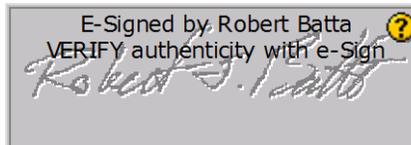




September 30, 2014

**MEMORANDUM FOR:** DAVID E. WILLIAMS, JR.  
VICE PRESIDENT, NETWORK OPERATIONS



**FROM:** Robert J. Batta  
Deputy Assistant Inspector General  
for Mission Operations

**SUBJECT:** Management Alert – Manual Package Counting and  
Conversion Factors (Report Number NO-MA-14-008)

This management alert presents the results of our review of Manual Package Counting and Conversion Factors at the Omaha, NE Processing and Distribution Center (P&DC) (Project Number 14XG029NO000) and other facilities. We concluded that management at the Omaha P&DC overestimated manual package volume because they inaccurately estimated container fullness and used outdated and/or incorrect container conversion rates. We are alerting you to this condition because it may be systemic throughout the network and could result in overstated manual package processing volumes.

If you have any questions or need additional information, please contact James L. Ballard, director, Network Processing and Transportation, or me at 703-248-2100.

Attachment

cc: Corporate Audit and Response Management

## Introduction

This management alert presents the results of our review of manual package counting and conversion factors at the Omaha, NE Processing and Distribution Center (P&DC) (Project Number 14XG029NO000).

Strong consumer demand for purchasing goods over the Internet has driven growth in package volume in an otherwise declining mail market. The Postal Service needs to make sound management decisions based on accurate productivity and operations data to meet the challenges and opportunities presented by this growing demand for package delivery. In its 2012 *Five-Year Business Plan*, the U.S. Postal Service projected that package volume, which was 3.7 billion in fiscal year (FY) 2013, will grow 5 to 6 percent per year through 2017. Between FY 2009 and FY 2013, package volume increased a total of 20.6 percent.<sup>1</sup>

The Postal Service uses count sheets to tabulate manual package processing volumes. These count sheets provide an estimate based on conversion factors for various types of mail containers (see [Appendix A](#) for samples of count sheets). The count sheets allow employees to more easily estimate how many packages are in a container, rather than counting each mailpiece. Employees enter volume estimates into applicable data systems using these manual count sheets.

## Conclusion

We concluded that Omaha P&DC management overestimated manual package volume because they inaccurately estimated container fullness<sup>2</sup> and used outdated or incorrect container-per-piece conversion rates. This condition may be systemic throughout the network and could result in overstated manual package processing volumes.

## Package Counts at the Omaha Processing & Distribution Center

We found that management overstated the number of packages the Omaha P&DC processed manually. On July 8, 2014, 579 of the 665 containers (87 percent) were reported as full; however, we concluded that many were not full.

We conducted a systematic random sampling of 60 containers on July 8, 2014, and found that only 39 containers (65 percent) were full although the count sheets listed 557 out of 665 containers (87 percent) as full (see [Figure 1](#)).

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<sup>1</sup> Package volume was 3.077 million in FY 2009 and 3.711 million in FY 2013. To calculate the percentage increase, we took the difference between these two years and divided it by 3.077 million.  $[(3.711 \text{ million} - 3.077 \text{ million}) / 3.077 \text{ million}] = 20.6 \text{ percent}$ .

<sup>2</sup> Container types used to transport packages to, from, and through mail processing facilities include: flats, sacks, tubs, all-purpose containers (APC), gaylords, and over-the-road (OTR) containers.



Figure 2: Partially Full APC



Source: U.S. Postal Service Office of Inspector General (OIG) photograph taken at the Omaha P&DC July 8, 2014.

### Nationwide Package Counts

Since the manual mail counting processes are the same nationwide as they are at the Omaha P&DC, estimates for manual package volumes nationwide could be overstated. Using count sheets and some conversion factors for each container type, we examined nationwide data on packages and found that:

- Manual package processing sorts 36 more packages per workhour than automation.
- Facility data from the Omaha P&DC and the Lansing and Grand Rapids, MI, P&DCs all showed manual package counts to be higher than automation counts (see [Table 1](#)).

**Table 1: Packages Processed Per Workhour  
April 2013 Through March 2014**

	Manually Processed Per Workhour	Total Automated and Mechanized Processed Per Workhour	Difference	Percentage Difference
<b>NATIONWIDE</b>	264	228	36	16
<b>Omaha P&amp;DC</b>	259	196	63	32
<b>Lansing P&amp;DC<sup>3</sup></b>	461	152	309	203
<b>Grand Rapids P&amp;DC</b>	377	339 <sup>4</sup>	38	11

Source: Management Operating Data System (MODS).

The nationwide data could be erroneous because manual package productivity should not exceed automation productivity. This overstated productivity can impact staffing levels<sup>5</sup> and result in inaccurate management decisions. We identified several factors that impacted this data:

- The Omaha P&DC did not properly train employees on mail counting procedures. The Postal Service requires processing facilities to accurately record mail volume and establishes guidelines for periodic review of data system reporting procedures to ensure accuracy.<sup>6</sup> Generally, facilities use container count sheets in manual package processing to record volume. Employees estimate manual package volume by counting each container and estimating how full it is. There is, however, no consistency in the count sheets used by plants (see [Appendix A, Figure 3](#) and [Figure 4](#)).
- The Omaha P&DC container count sheets<sup>7</sup> contained incorrect conversion rates. We observed significant differences between counts based on the container conversion factors (see [Appendix A, Figure 4](#)) and the actual number of packages in the containers. The APC in [Figure 1](#) actually contained 29 packages and, by our estimate, was about one-quarter full. If the count sheet reported this APC as one-half full, the estimated piece count would be 106 packages (77 more than actual).<sup>8</sup> If it was counted as full, the estimated piece count would be 211 packages (182 more

<sup>3</sup> Productivity for the Lansing and Grand Rapids P&DCs came to our attention during our audit of the Equipment Transfer from the Lansing to the Grand Rapids P&DC (Report Number NO-AR-14-010, dated September 5, 2014).

<sup>4</sup> Includes labor distribution code 13 [Total Piece Handled (TPH) + Non-Add TPH (NATPH) /workhours]. For machine operations, TPH is total pieces fed minus any reworks or rejects. Non-Add TPH is the TPH count in non-distribution operations is recorded as TPH but not added to the bottom line for mail processing distribution.

<sup>5</sup> *Employee Labor Relations Manual* Number 36, Chapter 125.2, Staffing Criteria, September 2013.

<sup>6</sup> Handbook M-32, *Management Operating Data System*, April 2000.

<sup>7</sup> The Postal Service uses conversion factors for various types of mail containers, allowing employees to more easily convert full or partially full containers into mailpieces and record these numbers in the applicable data systems.

<sup>8</sup> Omaha P&DC's conversion rate for Table 2's APC = 211 when full. A quarter full APC has 53 packages (211 X 0.25 = 53 packages) and a half-full APC has 106 packages (211 X 0.50 = 105.5 packages).

than actual). The incorrect conversion factors on the count sheet for this APC contributed to overstated package volume.

## Recommendations

We recommend the vice president, Network Operations:

1. Automate manual package processing counts nationwide.
2. Revise the count sheet to ensure consistency among various mail processing facilities and adjust container-to-piece conversion rates to ensure more accurate mail volume reporting until the manual package processing counts can be automated.
3. Train employees on proper counting of manual packages nationwide.

## Management's Comments

Management agreed with our findings and recommendations.

With regard to recommendation 1, management stated that manual package counts will be automated through the deployment and use of ring scanners where applicable. The target completion date is October 31, 2015.

With regard to recommendation 2, management stated they will standardize count sheets and conversion rates to ensure accuracy and consistency. The target completion date is March 30, 2015.

With regard to recommendation 3, management stated their action will be comprised of two steps. First, they will provide messaging to area management on standardized count sheets and reporting procedures with a target completion date of March 30, 2015. Second, they will provide training for automated counting procedures with a target completion date of October 31, 2015.

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

## Evaluation of Management's Comments

The OIG considers management's comments responsive to the recommendations and corrective actions should resolve the issues identified in the report.

## Appendix A: Count Sheets and Conversion Factors

Count sheets vary from facility to facility in their container conversion rate assumptions and methods for recording container fullness (see [Figure 3](#) and [Figure 4](#)). The Omaha P&DC reports an APC with 211 packages as full, while the North Texas P&DC reports an APC with just 85 packages as full. Likewise, the Omaha P&DC reports that a full OTR container has 316.4 packages compared to 170 packages at the North Texas P&DC. In addition, the Omaha P&DC count sheets have container increments anywhere from one-quarter to full, while the North Texas P&DC count sheets do not have this breakout.

Figure 3: Omaha P&DC Manual Package Processing Count Sheet

Circle Tour: 1 2 3      Circle Work Area : GR FLR 1st FLR      **OP 321 - PRIORITY BELT**

Date: \_\_\_\_\_      PRIORITY mail counts only, NO 1st Class or 3rd Class mail.

**Don't count any container as full unless it's actually FULL. Use fractional values as necessary.**

CONTAINER	FULL	3/4	1/2	1/4	Total Pieces
FLAT TUBS Conversion → 17					
SACKS Conversion → 20					
1046 HAMPER Conversion → 92					
1075 U-CART Conversion → 74					
APC Conversion → 211					
Gaylord / Pigpens Conversion → 167					
OTR Conversion → 316.4					
OTHER : SPECIFY COUNT OF MAIL PIECES. Example: # of Sacks or # of pieces on a Nutting					Total FHP op 321

Please leave far right TOTAL Column blank. IPS will calculate total volumes.

Circle Work Area: GROUND 1st FLR      SDO / LC Signature \_\_\_\_\_

IPS input:       Low on sheets, mark an X in this box:

APC  
Conversion  
Factor  
211

OTR  
Conversion  
Factor  
316.4

Sample Omaha P&DC count sheet, dated July 8, 2014.

**Figure 4: North Texas P&DC Manual Package Processing Count Sheet**

FHP PRIORITY PARCELS MAIL	
Instructions: This form is for summarizing all the volume of mail entered into the Priority operation during each applicable tour. Use the blocks to record the type of containers. Then convert the summation of each by the given formula. <b>Circle the appropriate operation.</b>	
ORIGINATING MIXED OPERATION	321
DESTINATION MIXED OPER	324
SUPERVISOR _____	TOUR _____ DATE _____
LARGE HAMPERS _____	
_____	
SUB TOTAL X 42.5 _____	
SMALL HAMPERS: _____	
_____	
SUB TOTAL X 19.23 _____	
WIRES: _____	
_____	
SUB TOTALS X 85.84 _____	
APC: _____	
_____	
SUB TOTAL X 85. _____	
OTR'S : _____	
_____	
SUB TOTAL X 170. _____	
GAYLORD 3' _____	SUB TOTAL X 170.
GAYLORD 4' _____	SUB TOTAL X 255.
GAYLORD 5' _____	SUB TOTAL X 340.
GRAND TOTAL: _____	MODS Transaction: Enter volume in whole pieces.
Turn in to In Plant Support, MODS wicket. September 26, 2003	

APC  
Conversion  
Factor  
85

OTR  
Conversion  
Factor  
170

Sample North Texas P&DC count sheet (January 28-29, 2014).

Conversion rates may be used when automation, mechanization, meters, or other counting mechanisms are not available. Conversion rates may also be used when conducting volume surveys. [Table 2](#) gives the national conversion rates for various container types.

**Table 2: National Container-to-Pieces Conversion Rate  
March 2009**

<b>Shape</b>	<b>Container</b>	<b>Rate</b>
<b>Flats</b>	Flat tray	17
	U-Cart	30
	APC	600
<b>Mixed</b>	Small Parcel and Bundle Sorter Tray	5.98
	Orange Sack	10.89
	U-Cart	10.62
	1033 Hamper	19.23
	1046 Hamper	42.5
	Pallet 1'	34.18
	Pallet 2'	68.35
	Pallet 3'	102.53
	Pallet 4'	136.7
	APC	85
	Wiretainer	85.84
	OTR Container	170
	Gaylord 3'	170
	Gaylord 4'	26.7
Gaylord 5'	283.3	
<b>Packages</b>	Sack	7
	APC	70
	OTR	140

Source: Handbook M-32, Appendix D, Priority Mail Container-to-Pieces Conversion Rate, March 2009.

## Appendix B: Management's Comments

DAVID E. WILLIAMS  
VICE PRESIDENT, NETWORK OPERATIONS



September 24, 2014

LORI LAU DILLARD  
Director, Audit Operations

SUBJECT: Management Alert – Manual Package Counting and Conversion  
Factors (Report Number NO-MA-14-Draft)

Thank you for the opportunity to review and comment on the Draft Management  
Alert – Manual Package Counting and Conversion Factors.

Management agrees with the recommendations in this draft report and will  
address each separately below.

Recommendation 1:  
Automate manual package processing counts nationwide.

Management Response/Action:  
Management agrees with this recommendation.

Manual package counts will be automated through the deployment and use of  
ring scanners where applicable. A data feed from the Product Tracking and  
Reporting (PTR) will be made to the End of Run (WebEOR) system for package  
scan data. Scans will be provided for origin parcels for outgoing operations and  
destinating parcels for destination operations.

Instructions will be formulated for parcel scanning to achieve consistent  
procedures in Mail Processing facilities. Once finalized, these procedures will be  
messedaged through Area management for implementation and training.

Target Implementation Date:  
October 2015

Responsible Management Official:  
Manager, Processing Operations

475 L'ENFANT PLAZA SW  
WASHINGTON, DC 20260-7100  
202 268-4305  
FAX: 202-268-3331  
www.usps.com

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Recommendation 2:

Revise the count sheet to ensure consistency among various mail processing facilities and adjust container-to-piece conversion rates to ensure more accurate mail volume reporting until the manual package processing counts can be automated.

Management Response/Action:

Management agrees with this recommendation.

Processing Operations will review current container-to-piece conversion rates to determine reporting requirements for each container type and mail shape.

Standardized count sheets will be provided for Management Operating Data System (MODS) input based upon the standard conversions until manual package counts are successfully automated. Updated procedures and count sheets will be messaged to facilities through Area management for implementation.

Target Implementation Date:

March 2015

Responsible Management Official:

Manager, Processing Operations

Recommendation 3:

Train employees on proper counting of manual packages nationwide.

Management Response/Action:

Management agrees with this recommendation.

- A. Processing Operations will provide messaging for the manual parcel standardized count sheets and reporting procedures through Area management for training purposes.
- B. Training procedures for scanning and data feeds from PTR to WebEOR will be messaged through Area management once automated data collection is available for implementation.

Target Implementation Date:

A. March 2015

B. October 2015

Responsible Management Official:

Manager, Processing Operations

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We do not believe that this report contains any propriety or business information and may be disclosed pursuant to the Freedom of Information Act (FOIA).



David E. Williams

cc: Megan Brennan  
Corporate Audit and Response Management  
Linda Malone