



# OFFICE OF INSPECTOR GENERAL

UNITED STATES POSTAL SERVICE

## Electronic Media Disposal

### Audit Report

Report Number  
IT-AR-16-008

June 24, 2016





# OFFICE OF INSPECTOR GENERAL

## UNITED STATES POSTAL SERVICE

## Highlights

***An effective electronic media disposal process includes tracking, securing, and sanitizing media.***

### Background

In 2015, the U.S. Postal Service Information Technology (IT) group supported and maintained over 145,000 desktop computers, 23,000 notebooks, and 81,000 printers. These IT electronic media retain data on their hard drives, random access memory, and read-only memory, which should be removed before disposal. The disposal contractor repurposes, resells, or physically destroys the obsolete IT electronic media. Over the last 5 years, the contractor sanitized an average of 40,490 pieces of IT electronic media per year.

An effective electronic media disposal process includes tracking, securing, and sanitizing media. Media sanitization is a process where data is removed from media or the media is permanently destroyed. These steps are critical for protecting sensitive data against unauthorized disclosure.

Employees who are accountable for IT electronic media that is no longer useful identify it for disposal. To do this, they complete disposal forms and the media is shipped to the Material Distribution Center (MDC) for disposal.

IT electronic media can be mailed directly to the MDC or shipped in larger quantities via the Postal Service transportation network. The media is stored in two leased buildings adjacent to the MDC. MDC personnel notify the disposal contractor when a trailer load of media and other equipment is available for sanitization and disposal. The contractor retrieves and

processes the media and documents all incoming electronic media items to be resold or destroyed. Finally, the contractor reports to the Postal Service that the media was sanitized.

Two groups in Asset Management are responsible for portions of the IT electronic media disposal process — the Asset Accountability group has primary responsibility for overseeing disposal and the MDC group collects obsolete electronic media approved for disposal from all Postal Service facilities and coordinates with the contractor.

Our objective was to determine the effectiveness of the IT electronic media disposal process.

### What The OIG Found

We found that management did not have an effective disposal process for IT electronic media. The Asset Management and IT groups did not effectively track electronic media from the time of disposal by a Postal Service facility until the contractor completed sanitization. For example, the Asset Management and IT groups did not confirm that all IT electronic media identified for disposal at Postal Service facilities had been sanitized. According to information provided by the disposal contractor, between September 2010 and February 2016, over 203,000 pieces of IT electronic media were sanitized; however, management cannot verify that this is the same amount of IT electronic media that was sent to the contractor to be sanitized. In addition, management did not have controls to provide



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positive identification of individuals entering buildings where electronic media is stored. It lacked a badge access system and security cameras for the two leased buildings.

The Asset Management and IT groups did not have a clearly defined policy requiring the tracking and reconciliation of disposed IT electronic media. In addition, the manager of Asset Management stated that obtaining a badge access system and security cameras for the two leased buildings was not considered previously because building access was originally limited to a few employees.

Finally, the Asset Accountability group did not verify that the disposal contractor is sanitizing all of the IT electronic media

according to contract terms. In February 2016, the Asset Accountability group started verifying the sanitization process with the disposal contractor during a site visit; and also planned two additional visits.

### **What The OIG Recommended**

We recommended management review and update policy and implement procedures for tracking and reconciling the IT electronic media from disposal to sanitization. In addition, Asset Management should obtain a badge access system and security cameras for the two leased buildings, and enact a policy and implement procedures that require management to conduct periodic reviews of the disposal contractor's sanitization process.

# Transmittal Letter

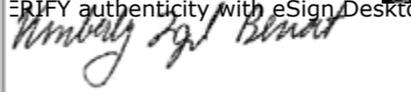


OFFICE OF INSPECTOR GENERAL  
UNITED STATES POSTAL SERVICE

June 24, 2016

**MEMORANDUM FOR:** SUSAN M. BROWNELL  
VICE PRESIDENT, SUPPLY MANAGEMENT

JEFFREY C. JOHNSON  
VICE PRESIDENT, INFORMATION TECHNOLOGY

E-Signed by Kimberly Benoit  
VERIFY authenticity with eSign Desktop  


**FROM:** Kimberly F. Benoit  
Deputy Assistant Inspector General for Technology

**SUBJECT:** Audit Report – Electronic Media Disposal  
(Report Number IT-AR-16-008)

This report presents the results of our audit of the U.S. Postal Service's Electronic Media Disposal (Project Number 15TG030IT000).

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Jason Yovich, director, Information Technology, or me at 703-248-2100.

Attachment

cc: Corporate Audit Response Management

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# Findings

***Media sanitization is a process where data is removed from media or the media is permanently destroyed.***

## Introduction

This report presents the results of our self-initiated audit of the U.S. Postal Service Information Technology (IT) electronic media disposal process (Project Number 15TG030IT000). Our objective was to determine the effectiveness of the Postal Service IT electronic media disposal process. See [Appendix A](#) for additional information about this audit.

In 2015, the Postal Service Information Technology (IT) group supported and maintained over 145,000 desktop computers, 23,000 notebooks, and 81,000 printers. These IT electronic media retain data on their hard drives, random access memory, and read-only memory, which should be removed before disposal. The disposal contractor repurposes, resells, or physically destroys the obsolete IT electronic media. Over the last 5 years, the contractor sanitized an average of 40,490<sup>1</sup> pieces of IT electronic media per year for the Postal Service.



In 2015, the Postal Service IT group supported and maintained over...

An effective electronic media disposal process includes tracking, securing, and sanitizing media. Media sanitization is a process where data is removed from media or the media is permanently destroyed. These steps are critical for protecting sensitive data against unauthorized disclosure.

Employees who are accountable for IT electronic media that is no longer useful identify it for disposal. To do this, they complete disposal forms and the media is shipped to the Material Distribution Center (MDC) for disposal.

IT electronic media can be mailed directly to the MDC or shipped in larger quantities via the Postal Service's transportation network. The media is stored in two leased buildings adjacent to the MDC. MDC personnel notify the disposal contractor when a trailer load of media and other equipment is available for sanitization and disposal. The contractor retrieves and processes the media and documents all incoming electronic media items to be resold or destroyed. The contractor has 48 hours to retrieve and process<sup>2</sup> the media. Finally, the contractor reports to the Postal Service that the media was sanitized.

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<sup>1</sup> Based on disposal contractor's information between 2011 and 2015.

<sup>2</sup> This includes data sanitization, repurposing, destruction, or resale.

***We found that management did not have an effective disposal process for IT electronic media. The Asset Management and IT groups did not effectively track electronic media from the time of disposal by a Postal Service facility until the contractor completed sanitization.***

Two groups in Asset Management are responsible for portions of the IT electronic media disposal process — the Asset Accountability group has primary responsibility for overseeing disposal and the MDC group collects obsolete electronic media approved for disposal from all Postal Service facilities and coordinates with the disposal contractor.<sup>3</sup>

## Summary

We found that management did not have an effective disposal process for IT electronic media. The Asset Management and IT groups did not effectively track electronic media from the time of disposal by a Postal Service facility until the contractor completed sanitization. For example, the Asset Management and IT groups did not confirm that all IT electronic media identified for disposal at Postal Service facilities had been sanitized. In addition, Postal Service management did not have controls to provide positive identification of individuals entering buildings where electronic media is stored. It lacked a badge access system and security cameras for the two leased buildings.

The Asset Management and IT groups did not have a clearly defined policy requiring the tracking and reconciliation of disposed IT electronic media. According to information provided by the disposal contractor, between September 2010 and February 2016, over 203,000<sup>4</sup> pieces of IT electronic media were sanitized; however, management cannot verify that this is the same amount of IT electronic media that was sent to the contractor to be sanitized. In addition, the manager of Asset Management stated that obtaining a badge access system and security cameras for the two leased buildings was not considered previously because building access was originally limited to a few employees.

Finally, the Asset Accountability group did not verify that the disposal contractor is sanitizing all of the IT electronic media according to contract terms. In February 2016, the Asset Accountability group started verifying the sanitization process with the disposal contractor during a site visit; and also planned two additional visits.

## Information Technology Electronic Media Tracking

The Asset Management and IT groups did not effectively track or reconcile IT electronic media from the time of disposal by a Postal Service facility until the contractor completed sanitization. For example:

- Management did not require Postal Service facilities to notify the MDC when the IT electronic media was ready for disposal. Postal Service facilities send the media through the transportation network to the MDC. The Asset Management and IT groups were not accountable for the media while it was in transit from the Postal Service facility to the MDC.
- MDC personnel did not maintain a log of physical IT electronic media collected and sent to the disposal contractor. Once a trailer load had been collected from a Postal Service facility, the MDC notified the disposal contractor to retrieve and process the media.
- The Asset Management and the IT groups did not perform a reconciliation to confirm that all IT electronic media identified for disposal at Postal Service facilities had been sanitized. According to information provided by the disposal contractor, between September 2010 and February 2016, over 203,000 pieces of IT electronic media were sanitized; however, Postal Service management cannot verify that this is the same amount of IT electronic media that was sent to the contractor to be sanitized.

<sup>3</sup> The Postal Service signed a contract with Asset LifeCycle, LLC (ALC) to provide recovery/collection and disposal of surplus, obsolete, and excess media sent from the MDC in Topeka.

<sup>4</sup> We derived this number from sanitization information provided by the disposal contractor.

According to Postal Service policy,<sup>5</sup> all electronic hardware and media must undergo data sanitization. In addition, best practices<sup>6</sup> state that tracking IT electronic media is critical to protecting sensitive data from unauthorized disclosure. This occurred because Asset Management and IT did not have a clearly defined policy requiring the tracking and reconciliation of disposed IT electronic media.

As a result, IT electronic media and data could be lost or stolen. Sensitive data on media is at risk of unauthorized disclosure when proper accountability controls do not exist. During our site visit to the MDC, we observed Postal Service data such as mail image pieces and mailer's postage summaries (containing addresses, contacts, and mail piece counts); an employee hotel bill; and databases on computers, servers, and laptops. Without a proper tracking process, the Postal Service cannot verify that it has sanitized IT electronic media.

## Information Technology Electronic Media Physical Security

Management did not have controls in place to provide positive identification of individuals entering buildings where electronic media is stored. It lacked a badge access system<sup>7</sup> and security cameras<sup>8</sup> for the two leased buildings.<sup>9</sup> We found combination locks on all doors to these buildings, which is a control, but one that makes it difficult to identify who is entering and exiting the facility. All building locks have the same combination and 43 employees know it. According to the MDC manager, the combination is changed quarterly, or when there is a change in personnel with access to the buildings.

Postal Service policy<sup>10</sup> requires positive identification and control of all personnel in the facility to protect information resources. According to the manager, Asset Management, obtaining a badge access system and security cameras was not considered previously because originally only a few employees had access to the buildings. The manager also stated that the group has been in the process of obtaining contract proposals for a badge access system and security cameras and expects the building security will be upgraded by September 30, 2016. These two leased buildings are in a publically accessible commercial complex; therefore, without positive identification controls there is an increased risk of undetected theft or unauthorized access to electronic media that could contain sensitive data.

During our fieldwork, we observed that the Postal Service also used these two buildings to store IT equipment, mail processing equipment, and spare parts. The value of assets in both buildings totaled over \$15 million.<sup>11</sup>

## Oversight of Sanitization by the Contractor

The Asset Accountability group did not verify that the disposal contractor is sanitizing IT media according to contract terms. According to best practices,<sup>12</sup> organizations should verify that sanitizing IT electronic media is effective prior to disposal by the contractor. The manager, Asset Accountability, stated this occurred because the contractor already had a disposal certification,<sup>13</sup> and the group determined this was sufficient. Without ensuring proper sanitization by the contractor, IT electronic media containing sensitive data could be sold to the public.

5 Handbook AS-805, *Information Security*, Section 3-5.8.1, Electronic Hardware and Media, May 2015.

6 NIST SP 800-53r4, *Security and Privacy Controls for Federal Information Systems and Organizations*, January 2015.

7 An alias for the computerized card access control system as defined in Handbook RE-5, *Building and Site Security Requirements*, September 2009.

8 An alias for a closed-circuit TV security system as defined in Handbook RE-5.

9 The two buildings for electronic media that has been disposed of are in a commercial complex adjacent to Postal Service property. The Postal Service leases net floor space of 207,684 square feet (SF) for building 7 and 76,000 SF for building 8.

10 Handbook RE-5, Sections 2-5.1, 2-5.3, and 3-2.5.

11 Building 7 has assets valued at \$14,790,778 and building 8 has assets with an estimated value of \$467,762.

12 NIST SP 800-53r4.

13 The disposal contractor was certified by the National Association for Information Destruction AAA Certification. This association verifies the qualifications of certified information destruction providers through a comprehensive scheduled and unannounced audit program.

In February 2016, the Asset Management group took corrective action by visiting the contractor and reviewing the IT electronic media sanitization process. During the group's visit, they found hard drives that underwent sanitization procedures, but the sanitization could not be verified; therefore, these drives required destruction. The Asset Management group is creating a new process to confirm that these hard drives are physically destroyed so that they cannot be repurposed or resold. Additional site visits to review the sanitation process are scheduled for June and August 2016.

# Recommendations

***We recommend management review and update policy and implement procedures to ensure proper accountability of media once it is identified for disposal and a reconciliation process to ensure it is disposed of properly.***

We recommend the vice president, Information Technology, in coordination with the vice president, Supply Management, to:

1. Review and update policy and implement procedures to ensure proper accountability of media once it is identified for disposal and a reconciliation process to ensure it is disposed of properly.

We recommend the vice president, Supply Management, direct the manager, Asset Management, to:

2. Complete the contracting process to obtain a badge access system and security cameras for the two leased buildings.

We recommend the vice president, Supply Management, in coordination with the vice president, Information Technology, to:

3. Enact a policy and implement procedures that require management to conduct periodic reviews of the disposal contractor's sanitization process.

## Management's Comments

Management generally agreed with the findings, recommendations, and monetary impact in the report.

Regarding recommendation 1, management will review and update policy and implement procedures to ensure proper accountability, reconciliation, and disposal of media. Management considers this audit report to be specific to ACE equipment and plans to update policy and implement procedures by January 31, 2017.

Regarding recommendation 2, management will install a badge access system and security cameras for the two leased buildings. Management plans to complete the installations by October 31, 2016.

Regarding recommendation 3, management will enact a policy and implement procedures to conduct periodic reviews of the disposal contractor's sanitization process. Management plans to evaluate this process in coordination with recommendation 1 to ensure proper implementation. Management plans to have this completed by January 31, 2017.

See [Appendix B](#) for management's comments in their entirety.

## Evaluation of Management's Comments

The U.S. Postal Service Office of Inspector General (OIG) considers management's comments partially responsive to the recommendations in the report and the corrective action proposed should resolve the issues identified.

Regarding recommendations 1, we generally agree with management's response; however, proper accountability, reconciliation, and disposal of media should not be limited to ACE equipment.

All recommendations require OIG concurrence before closure. Consequently, the OIG requests written confirmation when corrective actions are completed. No recommendations should be closed in the Postal Service's follow-up tracking system until the OIG provides written confirmation that the recommendations can be closed.

# Appendices

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## Appendix A: Additional Information

***Media sanitization is a process where data is removed from media or the media is permanently destroyed.***

### Background

Modern electronic data storage devices are resilient and data recovery techniques are highly advanced. Data are routinely recovered from electronic media that have been burned, crushed, or submerged in water. In 2015, the Postal Service IT group supported and maintained over 145,000 desktop computers, 23,000 laptops, 81,000 printers, 45,700 point-of-sale terminals, and 12,500 smart phones. These IT electronic media store data on hard drives, random access memory, read-only memory, disks, and embedded memory. An effective IT electronic media disposal process includes securing, tracking, and sanitizing media. The disposal contractor repurposes, resells, or physically destroys the obsolete IT electronic media.



Media sanitization is a process where data is removed from media or the media is permanently destroyed. Information disposition and sanitization decisions occur throughout the information system lifecycle. Applying effective sanitization techniques, properly securing media after disposal, and tracking storage media are critical aspects of protecting sensitive data against unauthorized disclosure.

Two Postal Service groups are responsible for the IT electronic media disposal process; the Asset Accountability group has primary responsibility for overseeing the disposal contractor and ensuring the proper disposal of IT electronic media by the contractor,<sup>14</sup> and the MDC group collects the obsolete IT electronic media approved for disposal from all Postal Service facilities and coordinates with the disposal contractor for processing these items.

Employees who are accountable for property must ensure prompt and correct disposal of all material authorized for disposal.<sup>15</sup> These employees forward a completed hard copy Postal Service (PS) Form 969, Material Recycling and Disposal to the Asset Accountability Service Center, or enter the disposal information into the electronic PS 969 application.<sup>16</sup> A hard copy of PS Form 969 requires a manual update to the Asset Information Management System (AIMS),<sup>17</sup> while the PS Form 969 application updates AIMS automatically.

<sup>14</sup> Organizational units that physically possess an IT asset (or are on record as having possession of) are responsible for that asset. IT assets are defined as sensitive property.

<sup>15</sup> This includes sensitive property, which is considered especially vulnerable to theft or loss (such as laptop computers).

<sup>16</sup> The "4Z-PS969" application was implemented for use by the Field IT group and is used to enter and track PS Form 969 disposal reports electronically.

<sup>17</sup> IT hardware assets recorded in AIMS are considered sensitive property.

***Our objective was to determine the effectiveness of the Postal Service's IT electronic media disposal process.***

IT electronic media can be mailed directly to the MDC, while larger quantities are accumulated for back-hauling via the Postal Service transportation network. IT media are consolidated at the Des Moines Network Distribution Center or the Kansas City Processing & Distribution Center/Network Distribution Center. The IT electronic media is shipped from these locations to the MDC, which notifies the disposal contractor when a full truck is available for pick-up.<sup>18</sup> The disposal contractor has 48 hours to retrieve and process<sup>19</sup> the media and documents all incoming electronic media items staged for resale or disposal and records the media that were physically destroyed or sanitized.

## **Objective, Scope, and Methodology**

Our objective was to determine the effectiveness of the Postal Service's IT electronic media disposal process. To accomplish our objective we:

- Researched Postal Service policies, procedures, processes, and industry best practices for disposing of IT electronic media and protecting sensitive information stored on laptop computers.
- Determined whether the Postal Service was performing periodic verification of the disposal contractor to ensure equipment was being sanitized according to contract terms.
- Documented the chain of custody for Postal Service IT electronic media disposal process from start to finish.
- Determined whether physical security controls protect IT electronic media collected for disposal.
- Examined data from a sample of IT electronic media that has been disposed of.

We did not evaluate the disposal process for hard copy media, leased media, flash drives, cell phones, routers, switches, or firewalls. Additionally, we did not observe any of the contractor's procedures for media disposal or testing of their sanitization process.

We conducted this performance audit from December 2015 through June 2016, in accordance with generally accepted government auditing standards and included such tests of internal controls as we considered necessary under the circumstances. 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 objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. We discussed our observations and conclusions with management on May 16, 2016, and included their comments where appropriate.

We assessed the reliability of AIMS, PS Form 969, and the disposal contractor's data by reviewing related documentation; conducting interviews with knowledgeable Postal Service officials; performing electronic data testing for missing data, outliers, and obvious errors; and tracing a sample of electronic media to or from data.

We determined that the data were sufficiently reliable for the purposes of this report.

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<sup>18</sup> Some Postal Service facilities with large numbers of IT assets, such as headquarters, the Raleigh Service Center, and the Eagan and San Mateo Information Technology/Accounting Service Centers/Solution Centers, send their equipment directly to the MDC.

<sup>19</sup> This includes data sanitization, recycling, destruction, or resale.

## Prior Audit Coverage

The OIG did not identify any prior audits or reviews related to the objective of this audit.

## Appendix B: Management's Comments



LORI LAU DILLARD  
DIRECTOR, OIG AUDIT OPERATIONS

SUBJECT: Management Response to Draft Audit Report – Electronic Media Disposal (Report Number IT-AR-16-DRAFT)

Thank you for the opportunity to review and comment on this report. Management agrees in general with the report's findings, recommendations and monetary impact and will address each separately below.

### **OIG Recommendations**

We recommend the Vice President, Information Technology, in coordination with the Vice President, Supply Management to:

**Recommendation 1:** Review and update policy and implement procedures to ensure proper accountability of media once it is identified for disposal and a reconciliation process to ensure it is disposed of properly.

**Management Response/Action Plan:** Management agrees with the recommendation to review and update policy and implement procedures to ensure proper accountability, reconciliation and disposal of media. Management considers this audit report to be specific to ACE equipment. Management will perform an evaluation of the disposal and sanitization process for ACE equipment and determine the most appropriate path forward to improve these processes. Based upon this evaluation any policy or procedure for the accountability of media identified for disposal will be revised, as necessary, and communicated.

**Target Implementation Date:** January 2017

**Responsible Official:** Manager, Enterprise Access Infrastructure, Information Technology, and Manager, Asset Management, Supply Management.

We recommend the Vice President, Supply Management, direct the Manager, Asset Management to:

**Recommendation 2:** Complete the contracting process to obtain a badge access system and security cameras for the two leased buildings.

**Management Response/Action Plan:** Management agrees with this recommendation. Installation of the badge access system and additional security cameras for the two leased buildings is due to be completed by October 2016.

**Target Implementation Date:** October 2016

**Responsible Official:** Manager, Asset Management, Supply Management

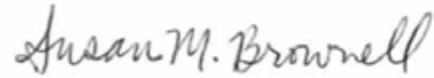
We recommend the Vice President, Supply Management, in coordination with the Vice President, Information Technology to:

**Recommendation 3:** Enact a policy and implement procedures that require management to conduct periodic reviews of the disposal contractor's sanitization process.

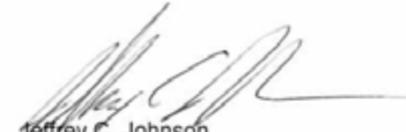
**Management Response/Action Plan:** Management agrees with the recommendation to enact a policy and implement procedures to conduct periodic reviews of the disposal contractor's sanitization process. As mentioned within the report, Asset Management personnel initiated this review process in February 2016 and will continue periodic site visits for the duration of this contract. This process will be evaluated in coordination with recommendation 1, above to ensure proper implementation.

**Target Implementation Date:** January 2017

**Responsible Official:** Manager, Asset Management, Supply Management and Manager, Enterprise Access Infrastructure, Information Technology



Susan M. Brownell  
Vice President, Supply Management



Jeffrey C. Johnson  
Vice President, Information Technology

cc: Manager, Corporate Audit Response Management



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