

OFFICE OF THE CITY AUDITOR PERFORMANCE AUDIT

August 2018

Control Gaps Leave Water's Storeroom Inventory Vulnerable to Errors, Loss, and Theft



CITY OF
KANSAS CITY,
MISSOURI

Office of the City Auditor
21st Floor, City Hall, 414 E. 12th St.
Kansas City, MO 64106

816-513-3300
cityauditor@kcmo.org
@KCMOCityAuditor
KCMO.GOV/CITYAUDITOR

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HEART OF THE NATION



KANSAS CITY
MISSOURI

Office of the City Auditor

21st Floor, City Hall
414 East 12th Street
Kansas City, Missouri 64106

816-513-3300
Fax: 816-513-3305

August 27, 2018

Honorable Mayor and Members of the City Council:

This audit focuses on the adequacy of Water Services' controls over storeroom inventories and evaluates Water Services' processes for managing and controlling about \$8 million in storeroom inventory assets.

Water Services' controls over inventories contain gaps that leave inventory vulnerable to errors, loss, and theft. The department does not have written policies and procedures for storerooms. During the annual physical inventory, Water Services did not count \$2.9 million of inventory, did not conduct blind inventory counts, and did not use independent counters or supervision for all count teams. Incompatible employee duties are not segregated, and employee identification cards used to issue inventory and track transactions were shared, eliminating accountability. In addition, adjustments to electronic inventory records cannot be tracked. Because the reliability of the electronic inventory is questionable, we did not attempt to identify actual loss or theft.

Water Services is not following city password requirements and employee access to the electronic inventory system is not provided timely or periodically reviewed for continued need. Although the 18th Street storeroom facilities have some physical security measures in place, Water Services has not addressed some safety and physical security weaknesses identified by the department's safety manager.

Inventory controls exist to provide reasonable assurance that all transactions affecting inventory balances are properly executed and recorded. Accurate records are the basis of financial reporting, management decision making, and having adequate inventory on-hand to provide continuous water and sewer services to customers. We make recommendations to improve Water Services' methods of recording inventory transactions and adjustments, conducting physical inventories, and strengthening IT and physical security.

The draft report was provided to the director of Water Services on July 5, 2018, for review and comment. His response is appended. We would like to thank Water Services and BKD employees for their assistance and cooperation during this audit. The audit team for this project was Terry Bray and Nancy Hunt.


Douglas Jones
City Auditor

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Introduction

Objectives

We conducted this audit of Water Services storeroom inventories under the authority of Article II, Section 216 of the Charter of Kansas City, Missouri, which establishes the Office of the City Auditor and outlines the city auditor's primary duties.

A performance audit provides "findings or conclusions based on an evaluation of sufficient, appropriate evidence against criteria. Performance audits provide objective analysis to assist management and those charged with governance and oversight in using the information to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability."¹

This report is designed to answer the following question:

- Does Water Services have adequate controls in place to safeguard storeroom inventories?

Scope and Methodology

Our review focuses on whether Water Services has adequate controls for safeguarding storeroom inventories. Although we observed and interviewed storeroom staff from all six Water Services storerooms, unless otherwise indicated, this audit focuses on the operations of the storerooms located at the 18th Street facility. Our audit methods included:

- Observing and interviewing storeroom staff to identify current inventory policies and procedures, practices, and documentation.
- Reviewing U.S. Government Accountability Office (formerly the General Accounting Office) recommended inventory

¹ Comptroller General of the United States, *Government Auditing Standards* (Washington, DC: U.S. Government Printing Office, 2011), p. 17.

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practices to identify criteria for performing consistent, accurate physical inventories.

- Observing and interviewing Water Services Finance Division and storeroom staffs to determine how daily and annual physical inventories are conducted.
- Conducting a walk-through of the 18th Street storerooms and exterior facilities, interviewing 18th Street storeroom staff, and reviewing department identified security weaknesses to assess the physical security of the storerooms.
- Interviewing Water Services Information Technology staff to identify how employee access to the Hansen inventory module is assigned and controlled.

Because the reliability of the electronic inventory is questionable, we did not attempt to identify actual loss or theft.

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.

Background

Storerooms

Water Services uses six storerooms at four locations to supply parts to department crews and contractors. Storerooms provide tools, materials, and protective supplies. In fiscal year 2018, Water Services purchased \$10 million in storeroom inventory.

Staffing for 18th Street Storerooms

The three 18th Street storerooms are overseen and operated by one store manager and seven employees. The employees can rotate among the pollution, pipeline, and yard storerooms to provide daytime and evening coverage, seven days a week. Three storeroom staff share after hours "on call" duties, rotating a week at a time. When storerooms are closed, on call employees are

expected to come in 30 minutes after being contacted to open the storerooms and issue inventory to crews working in the field.

Inventory

Water Services uses Hansen 8 (Hansen) as its work order and inventory system. Real-time, electronic inventory information is held in Hansen. Storerooms use a bar code system with hand-held scanners to receive, issue, and return storeroom inventory. Hansen inventory information is used to generate listings used to conduct annual, surprise, and daily inventory counts.

Annual inventory. The annual physical inventory is conducted by storeroom and Water Services Finance Division staff over multiple weeks in April. All stock items are inventoried in one or two storerooms each week.²

Surprise inventory. Two or three surprise physical inventory counts are conducted by a Water Services Finance Division employee at selected storerooms throughout the year.

Daily inventory. Most storerooms perform daily physical inventories of items that were involved in a transaction the previous day. Some storerooms perform a weekly count in addition to or instead of a daily count.

² Non-stock items and special order items may be held in storerooms but are not entered into the Hansen inventory module. Non-stock items include low value items like bolts, washers, and ear plugs, and obsolete items. Special order items are ordered on a trial or one-time basis and are not added to the Hansen inventory system.

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Findings and Recommendations

Weak Controls Leave Inventory Vulnerable to Errors, Loss, and Theft

There are a number of gaps in Water Services' internal control structure for inventories. The department does not have written policies and procedures for storerooms. During the annual inventory, Water Services did not count all physical inventory, did not conduct blind inventory counts, and did not use independent counters or supervision for all count teams. Incompatible employee duties are not segregated, employee adjustments to electronic inventory are not controlled and monitored, and employee identification cards used to issue inventory and track transactions were shared, eliminating accountability.

\$2.9 Million in Inventory Assets Not Counted or Reported

In conducting its annual physical inventory, Water Services counted \$5 million in the storerooms but did not count an estimated \$2.9 million of materials issued to work crews. These materials are carried by work crews on trucks until used for a specific job.³ Water Services told us that they do not plan to include work truck inventory on the department's financial statement. In April 2018, work truck inventory represented about a third of total storeroom inventory.

Inventory accountability requires that complete records be maintained and asset values be reported. Counting and reporting inventory assets improves visibility and accountability over inventory, which reduces the risk of undetected loss and theft, unexpected shortages of critical items, and unnecessary purchases of items already on hand.⁴ While the department conducts an annual physical inventory of its storerooms, it does not count inventory on trucks. According to BKD, the city's accounting firm, recommended practice would require inventorying materials of that size.

Recommendation	To verify the existence of physical assets and improve the completeness and accuracy of inventory and financial records, the director of water services should ensure staff inventory all storeroom items annually, including those held on work trucks.
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³ Water Services refers to work truck inventory as being held in "virtual storerooms."

⁴ United States General Accounting Office, *Executive Guide Best Practices in Achieving Consistent, Accurate Physical Counts of Inventory and Related Property*, March 2002, p. 5.

Controls over Annual Inventory Do Not Incorporate Recommended Practices

Water Services' annual inventory is used primarily to validate the amount of inventory for financial reporting. We observed the annual physical inventory for two storerooms in April 2018 and noted basic control weaknesses in the department's annual inventory process.

Employees did not conduct blind counts. Recommended practices suggest conducting blind counts.⁵ When a blind inventory count is conducted, the counter does not know and cannot be influenced by how many items are supposed to be on hand. While the inventory listings provided to the count teams did not contain the expected current inventory count, storeroom employees prepared tags, sheets of paper, or labeled bags or boxes with pre-inventory counts at each item location. (See Exhibit 1.) We observed counters using the pre-counted numbers for some items instead of actually counting the items.

Exhibit 1. Pre-Counted Inventory Items



Source: City Auditor's Office.

Inventory counters and those supervising were not independent. Each of the three inventory count teams we observed included at least one employee from the storeroom he/she normally works in and was inventorying. Recommended

⁵ *Executive Guide Best Practices in Achieving Consistent, Accurate Physical Counts of Inventory and Related Property*, p. 39.

practices suggest that the physical count process not include personnel who have responsibilities for custody or access to the inventory items being counted. When this is not possible, mitigating control procedures such as two person teams, increased supervision, and blind counts should be used.⁶ None of the mitigation techniques were effectively used by Water Services. Blind counts were not used; two person teams were used, but not all teams included an employee independent of the storeroom he/she was counting; and inventory supervision for one storeroom was provided by an individual who also had access to the storerooms being counted.

Water Services does not have written policies and procedures for conducting annual storeroom inventory.

Policies and procedures communicate how the job should be performed. Recommended practices suggest that establishing and documenting inventory policies and procedures are critical to performing effective and reliable physical counts.⁷

Recommendation

To improve controls over Water Services' annual inventory process, the director of water services should develop written policies and procedures for the department's annual inventory that incorporate recommended practices.

Storeroom Duties Not Segregated

Water Services has not separated employee responsibilities for ordering and receiving inventory or keeping inventory records and custody of inventory as recommended practices require.⁸ Water storeroom employees often work alone and perform all of these duties.

Because storeroom duties are not segregated, an employee could commit an irregularity and conceal it. A storeroom employee could order an inventory item, receive the item, and place the item into inventory. The same employee could also be responsible for conducting the daily inventory count and adjust the electronic inventory to match the physical count.

⁶ *Executive Guide Best Practices in Achieving Consistent, Accurate Physical Counts of Inventory and Related Property*, p. 28.

⁷ *Executive Guide Best Practices in Achieving Consistent, Accurate Physical Counts of Inventory and Related Property*, p. 16.

⁸ *Executive Guide Best Practices in Achieving Consistent, Accurate Physical Counts of Inventory and Related Property*, p. 28.

Separating or segregating duties and responsibilities among different employees is a recommended practice.⁹ Segregation of duties reduces the risk that unintentional errors, loss, or theft could go undetected while protecting employees by preventing unwarranted suspicion of honest employees if inventory items are missing.

Water Services is in the process of consolidating the storerooms at the 18th Street facility which should allow for increased segregation of duties when inventory and employees are combined into a single storeroom location.

Recommendation To protect employees and to better protect against potential errors, loss, or theft of inventory, the director of water services should segregate incompatible storeroom employee duties.

Inventory Adjustments Not Controlled or Monitored

Storeroom employees make electronic adjustments to inventory records that cannot be tracked or monitored. When the daily physical inventory count and the electronic inventory record for an item do not match, most storeroom staff eliminate the variance by electronically issuing inventory (when the physical count is lower than what is in Hansen) or by electronically receiving returned inventory (when the physical count is higher than Hansen). Making changes to the electronic inventory as if an item was actually issued or returned masks the true nature of the transaction and leaves the reliability of the electronic inventory in question. When storeroom employees do not use the adjustment function in Hansen to account for differences in the electronic and physical inventory, errors, loss, or theft can be concealed.

The Hansen inventory module contains an adjustment function that could track changes made to the electronic inventory based on discrepancies identified by daily inventory counts. The adjustment function records who made a change to the electronic inventory, the date and type of adjustment, the quantity affected, and the reason for the adjustment. The Hansen system also has the capability to produce an inventory adjustment report listing information on each inventory adjustment transaction. Management could analyze and review this report to identify trends and causes of variances and implement corrective actions to reduce future errors.

⁹ Stephen J. Gauthier, *Evaluating Internal Controls: A Local Government Manager's Guide* (Government Finance Officers Association, 1996), p. 28.

Few storeroom employees reported using the adjustment function in Hansen, some storeroom employees reported they were instructed not to use the adjustment function, and another did not know it was available. Use of the Hansen inventory adjustment function would create an audit trail and employee accountability.

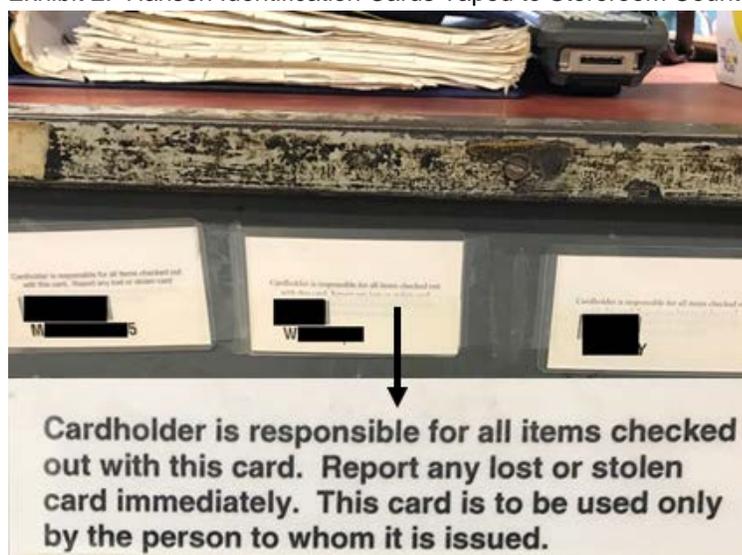
Recommendation

To better protect Water Services inventory, the director of water services should require storeroom employees use the inventory adjustment module in Hansen to make adjustments to the electronic inventory when the physical and electronic inventory counts do not match.

Sharing and Displaying Identification Cards Eliminates Accountability

Not all employees have their own Hansen identification card with which to issue, receive, and return storeroom inventory. Unique employee identification cards create an audit trail and employee accountability both of which are eliminated, either intentionally or by accident, when cards are shared or accessible to others. We observed storeroom employees' identification cards taped to the counter in one storeroom and to a desk in another. A non-storeroom employee, who did not have his own Hansen identification card but was assigned to light duty in a storeroom, scanned another employee's identification card as he issued inventory to employees, even though the card says it "is to be used only by the person to whom it is issued." (See Exhibit 2.) Sharing identification cards eliminates the ability to track which employees were involved in a transaction should a problem arise.

Exhibit 2. Hansen Identification Cards Taped to Storeroom Counter



Source: City Auditor's Office.

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Recommendation To increase employee accountability and establish an audit trail, the director of water services should require that each individual issuing inventory be assigned a unique Hansen identification card for use when conducting transactions in Hansen and that staff be instructed not to display or let others use their cards.

Storerooms Need Written Policies and Procedures

Water Services does not have written policies and procedures for storerooms operations. Written policies and procedures are essential to effective inventory management. For staff, written policies and procedures communicate how the job should be performed and serve as a guide to enable staff to be consistent in their actions. In addition, written policies and procedures can outline the authority and responsibilities of individual employees; serve as a reference tool for infrequently encountered situations; and lessen the threat to continuity posed by employee turnover. Written policies and procedures can also serve as the basis for employee training.

We identified control gaps in storeroom inventory management. One of these gaps and a cause of other gaps is a lack of written direction by management. Management needs to decide how storerooms should operate, incorporate controls to safeguard department assets, and communicate the adopted policies and procedures in writing.

At a minimum, written policies and procedures for Water Services storeroom operations and management should address:

- segregation of duties,
- daily inventory and inventory adjustments,
- Hansen system controls, and
- receiving, issuing, and returning inventory.

Recommendation To increase the consistency and reliability of inventory information, improve operational efficiency, and better safeguard department assets, the director of water services should develop comprehensive written policies and procedures for storeroom operations and train storeroom staff on them.

IT and Physical Security Improvements Needed

IT Security Needs Improvement

Water Services is not following the city's password requirements and does not address employee electronic access issues timely. Controlling access to records is a key preventive control for ensuring the integrity of data necessary for managing operations and financial reporting. For access controls to be effective, they should be properly authorized, implemented, and maintained.

Hansen passwords have not been changed. Storeroom employees with Hansen system access are using the common password they were given during Hansen training more than one year ago. The city's *Technology Procurement, Use and Security Administrative Regulation*¹⁰ (AR 1-16) directs that passwords be changed every ninety days. Passwords should be changed frequently to reduce the risk that an unauthorized individual will discover a password and use it to enter and damage the integrity of the system.

Recommendation To safeguard city technology investments and data, the director of water services should ensure staff change their Hansen system passwords in accordance with Administrative Regulation 1-16.

Hansen access is not limited to those with need. Only employees who have a work-related need should have access to the Hansen inventory module. One Water Services employee did not work in a storeroom but had the same Hansen access as storeroom personnel. Management could not explain the access. Information technology security practices recommend that access lists be updated frequently to ensure authorizations are current and to protect organization assets.¹¹

Recommendation To ensure that Hansen access is only provided to those with a work-related need, the director of water services should establish procedures for granting and periodically reviewing Hansen user access based on job function and need.

Water Services Information Technology did not always grant Hansen access timely to storeroom clerks. Although the Water Services Help Desk was notified that employees needed

¹⁰ *Administrative Regulation 1-16, "Technology Procurement, Use and Security,"* April 19, 2017.

¹¹ United States Government Accountability Office, *Federal Information System Controls Audit Manual*, February 2009, p. 198-199.

access to Hansen, in one case it took several months for access to be granted, limiting the employee's ability to perform his duties.

Recommendation

To provide the necessary access for storeroom employees to be able to do their jobs, the director of water services should ensure requested Hansen access is reviewed and acted upon promptly.

Some Physical Security Measures Need Strengthening

We found physical security strengths and weaknesses at Water Services' 18th Street facilities. Controlling access to inventory assets is a key preventive control to protect against loss and theft.

The 18th Street storeroom facilities have some physical security measures in place to protect inventory. The 18th Street facility has a fenced perimeter and is well lit. Security cameras capture and record real time images. In addition, security guards monitor activities, control access, and patrol the facilities.

In early 2018, we observed several security weaknesses at the 18th Street facilities which affect storeroom security. Management did not document who had storeroom keys and some storeroom keys were not marked "Do Not Duplicate"; unaccompanied, non-storeroom employees were allowed in storerooms; and there were gaps in the perimeter fencing. Some similar security weaknesses were identified in the Water Services' safety manger's August 2017 Safety and Security Assessment. In July 2018, we observed that the yard's perimeter fencing had been replaced and the gaps eliminated.

Recommendation

To improve the physical security of the 18th Street Water Services facility, the director of water services should develop a key management program and prohibit unaccompanied, non-storeroom employees storeroom access.

Recommendations

1. The director of water services should ensure staff inventory all storeroom items annually, including those held on work trucks.
2. The director of water services should develop written policies and procedures for the department's annual inventory that incorporate recommended practices.

3. The director of water services should segregate incompatible storeroom employee duties.
4. The director of water services should require storeroom employees use the inventory adjustment module in Hansen to make adjustments to the electronic inventory when the physical and electronic inventory counts do not match.
5. The director of water services should require that each individual issuing inventory be assigned a unique Hansen identification card for use when conducting transactions in Hansen and that staff be instructed not to display or let others use their cards.
6. The director of water services should develop comprehensive written policies and procedures for storeroom operations and train storeroom staff on them.
7. The director of water services should ensure staff change their Hansen system passwords in accordance with Administrative Regulation 1-16.
8. The director of water services should establish procedures for granting and periodically reviewing Hansen user access based on job function and need.
9. The director of water services should ensure requested Hansen access is reviewed and acted upon promptly.
10. The director of water services should develop a key management program and prohibit unaccompanied, non-storeroom employees storeroom access.

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Appendix A

Director of Water Services' Response

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KC WATER
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RECEIVED

AUG 20 2018

CITY AUDITOR'S OFFICE

Date: August 20, 2018
To: Douglas Jones, City Auditor
From: Terry Leeds, Director *TCL*
Subject: Response to Performance Audit: *Control Gaps Leave Water's Storeroom Inventory Vulnerable to Errors, Loss, and Theft*

We appreciate the opportunity to respond to the City Auditor's Office audit of Controls over Storeroom Inventory. We agree with the overall findings of the audit and feel that significant improvements can and will be made to storeroom operations. The storerooms themselves operate under the authority of the divisions that they service (e.g. the Water Supply Storeroom is under the authority of the Water Treatment Operations, 18th Street Storerooms operates under the management of the 18th street complex...) The recommendations themselves will be applied and made to each of the various locations.

- 1. The director of water services should ensure staff inventory all storeroom items annually, including those held on work trucks.***

Agree – We agree, and although we inventory all storerooms annually we will include trucks into the annual inventory process.

- 2. The director of water services should develop written policies and procedures for the department's annual inventory that incorporate recommended practices.***

Agree – We believe that the development of written policies and procedures will address the majority of concerns identified in this audit. Those policies will include a review of roles and responsibilities of storeroom personnel, operations staff, and accounting and finance duties with regard to storeroom activities.

- 3. The director of water services should segregate incompatible storeroom employee duties.***

Agree – The segregation of duties will be considered and formulated in the development of the policies and procedures.

- 4. The director of water services should require storeroom employees use the Inventory adjustment module in Hansen to make adjustments to the electronic inventory when the physical and electronic inventory counts do not match.***

Agree – We agree we will adopt this approach in the policies and procedures manual. Further we will review the Hansen inventory module to see if this can be a system requirement.

- 5. The director of water services should require that each individual issuing inventory be assigned a unique Hansen identification card for use when conducting transactions in Hansen and that staff be instructed not to display or let others use their cards.**

Agree – Unique identification of staff involved in the issuance and receipt of inventory will be included in the policies and procedures. The policies will include instructions regarding the failure to comply with the written policies.

- 6. The director of water services should develop comprehensive written policies and procedures for storeroom operations and train storeroom staff on them.**

Agree – As stated in the recommendation 2. Water Services will develop written policies and procedures for storeroom personnel, operations staff and accounting and finance duties with regard to storeroom activities.

- 7. The director of water services should ensure staff change their Hansen system passwords in accordance with Administrative Regulation 1-16.**

Agree – Staff will receive and review the updated AR 1-16 and management will take steps to ensure that staff is aware for the requirements set for therein.

- 8. The director of water services should establish procedures for granting and periodically reviewing Hansen user access based on job function and need.**

Agree – User access will be reviewed on a regular basis and should be incorporated with personnel changes within the Department. So steps will be taken to provide reports to the operating divisions for their review and determination of appropriate access.

- 9. The director of water services should ensure requested Hansen access is reviewed and acted upon promptly.**

Agree – We meet this recommendation and will continue to do so in the future. Our records indicate that the individual claiming to not have a user ID did in fact have one and it was provided in timely fashion.

- 10. The director of water services should develop a key management program and prohibit unaccompanied, non-storeroom employees storeroom access.**

Agree – Although the security manager's recommendations dealt with access to the 18th street complex not specifically to the storerooms, Water Services will review the security measures at the storerooms themselves as part of its overall review and development of policies and procedures and take steps to ensure that water assets are properly secured.

cc: Troy M. Schulte, City Manager