refuse collection services, Solid Waste endeavors to find ways to improve its operations. Below are some of the initiatives the department has taken in that regard:

- 1) The department converted 160 rear load refuse containers to automated front-load containers or roll-off garbage carts. This was done to reduce the high risk of employee injury associated with the use of rear load refuse containers in solid waste operations.
- 2) The department identified a new entity for tire disposal as an alternative to the existing one. The alternative program is more efficient and significantly less costly.
- 3) The department implemented a container over-load revenue capture program to correctly charge customers for excess refuse serviced from front-load containers, increasing revenue in this category from \$160K budgeted to \$320K actual in FY 2016.

## **AUDIT CONCLUSIONS**

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

- 1) The department has designated and staffed a position with the responsibility to carry out its stewardship of containers and repair workshop supplies. However, internal control practices for inventory management can be improved.
- 2) Solid Waste revamped its organization and assigned the work order management function to the Centralized Dispatch Office. However, there are challenges in that function, mostly related to data accuracy and the use of the old and antiquated MSS system.

## **INVENTORY MANAGEMENT AND SEPARATION OF DUTIES**

**STATEMENT OF CONDITION:** Solid Waste procures and handles a variety of inventory for its commercial operations. Inventory includes refuse containers such as compactors, front load containers, roll-offs, and garbage carts. It also includes workshop repair supplies like welding equipment and supplies<sup>2</sup>, personal protective equipment, hydraulic hoses and fitting equipment, as well as spray painting equipment, accessories, and supplies.

Currently, there is no documentation showing inventory levels for workshop supplies. There are also no reliable records pertaining to the inventory of containers, particularly garbage carts that have been distributed to customers. Inventory control is the responsibility of the department's Asset Supervisor (supervisor). This position is also responsible for procurement of the inventory.

**CRITERIA:** Standard practice for internal control for inventory requires the implementation and maintenance of a reliable inventory system. Also, purchasing and inventory management activities should not be assigned to a single individual.

**CAUSE:** Solid Waste has an outdated, inadequate inventory tracking system and does not have staff members who are knowledgeable and capable of performing efficient inventory tracking. Staff reassignments have proven unsuccessful. Nonetheless, the supervisor is expected to record inventory, track quantities-on-hand, and determine reorder points. However, this supervisor is also responsible for many other departmental critical functions, and unable to successfully and efficiently perform these activities on a daily basis.

The supervisor position is also responsible for coordinating inventory acquisition with the department's leadership team. In reality, purchasing of workshop supplies and containers has become a major activity of the position, thus, inadvertently blurring the lines of segregation with inventory control.

**EFFECT OF CONDITION:** Ineffective inventory management and the lack of segregation of duties both weaken the department's internal controls against waste and fraud. This risk is particularly high for the metal fabrication/welding shop and garbage carts which the department delivers at an average rate of 80 per business day to both commercial and residential customers.

**RECOMMENDATION 1:** We recommend Solid Waste to consider the following:

- 1) Implement an effective and reliable inventory system for containers and workshop supplies.
- 2) Separate inventory control and purchasing functions so that they are not performed by a single individual.

**MANAGEMENT RESPONSE:** The department recognizes the risk associated with its current inventory management practices. The current inventory management program, MSS, is a limited system that is no longer conducive for tracking assets required to support current solid waste management business practices. The department is currently working in conjunction with the Department of Technology and Innovation (T&I) to secure an improved reliable inventory

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<sup>2</sup> Welding equipment and supplies include sheet metal, metal rods/bars, welding accessories, and nuts, bolts, and washers.

management program to address the evolving inventory requirements in the field of waste resource management.

In FY 2016, we attempted to improve our performance in this area through organizational and personnel adjustments. However, the department had to focus attention on personnel related matters and has yet to optimize the performance in this area. A majority of these concerns will be mitigated as staffing levels improve.

Most recently, we have addressed our organizational needs with the Department of Human Resources. We are currently in the process of reestablishing an existing position within our organization as an Inventory Technician to assist the department with improving the accountability of its inventory and asset items.

TARGET IMPLEMENTATION DATE: Implementation of Inventory Technician – May 2017.  
Implementation of inventory management software program – November 2017.

## **ACCURACY OF CONTAINER LOCATION INFORMATION**

**STATEMENT OF CONDITION:** COT provides refuse collection services to approximately 8,186 commercial accounts. The diversity of their business operations – some are in construction while others run business offices, shops, restaurants, etc – means that commercial customers generate different kinds and quantities of refuse. As such, when establishing new refuse service accounts or changing existing ones, Solid Waste endeavors to accurately determine and deliver the appropriate types<sup>3</sup> and sizes of containers needed. Container type and size, and the frequency of refuse pick-up, are entered into the MSS system for billing purposes – they are used to determine the monthly rates and container maintenance fees that commercial customers are charged.

According to Solid Waste’s Quality Control Unit, COT services approximately 2,419 accounts through front-load dumpsters.<sup>4</sup> Records show inaccuracies in the system regarding where some of these containers are located. Solid Waste identified 53 accounts where serial numbers of containers at customer locations did not match serial numbers in the system. Of these accounts, five had more containers on site than were reflected in the billing system and two had no containers at all.

**CRITERIA:** For purposes of billing accuracy, container size and type in the system should match the size and type of containers used to service accounts. Also, the number of containers assigned to each customer in the system should match the number of containers at the customer’s premises.

**CAUSE:** Solid Waste’s generation and imprinting of container serial numbers is manual and antiquated, and is prone to transposition of digits and duplication. In addition, the department does not currently have a way to effectively monitor and/or track container movement in the field.

**EFFECT OF CONDITION:** COT runs the risk of over or under-billing the customer when information in the system does not accurately describe the containers actually used to service accounts.

**RECOMMENDATION 2:** As a way to more effectively monitor container movement in the field, Solid Waste should consider performing periodic inventory to verify that system records accurately reflect container locations at all times. The department should also improve its in-house process of serial number generation in order to eliminate duplication or transposition errors in container ID numbers.

**MANAGEMENT RESPONSE:** We are in agreement with the recommendation of performing periodic inventory of containers. In 2016, in April and again in August, prior to this audit inquiry, three separate reviews of container locations and quality were performed. The business units performing the reviews included: Commercial Services/Front-load Services, Asset Management and Audit & Contracts. We are committed to improving our accuracy and accountability and will continue periodic container audits. We have also recently discussed, and are researching further, a temporary measure which includes an adhesive serial number

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<sup>3</sup> Container types include compactors, front load containers, roll-offs, and garbage carts.

<sup>4</sup> Not including those serviced by a private refuse haulage contractor.

application which is tracked and verified in a database. This process is currently used by some of the private providers. This process would be temporary while we work to completely implement our Radio Frequency Identification (RFID) tags.

Management notes the following contributing factors:

- 1) The current billing system does not permit several service and container activities at the same time. Staff uses external spreadsheets to maintain and track container inventory and complete multiple work orders and service activities for one account.
- 2) The department is pursuing the use of RFID that would link device serial numbers, container numbers and location addresses into a software program that will communicate with COT's future Utilities Management System (UMS). The new system will allow multiple service orders and device activities open thereby eliminating the use of Excel spreadsheets.

TARGET IMPLEMENTATION DATE: Periodic reviews began in early 2016 and will continue. The adhesive serial number application may begin as early as within 90 days. Target completion date for the RFID implementation is November 2018, after full implementation of the UMS.