

Performance Audit

**DEPARTMENT of PUBLIC SAFETY  
BUREAU of FIRE  
SUPPLY WAREHOUSE**

Report by the  
Office of City Controller

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To the Honorables: Mayor Luke Ravenstahl and  
Members of Pittsburgh City Council:

The Office of City Controller is pleased to present this Performance Audit of the *Department of Public Safety Bureau of Fire Supply Warehouse* conducted pursuant to the Controller's powers under Section 404(c) of the Pittsburgh Home Rule Charter. This audit examines facility usage and inventory control procedures.

### EXECUTIVE SUMMARY

The Fire Supply Warehouse (FSW) is located in the Strip District at 2945 Railroad Street in a section of the old General Services Warehouse. The warehouse serves as a distribution center for Bureau of Fire supplies and Homeland Security/Emergency Management Agency supplies. Fire Bureau supplies include housekeeping items and traditional fire fighting equipment such as saws, axes, oxygen masks, gloves, etc. and medical equipment and supplies. Part of the warehouse complex/facility is leased by American Dispatch, a private company that houses and delivers frozen and refrigerated items.

### Findings and Recommendations

Bureau of Fire Supply Operating Procedures

**Finding:** The creation of the central supply warehouse enables more effective inventory monitoring and distribution of Fire Bureau supplies.

**Finding:** Prior to the hiring of the current Logistics Manager, there was no limit on ordering supplies. The system allowed people to order up to the budget appropriation amount whether items were needed or not needed in that quantity.

**Finding:** The Standard Operation Procedures for First Responder Units was revised on June 19, 2009 and includes a section on supply distribution and ordering supplies. The Fire Bureau SOP for Supply Storage and distribution has not been revised since 1987.

**Finding:** Currently the Fire Warehouse is operating under different procedures for ordering supplies than the 1987 SOP currently in effect.

**Recommendation:** Fire Bureau SOP for ordering supplies should be rewritten to conform to what is currently being practiced by the Warehouse personnel.

**Recommendation:** Using e-mail as the official method of requesting supplies should be adopted by Bureau of Fire Administration. An e-mail request increases efficiency and ensures that the request is received. E-mail also provides a traceable record of the request.

**Finding:** Multiple requests for the same item must be submitted in writing and signed by the Company Officer, Battalion Chief and the Deputy Chief. This process makes everyone aware of the frequency that the item was requested and holds firefighters more accountable for the item use or disappearance.

**Recommendation:** Different procedures to hold Fire Personnel more accountable for lost, broken or recurring equipment requests are a good practice and should be continued.

#### Maximum Usage Lists

**Finding:** To remedy over ordering by Fire Bureau personnel, the warehouse Manager has implemented maximum usage lists for selected supplies. Maximum usage lists prevent over ordering and hoarding of supplies in the Firehouses.

**Recommendation:** Maximum usage lists are essential for operating an effective inventory. They help provide control and accountability and should be expanded to more items if necessary.

#### Web-based Computer Inventory System

**Finding:** The current web-based system does not automatically update inventory stock when items are received or when items are dispersed. Data must be entered by the warehouse personnel.

**Finding:** The web-based computer system should help track high end items such as firefighter gear at firehouses. According to the Warehouse Manager, his staff does not have adequate time to enter updated data because one position remains unfilled.

**Finding:** Smaller ticket items are not tracked on any type of manual or computerized inventory system.

**Recommendation:** It should be a top priority of the Fire Bureau to implement a modern and effective inventory management system for all items in the Supply Warehouse. This will give the Logistics Manager the ability to know exactly what is in the warehouse, as well as what equipment has been issued to each fire fighter.

## Web Based Inventory System Testing

The auditors obtained an inventory list from the FSW web based inventory system and selected (20) of the 39 equipment categories to compare the amount on the computer list to the amount of actual stock.

**Finding:** Out of the 20 categories in the sample, the actual stock amount in 7 categories (35%) matched the inventory amount. Sixty five percent (65%) of the testing sample did not match.

**Finding:** The web based computer inventory is not updated in a timely manner. For example, items such as fire gloves, rubber boots, suspenders, 24” PPV, bunker coats, 8 feet pike pole, extension ladder, flat head ax, handheld light, helmet ID shield and Solaris multi-gas meter did not match the manual inventory count.

**Finding:** The physical inventory locations in the warehouse are primarily shelving and are not marked with any location identifier.

**Finding:** With the lack of location identifiers, the Logistics Manager and his staff located selected sample items with some degree of difficulty.

**Recommendation:** Shelving in the warehouse should be coded or numbered. Locations of the items should correspond with shelving code or number in the inventory system.

**Finding:** The auditors observed items scattered throughout the warehouse on the floor. Extension ladders were placed in two different locations; Serial and model numbers were not visible.

**Recommendation:** The Fire Supply Warehouse should be organized in a way that all items are easily recognizable and accessible. Serial numbers and /or model information should be easily viewed.

## Physical Inventory Count

**Finding:** According to the warehouse manager, big ticket items are not ever counted and matched to the web-based inventory. The manager walks through the building and “eyeballs” the quantities of all inventory including high-end items.

**Finding:** The warehouse Manager stated that two people are needed to conduct a proper inventory but the warehouse is too short staffed at this time to commit more personnel to inventory.

**Recommendation:** An inventory count of all articles in the warehouse should be conducted at least quarterly and definitely yearly. Fire Administration Management should assign the needed manpower to complete this task. Management should also consider the use of summer interns.

**Finding:** Diligent and regular tracking of inventory is needed to ensure adequate stock levels.

**Recommendation:** The Bureau of Fire and the Logistics Manager should work with City Computer Information Systems (CIS) to develop a materials management system in house or purchase appropriate software with a portable scanner.

### Warehouse Usage

The current central warehouse was once used as a warehouse for the now defunct General Services Department. Fire Bureau and Emergency Management supplies and equipment are stored in one section and the other section contains old and unusable equipment.

**Finding:** The section where Fire Bureau supplies and equipment are stored seems inadequate for storage. Equipment and pallets of various supplies are lying on the floor.

**Finding:** Supervising people off site is unpractical. The two Self Containing Breathing Apparatus (SCBA) Technicians who are supervised by the Logistic Manager work at another site.

**Finding:** There has been talk about not extending the contract with American Dispatch, Inc. (ADI) in order to make more room for the fire supply warehouse. Removing a paying customer while half the warehouse is storing debris is not practical or economical.

**Recommendation:** The contract with American Dispatch which expired April 30, 2010 should be extended at current market rates.

**Recommendation:** The unused portion of the warehouse should be cleaned out. Items should be auction off, recycled or otherwise disposed of. This would create the space needed for the Fire Bureau and Homeland Security supplies and allow the SCBA technicians to move on site and be properly supervised.

### Supply Distribution to Firehouses

**Finding:** Each firehouse gets supplies once a month. Recurring items supplies are on a rotational basis, with the City's 29 firehouses asked to send orders at specific times each month. This allows warehouse personnel to stagger the orders delivered to the firehouses, thereby better utilizing the warehouse staff time.

**Recommendation:** The current fire supply distribution procedure is effective and should be continued.

The Logistics Manager has improved Fire Bureau supply management by centralizing operations, adopting tighter procedures for supply distribution and implementing a rudimentary inventory system. For optimum warehouse effectiveness and efficiency, the Bureau of Fire should adopt an on-line materials management system that tracks all warehouse inventories and facilitates stock reordering and distribution.

Correspondence with the Warehouse Manager indicates agreement with many of the audit recommendations to improve Fire Supply Warehouse operations.

Sincerely,

Michael E. Lamb  
City Controller

## **INTRODUCTION**

This performance audit of the Department of Public Safety Bureau of Fire Supply Warehouse was conducted pursuant to section 404(c) of the Pittsburgh Home Rule Charter. There are no prior performance audits focusing solely on the Fire Supply Warehouse. This audit examines the facility usage and procedures for inventory control.

## **OVERVIEW**

The Fire Supply Warehouse (FSW) is located in the Strip District at 2945 Railroad Street in a section of the old General Services Warehouse. In addition to being used as a distribution center for Bureau of Fire supplies, the warehouse serves as a distribution point for Homeland Security/Emergency Management Agency supplies. Fire Bureau supplies include housekeeping items and traditional fire fighting equipment such as saws, axes, oxygen masks, gloves, etc. and medical equipment and supplies.

Part of the warehouse complex/facility is leased by American Dispatch. American Dispatch is a private company that houses and delivers frozen and refrigerated items.

### **Staffing**

Traditionally the Fire Supply Warehouse was operated by the Fire Bureau's Captain of Supplies. When the last Captain of Supplies retired, the position was put up for bid. When no fire personnel bid on the position, a new civilian position of Logistics Manager was created. The current civilian Logistics Manager was hired in October 2007.

The Manager is responsible for overseeing other warehouse staff that includes two repair specialists, one driver and two Self Containing Breathing Apparatus Technicians (SCBA). The SCBA technicians keep and maintain the firefighters breathing equipment needed for fighting fires. Because of limited space in the warehouse, the SCBA technicians work out of Engine Company 3.

### **Other Personnel Responsibilities**

In addition to the daily ordering and distributions of materials, equipment and supplies, Fire Warehouse personnel are also responsible for washing firefighter and emergency medical personnel protective clothing. This is done in the basement of the warehouse in a giant commercial washer. The protective clothing is hung on lines to dry with several fans circulating the air. The gear cannot be heated in clothes dryers because the heat insulating material would deteriorate.

Washing and drying firefighter and emergency medical protective clothing in-

house saves the City money. The amount of savings the City realizes by washing the gear in house is outside the scope of this audit.

Each firefighter is assigned a uniform and equipment with its own inventory number on it. That firefighter is responsible for maintaining her/his uniform and equipment. After a while her/his uniform needs cleaned. The dirty uniform is sent to the warehouse for cleaning and is exchanged for a clean uniform.

Each firefighter has an individual inventory file kept by warehouse personnel. This file contains every item that a firefighter has by the items inventory number. For example, a firefighter has a pair of boots with inventory number R5128M010815. Another firefighter has a pair of boots with inventory number R5128M036077. In each firefighters file the pair of boots would be listed with the respective inventory number. When uniforms or equipment items are exchanged the individual firefighters file is changed and updated. The accuracy of the individual firefighter files was outside the scope of this audit.

## **Facility Security**

All Warehouse employees and two Fire Chiefs have keys that can access the entire warehouse anytime. However, because all Firemen serve as first responders to emergencies and accidents there are certain supplies that must be available to every Fire Chief 24 hours a day. These supplies are kept in one caged section of the warehouse known as the 24/7 area. This area is accessible to all Fire Chiefs at any time of the day and night. Supply items in the 24/7 area vary seasonally. For example, in the winter extra tire chains are stored there for easy access. In the summer, chain saws are kept handy for first responders.

According to the Logistics Manager, when he was hired, the Warehouse Facility storage area was a dumping ground for the City Department of General Services. The facility was dirty and cluttered with records, unusable computers and other equipment such as automobile parts. It required 7 dumpsters to clean out. Five truckloads of material were taken to be recycled and 23 pallets of records and other materials were moved into another section of the warehouse facility.

## **Inventory Management System**

An effective inventory management system prevents the over ordering and under ordering of supplies. Over ordering stock uses funds that could be put to better use and requires additional storage space. Under ordering can result in supply shortage or unavailability. This audit assesses the Fire Bureau's current system of inventory management and controls.

## **METHODOLOGY**

The auditors met with the Director of Public Safety, Fire Chief, Warehouse Logistics Manager and Office of Emergency Management Deputy Director to discuss warehouse operations and toured the warehouse facility. The following documents were reviewed: Standard Operating Procedure SOP (12-09-1987 revision), Standard Operating Procedure first responder unit revised June 19, 2009.

The higher end costing equipment is logged into a web-based inventory system. The system is maintained by Honeywell. The auditors obtained an inventory list for June 30, 2010. The list had 39 equipment categories totaling 733 items. On July 1, 2010, the next day, the warehouse was visited and an inventory test was conducted. About half the categories or 20 were chosen and the items were counted. The counted number was then compared to the computer list for accuracy. Over and under numbers and percentages were calculated and recorded.

The auditors met with an Emergency Medical Services Division Chief and Crew Chief to discuss EMS supply ordering system.

## **SCOPE**

The audit scope is Fire Bureau Supply Warehouse operations and procedures from 2009 through July 2010.

## **OBJECTIVES**

1. To assess the accuracy of the web-based inventory.
2. To assess the Fire Supply Warehouse inventory management system.
3. To make recommendations for improvement.

## FINDINGS AND RECOMMENDATIONS

### Bureau of Fire Supply Operating Procedures

Prior to the hiring of the current Logistics Manager, the Fire Warehouse operated under the 1987 Revised Standard Operating Procedures (SOP) for Supply Storage and Distribution. Supplies and equipment were to be stored in one central primary site located at #18 engine company, Northumberland Street in Squirrel Hill.

Supplies were to be issued on a quarterly basis between 8:00 am and 12:00 pm Wednesdays and Thursdays. A secondary emergency location was the supply truck driver quarters. According to Fire Bureau Administration, this policy was not followed and supply distribution became a “free for all”. Supplies and equipment were found stored and stockpiled throughout various firehouses.

**Finding:** There was no limit on ordering. The System allowed people to order up to the budget appropriation amount whether items were needed or not needed in that amount. For example, the Warehouse Manager found 1700 nose cannulas (for administering oxygen) in storage although the previous year only 30 had been used.

**Finding:** The Standard Operation Procedures for First Responder Units was revised on June 19, 2009 and includes a section on supply distribution and ordering supplies. The Fire Bureau SOP for Supply Storage and distribution has not been revised since 1987.

### Fire Warehouse Supply Procedures

Bureau of Fire Supplies, including First Responder supplies, are now housed in one central warehouse located on 2945 Railroad Street in the strip district. As explained in the Overview it is run by a Logistics Manager.

**Finding:** The creation of the central supply warehouse enables more effective inventory monitoring and distribution of Fire Bureau supplies.

**Finding:** Currently the Fire Warehouse is operating under different procedures for ordering supplies than the 1987 SOP currently in effect.

A communiqué from Fire Administration requires that all supply and equipment requests be sent by e-mail. According to the Logistics Manager, some Firehouses do not always cooperate. Those who do not cooperate will call instead of sending an e-mail. In these instances the warehouse Manager tells the individual to send an e-mail.

Usually the Firehouse Company Officer sends an e-mail to the warehouse manager requesting supplies and equipment. Once the e-mail is received, the items are located and readied for delivery.

After the e-mail request has been filled, the driver delivers the requested item(s) to the Firehouse that requested them. A paper copy of the e-mail is marked “done” and it is filed in the respected firehouse folder. These e-mail requests are kept for one year and then discarded.

According to the Logistics Manager sometimes there are a few requests that are “out of the ordinary”. For example an axe is requested then a short time later another axe is requested by the same firehouse. In this case, the warehouse Manager asks for a written request from the Firehouse Company Officer. This written request has to be signed by the Company Officer, Battalion Chief and Deputy Chief.

**Finding:** This process of requiring a written request for multiple requests of the same item makes everyone aware of the frequency that the item was requested and holds firefighters more accountable for the item use or disappearance.

There are two other exceptions for not accepting an e-mail request. Orders for protective clothing require a PBF Form 4 and requests to replace broken equipment require PBF Form 9 that are signed by the Company Officer, Battalion Chief and the Deputy Chief.

### **RECOMMENDATION NO. 1:**

Different procedures to hold Fire Personnel more accountable for lost, broken or recurring equipment requests are a good practice and should be continued.

### **RECOMMENDATION NO. 2:**

Fire Bureau SOP for ordering supplies should be rewritten to conform to what is currently being practiced by the Warehouse personnel.

### **RECOMMENDATION NO. 3:**

Using e-mail as the official method of requesting supplies should be adopted by Bureau of Fire Administration. An e-mail request increases efficiency and ensures that the request is received. E-mail also provides a traceable record of the request.

### Maximum Usage List

Before the Logistics Manager was hired, firehouse personnel could request any amount of supplies at any given time. This allowed Fire Bureau personnel to order supplies up to the allocated amount and, according to the Manager, often resulted in supply hoarding.

To remedy over ordering by Fire Bureau personnel, the warehouse Manager has implemented maximum usage lists for selected supplies. These internal usage lists have been developed for frequently ordered items such as toilet paper and other housekeeping supplies. Warehouse personnel cannot disperse more than the maximum usage amount.

**Finding:** Maximum usage lists prevent over ordering and hoarding of supplies in the Firehouses.

#### **RECOMMENDATION NO. 4:**

Maximum usage lists are essential for operating an effective inventory. They help provide control and accountability and should be expanded to more items if necessary.

#### **Web-based Computer Inventory System**

Fire warehouse personnel have access to a web-based computer inventory program (APT) from a company that sells fire equipment products. According to the warehouse Manager, the software is for firefighter gear and high dollar items such as chainsaws, ladders, thermal imaging cameras etc.

This web-based computer has two functions. One is to list and show quantities of these high end items etc. in the central warehouse; the other is to show quantities of these same items in each of the 29 firehouses. Verifying quantities of items within the 29 firehouses was outside the scope of this audit.

**Finding:** This web-based system does not automatically update inventory stock when items are received or when items are dispersed. Data must be entered by the warehouse personnel.

**Finding:** The web-based computer system should help track high end items such as firefighter gear at firehouses. According to the Warehouse Manager, his staff does not have adequate time to enter updated data because one position remains unfilled.

**Finding:** Smaller ticket items are not tracked on any type of manual or computerized inventory system.

#### **RECOMMENDATION NO. 5:**

It should be a top priority of the Fire Bureau to implement a modern and effective inventory management system for all items in the Supply Warehouse. This will give the Logistics Manager the ability to know exactly what is in the warehouse, as well as what equipment has been issued to each fire fighter.

## Web Based Inventory Testing

The auditors obtained a Fire Warehouse inventory list from the web based inventory system, or the APT inventory software, on the afternoon of June 30, 2010. Twenty (20) of the 39 equipment categories were selected for testing. The next morning, the auditors went to the warehouse to compare the amount listed on the computer list to the number in actual stock.

Table 1 shows the results of the auditors inventory count. Results are listed as the number over, under or the same as the inventory list with the calculated percentage.

**TABLE 1**

<b>INVENTORY COMPARISON TEST</b>				
<b>Category</b>	<b>Computer inventory</b>	<b>Manual inventory</b>	<b>Over/Under</b>	<b>Under/Over Percent</b>
<b>24" PPV</b>	5	3	-2	-40
<b>8 Feet Pike Pole</b>	0	3	+3	Not calculable
<b>Bunker Coat</b>	242	212	-30	-12
<b>Extension Ladder</b>	19	8	-11	-58
<b>Fire Gloves*</b>	367	297	-70	-19
<b>Flat head ax</b>	3	2	-1	-33
<b>Handheld light</b>	4	8	+4	+100
<b>Helmet ID Shield</b>	96	109	+13	+14
<b>Rubber Boot</b>	20	40	+20	+100
<b>Solaris multi gas meter</b>	16	10	-6	-37
<b>Suspenders*</b>	91	57	-34	-37
<b>Cordless Saw</b>	4	0	-4	-100
<b>Tire Chain Tool</b>	1	0	-1	Not calculable
<b>18" PPV</b>	2	2	0	0
<b>Chain Saw #217144</b>	4	4	0	0
<b>Chop Saw—12" blade</b>	1	1	0	0
<b>Gas Weed Wacker</b>	2	2	0	0
<b>Pants #033</b>	1	1	0	0
<b>Piston Intake Assembly</b>	6	6	0	0
<b>5 Gallon Plastic</b>	4	4	0	0

\* All sizes.

**Finding:** Out of the 20 categories in the sample, the actual stock amount in 7 categories (35%) matched the inventory amount. Sixty five percent (65%) of the testing sample did not match.

**Finding:** The web based computer inventory is not updated in a timely manner. For

example, items such as fire gloves, rubber boots, suspenders, 24” PPV, bunker coats, 8 feet pike pole, extension ladder, flat head ax, handheld light, helmet ID shield and Solaris multi-gas meter did not match the manual inventory count.

**Finding:** The physical inventory locations in the warehouse are primarily shelving and are not marked with any location identifier.

**Finding:** With the lack of location identifiers, the Logistics Manager and his staff located selected sample items with some degree of difficulty.

#### **RECOMMENDATION NO. 6:**

Shelving in the warehouse should be coded or numbered. Locations of the items should correspond with shelving code or number in the inventory system.

**Finding:** The auditors observed items scattered throughout the warehouse on the floor. Extension ladders were placed in two different locations; Serial and model numbers were not visible.

#### **RECOMMENDATION NO. 7:**

The Fire Supply Warehouse should be organized in a way that all items are easily recognizable and accessible. Serial numbers and /or model information should be easily viewed.

#### Physical Inventory Count

According to Generally Accepted Accounting Principles, a detailed inventory should be taken at the end of each Fiscal Year. Inventory forms can be produced on Excel, with one item per line. There could be columns for unit price, quantity on hand and total value. Adding all total values will give you the total inventory value. Interim inventories can be taken in the same way.

**Finding:** According to the warehouse manager, big ticket items are not ever counted and matched to the web-based inventory. Rather the manager walks through the building and “eyeballs” the quantities of all inventory including high-end items.

**Finding:** The warehouse Manager stated that two people are needed to conduct a proper inventory but the warehouse is too short staffed at this time to commit more personnel to inventory.

### **RECOMMENDATION NO. 8:**

An inventory count of all articles in the warehouse should be conducted at least quarterly and definitely yearly. Fire Administration Management should assign the needed manpower to complete this task. Management should also consider the use of summer interns.

#### Optimum Inventory System

An optimum inventory system updates automatically when an article is removed. Grocery stores have this type of system. When an article is scanned at check out, it is automatically removed from the store inventory. These automatic systems can also red flag when the reordering point for each item is reached.

**Finding:** Diligent and regular tracking of inventory is needed to ensure adequate stock levels.

### **RECOMMENDATION NO. 9:**

The Bureau of Fire and the Logistics Manager should work with City Computer Information Systems (CIS) to develop a materials management system in house or purchase appropriate software with a portable scanner.

With the bins labeled and with a materials management system the warehouse would be streamlined. The Logistics Manager could print an inventory list at any time and take inventory.

#### **Warehouse Past and Future Plans**

The current central warehouse was once used as a warehouse for defunct General Services Department. This old warehouse is now divided into two sections. There are long and high metal shelves in both sections. The first section is relatively clean but not free of dust. Fire Bureau and Emergency Management supplies and equipment are stored in this section. The other section contains old and unusable equipment.

**Finding:** The section where Fire Bureau supplies and equipment are stored seems inadequate for storage. Equipment and pallets of various supplies are lying on the floor.

**Finding:** Supervising people off site is unpractical. As noted on page one, two Self Containing Breathing Apparatus Technicians (SCBA) who are supervised by the Logistic

Manager work at another site.

**Finding:** There has been talk about not extending the contract with American Dispatch, Inc. (ADI) in order to make more room for the warehouse. Removing a paying customer while half the warehouse is storing debris is not practical or economical.

ADI was granted an option to extend the contract for an additional five year term with rent increases each year. Total agreed rent for the extended term was \$290,982.68 which averaged \$4,849.72 a month.

On April 24, 2006 the City and ADI amended the annual lease rates for the last four years of the extended term, because “it appears that the Option term rentals may be in excess of market rates . . .”. Annual rent for the remaining four years was reduced to \$156,960.00 or \$3,270.00 a month.

**RECOMMENDATION NO. 10:**

The contract with American Dispatch which expired April 30, 2010 should be extended at current market rates.

**RECOMMENDATION NO. 11:**

The unused portion of the warehouse should be cleaned out. Items should be auction off, recycled or otherwise disposed of. This would create the space needed for the Fire Bureau and Homeland Security supplies and allow the SCBA technicians to move on site and be properly supervised.

Supply Distribution to Firehouses

**Finding:** Each firehouse gets supplies once a month. Recurring items supplies are on a rotational basis, with the City’s 29 firehouses asked to send orders at specific times each month. This allows Warehouse personnel to stagger the orders delivered to the firehouses, thereby better utilizing the warehouse staff time. According to the logistics manager, all items are delivered to the firehouses.

**RECOMMENDATION No. 12:**

The current fire supply distribution procedure is effective and should be continued.

**CONCLUSION:** The Logistics Manager has improved Fire Bureau supply management by centralizing operations, adopting tighter procedures for supply distribution and implementing a rudimentary inventory system. For optimum warehouse effectiveness and efficiency, the Bureau of Fire should adopt an on-line materials management system that tracks all warehouse inventories and facilitates stock reordering and distribution.