



OFFICE OF INSPECTOR GENERAL

UNITED STATES POSTAL SERVICE

Efficiency Review of the Cincinnati, OH, Network Distribution Center – Operations and Transportation

Audit Report

Report Number
NO-AR-14-011

September 11, 2014





OFFICE OF INSPECTOR GENERAL

UNITED STATES POSTAL SERVICE

Highlights

Opportunities exist to improve the efficiency of some operations at the Cincinnati NDC by better managing workhours and processing more mailpieces per hour. Opportunities also exist to improve transportation efficiency and safety.

Background

The U.S. Postal Service has 21 network distribution centers (NDC) linked by a dedicated transportation network. NDCs are responsible for sorting and transporting bulk mail — Standard Mail, Periodicals, and Package Services.

Our objective was to evaluate the efficiency of the Cincinnati, OH, NDC's mail processing and transportation operations. This report is one in a series and also addresses related operations and transportation at the Des Moines, IA, and Pittsburgh, PA, NDCs and feeder processing facilities.

What the OIG Found

Opportunities exist to improve the efficiency of some operations at the Cincinnati NDC by better managing workhours and processing more mailpieces per hour. The Cincinnati NDC had an average piece per hour productivity of 112 for its distribution operations, while comparable NDCs had an average piece per hour productivity of 186. In addition, the Cincinnati NDC used a higher percentage of workhours for other operations than comparable NDCs. Consequently, the Cincinnati NDC used 51,352 more workhours than necessary.

We also found some mail being unnecessarily transported from the Cincinnati NDC and unused space in some mail transport containers. In addition, some trailers transporting mail between the Cincinnati and Des Moines NDCs were not filled to capacity.

These conditions occurred because officials did not use best practices to benchmark efficiency against other NDCs; did not always follow NDC guidelines for properly sorting, labeling, and consolidating mail; and did not fully analyze existing transportation as required. If the Postal Service eliminated unnecessary workhours, it could save an average of about \$2 million in labor costs annually. In addition, it could save about \$473,000 annually in transportation costs by complying with NDC guidelines and eliminating a daily round trip.

Finally, we observed that mail transport equipment was not always properly restrained for transport to and from the NDCs as required.

What the OIG Recommended

We recommended the vice president, Eastern Area, improve the efficiency of the Cincinnati NDC's manual operations and reduce workhours in other operations to achieve the productivity of comparable NDCs. We also recommended the vice presidents, Eastern and Western areas, reinforce compliance with NDC guidelines, remove an unnecessary highway contract round trip, and reinforce existing safety procedures for restraining mail transport equipment.

Transmittal Letter

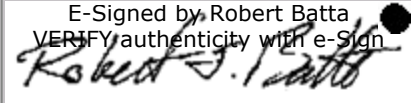


OFFICE OF INSPECTOR GENERAL
UNITED STATES POSTAL SERVICE

September 11, 2014

MEMORANDUM FOR: JOSHUA D. COLIN
VICE PRESIDENT, EASTERN AREA

DREW T. ALIPERTO
VICE PRESIDENT, WESTERN AREA

E-Signed by Robert Batta
VERIFY authenticity with e-Sign


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

SUBJECT: Audit Report – Efficiency Review of the Cincinnati, OH,
Network Distribution Center – Operations and Transportation
(Report Number NO-AR-14-011)

This report presents the results of our audit of the Efficiency Review of the U.S. Postal Service's Cincinnati, OH, Network Distribution Center (NDC) – Operations and Transportation. The report focuses on the Cincinnati Tier 1 NDC and its associated Tier 2 NDCs in Des Moines, IA, and Pittsburgh, PA, and feeder processing facilities (Project Number 14XG001NO000).

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact James L. Ballard, director, Networking Processing and Transportation, or me at 703-248-2100.

Attachment

cc: Corporate Audit and Response Management

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Findings

We determined that some Cincinnati NDC operations and associated transportation to and from the Des Moines and Pittsburgh NDCs and their feeder processing facilities could be more efficient. While the Cincinnati NDC's parcel distribution operations were efficient, opportunities exist to improve its productivity by better managing workhours and processing more mailpieces per hour in its manual operations.

We also found some unnecessary and inefficient transportation and safety concerns.

Introduction

This report presents the results of our self-initiated audit of operations and transportation at the U.S. Postal Service's Cincinnati, OH, Network Distribution Center (NDC), its associated NDCs in Des Moines, IA, and Pittsburgh, PA, and associated feeder processing facilities (Project Number 14XG001NO000). Our objective was to evaluate the efficiency of the Cincinnati NDC's mail processing and transportation operations. See [Appendix A](#) for additional information about this audit.

In 2009, the Postal Service began realigning its 21 bulk mail centers (BMC)¹ into NDCs. NDCs are part of a national system of automated mail processing facilities linked by a dedicated transportation network. The Postal Service designed NDCs to consolidate mail processing and dispatch to increase operational efficiency and reduce workhours and transportation costs. The Postal Service reported savings of over \$111 million in annual transportation and processing costs based on the realignment. NDCs are categorized as Tier 1, 2, or 3,² depending on the operations their employees perform. All 21 NDCs perform at least Tier 1 functions. Tier 2 and 3 NDCs act as transfer and consolidation points for other NDCs as well. The Cincinnati NDC is Tier 1.

As part of the NDC implementation process, management instituted manual sorting operations in and adjacent to dock operations at processing and distribution centers (P&DC) and processing and distribution facilities (P&DF). Manual operations separate and consolidate mail for transport to Tier 2 NDCs. Further, the Postal Service added transportation between Tier 1 service areas and Tier 2 NDCs to accommodate manually sorted Tier 1 mail.

Conclusion

We determined that opportunities exist to improve the efficiency of some operations at the Cincinnati NDC by better managing workhours and processing more mailpieces per hour. In fiscal year (FY) 2013, the Cincinnati NDC had a piece per hour (PPH) productivity of 112 for distribution operations, while comparable NDCs had an average PPH productivity of 186. In addition, the Cincinnati NDC used a higher percentage of workhours than comparable NDCs for allied and indirect operations. Consequently, the Cincinnati NDC missed an annual cost avoidance of about \$2 million³ because they used 51,352 more workhours than necessary to process its mail volume. These conditions occurred because Cincinnati NDC management did not fully evaluate operational efficiency by benchmarking operations against similar NDCs.

1 The Postal Service developed this dedicated network to reduce delays and damage from handling bulk mail in a system designed primarily for letter mail that has to compete with First-Class and other classes of mail for processing time and transportation space. The term "bulk mail" includes Package Services, Periodicals, and Standard Mail with service standards from 1 to 10 days. Some NDCs have incorporated surface transfer center operations that handle significant volumes of First-Class and Priority Mail.

2 Tier 1 NDCs are responsible for distributing local mail and destinating Standard Mail, Periodicals, and Package Services. Tier 2 NDCs are responsible for distributing outgoing Standard Mail, Periodicals, and Package Services, as well as Tier 1 responsibilities. Tier 3 NDCs have both Tier 1 and Tier 2 NDC responsibilities and are consolidation points for less than truck load volumes from Tier 2 sites.

3 The U.S. Postal Service Office of Inspector General (OIG) acknowledges that every NDC has different processing equipment that can impact productivity. However, based on analysis of Management Operating Data System and Breakthrough Productivity Initiative data, the Cincinnati NDC can eliminate 51,352 workhours in Function 1.

We also found the Cincinnati NDC unnecessarily transported some mail to the Des Moines and Pittsburgh NDCs. This local mail should have remained at the Cincinnati NDC. Further, we found instances where employees were not consolidating mail trays and flat tubs in some mail transport equipment (MTE) rolling stock containers⁴ arriving from feeder locations into fewer containers at plant docks. As a result, some trailers were carrying underutilized MTE. These conditions occurred because officials did not always follow NDC guidelines⁵ for properly sorting, labeling, and consolidating mail into fewer containers prior to transporting it to the Des Moines NDC.

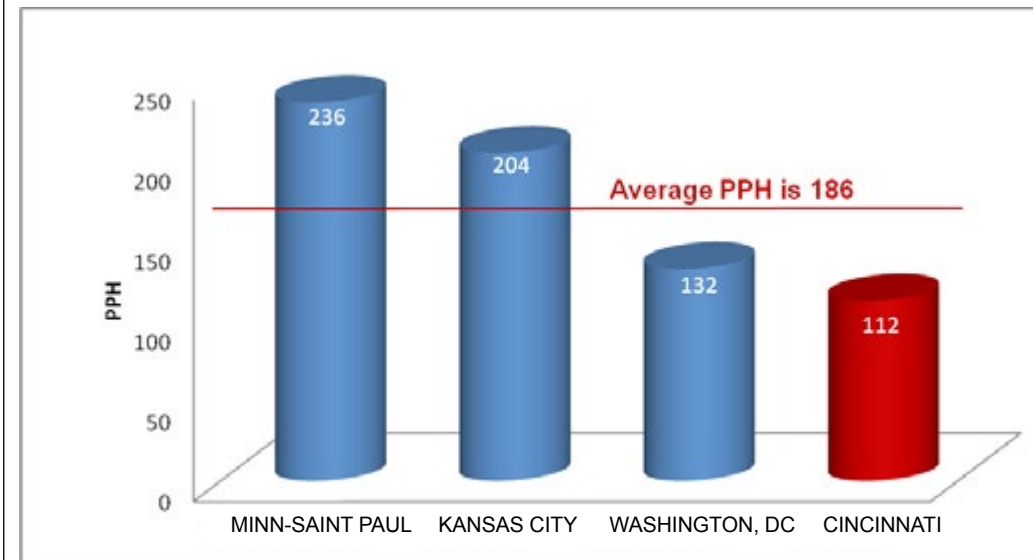
In addition, we found the Postal Service underused transportation overall between the Cincinnati and Des Moines NDCs. This occurred because management did not fully analyze existing transportation among the NDCs and feeder processing facilities during NDC realignment and added trips that were not needed. We estimate the Postal Service could save about \$473,000 in transportation costs annually by complying with NDC guidelines and combining or eliminating a low-volume round trip.

Finally, we observed employees not properly restraining some MTE rolling stock and pallets in trailers for transport to and from the NDCs. This occurred because employees were not following Postal Service policy for restraining trailer loads and managers were not reinforcing the policy.⁶

Inefficient Manual Sorting, Allied, and Indirect Operations

We determined the Postal Service has opportunities to improve productivity at the Cincinnati NDC by managing workhours and manually processing more mailpieces per hour. In FY 2013, the Cincinnati NDC did not attain the average productivity of comparable NDCs. Comparing the Cincinnati NDC to NDCs with similar equipment and mail distribution processes provides a benchmark for operational efficiency. The Cincinnati NDC had a PPH productivity of 112, while the average PPH for similar NDCs was 186.

Figure 1: Comparable NDCs' PPH Productivity for FY 2013



Source: U.S. Postal Service Enterprise Data Warehouse (EDW).

⁴ Various container types used to transport individual mail handling units (sacks, tubs, trays, packages).

⁵ In 2009 (as part of the NDC activation process), the Postal Service's acting manager, NDC Operations, issued *Network Distribution Center Activation Guidelines* for the proper sortation, labeling, and consolidation of NDC mail to be transported for processing.

⁶ Logistics Order LO201101, dated February 8, 2011, prescribes policies for the safe loading and proper restraint of mail during transportation to facilities. In particular, the order states that "All vehicles transporting containers and pallets must have the load secured with two restraining devices about every 10 feet."

Variations in operations performed at different NDCs required a review of specific labor distribution codes (LDC).⁷ Thus, we reviewed the corresponding LDC codes listed in Table 1.

Table 1: LDCs Reviewed

| LDC CODE | Hover over the LDC code numbers for category descriptions |
|----------|---|
| 13 | |
| 14 | |
| 17 | |
| 18 | |

We determined the Cincinnati NDC’s parcel distribution operations are efficient compared to similar facilities; however, the Postal Service could improve productivity in manual distribution operations and reduce workhours in allied and indirect operations to further improve efficiency.

These productivity issues occurred because Cincinnati NDC management did not use best practices to fully evaluate operational efficiency by benchmarking operations against those of comparable NDCs. Overall, to increase productivity to meet the average productivity of comparable NDCs, Cincinnati NDC management needs to eliminate 51,352 workhours. Management could also increase productivity by increasing volume. This would produce a cost avoidance of about \$2 million annually. See [Appendix B](#) for more information.

Unnecessary and Underused Highway Contract Route Transportation

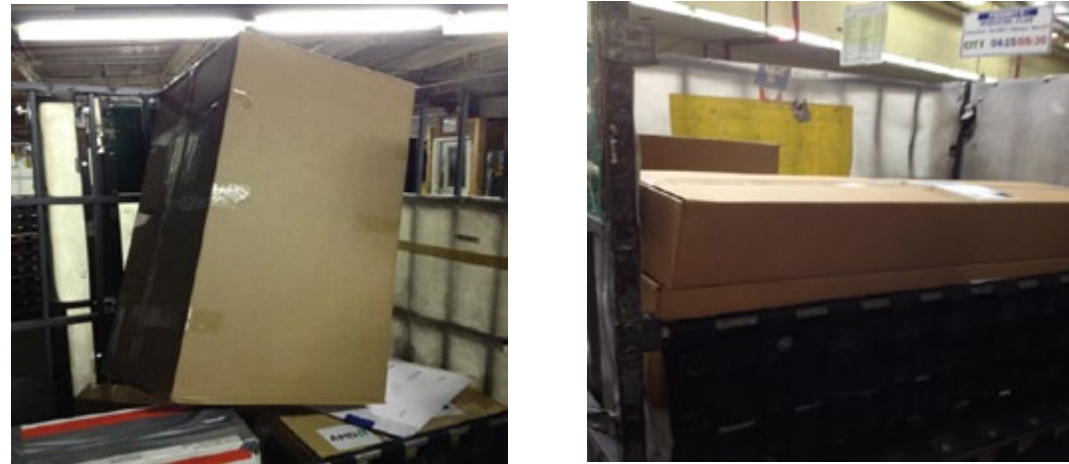
From our observations and inspection of rolling stock containers, we determined the Cincinnati NDC was unnecessarily transporting some mail to the Des Moines and Pittsburgh NDCs. In addition, we found the Postal Service was underusing some highway contract route (HCR) transportation associated with the Cincinnati and Des Moines NDCs and it could combine or eliminate one round trip.

Unnecessary Transportation of Local Mail. From our observations and inspection of rolling stock containers, we determined that some local Cincinnati mail did not stay at the Cincinnati NDC for processing. Instead, the NDC unnecessarily transported it to the Des Moines and Pittsburgh NDCs for processing and those NDCs returned it to the Cincinnati NDC for reprocessing and distribution. This extra step occurred because some local Cincinnati associated offices and stations were sending mail containers to the Cincinnati P&DC with local (Tier 1) and network (Tier 2) mail commingled.⁸ The local plants and some stations were not making the required separations and were using the wrong placards.⁹

7 A two-digit code that identifies workhours by function.
8 Specifically, we found Retail Distribution Code (RDC) 01 (Local NDC Machinable Packages – Tier 1 Package Services) and RDC 02 and 03 (Network NDC Machinable Packages – Tier 2 Packages Services) mail commingled in individual mail containers with RDC 02 or 03 placards. Additionally, we found RDC 11 (Local NDC NMOs) and RDC 12 and 13 (Network NDC non-machinable outside parcels) mail commingled in containers with RDC 12 and 13 placards. RDC 01 and RDC 11 mail is supposed to be transported to the local NDC.
9 Placarding involves placing unique barcodes (on a single page) on MTE to identify origin, destination, and mail class.

In addition, we found that some machinable parcels¹⁰ were commingled in containers with NMO parcels, making it more difficult for the P&DCs to easily consolidate containers.¹¹

Figure 2. Machinable and NMO Parcels Commingled in MTE Equipment



Source: OIG photographs taken November 13, 2013. NMO parcels mixed with machinables in MTE.

Furthermore, we observed that some MTE rolling stock containers at the Cincinnati NDC awaiting transport to the Des Moines and Pittsburgh NDCs were not filled to capacity. This occurred because area plant officials were not consolidating rolling stock containers as required by NDC guidelines.¹² Supervisors at the plants stated that they did not have enough room on the docks to consolidate the containers. As a result, the Postal Service was using more rolling stock containers and trailer space than necessary. These conditions resulted in unnecessary transportation of mail from the Cincinnati NDC to the Des Moines and Pittsburgh NDCs and additional handling and workhours.¹³

Underused HCR Transportation. Based on our analysis of existing HCR transportation, we concluded the Postal Service could make transportation operations more efficient by eliminating a daily round trip between the Cincinnati and Des Moines NDCs that involves low mail volume (see [Appendix C](#) for our detailed analysis of trips).

We realize the NDC tiered concept resulted in low volumes available for return trips. We concluded the Postal Service could eliminate over 311,000 miles and save about \$473,000 annually in HCR costs without reducing on-time service performance.

¹⁰ The *Domestic Mail Manual* defines an NMO as a parcel larger than 27 inches x 27 inches x 1 inch and heavier than 35 pounds.

¹¹ If mail was coming into the P&DC correctly separated, plant employees could easily combine containers and use less transportation to move the mail.

¹² In the *Network Distribution Center Activation Guidelines*, Tier 1 NDC Communications, dated June 15, 2009, less than full MTE rolling stock “must be consolidated before loading to maximize container and transportation utilization.”

¹³ We did not assess the monetary impact of rehandling mail due to time constraints and our limited observations. We did confirm, through observations and discussions with Postal Service officials, that mail was being unnecessarily handled (processed more than once).

Safety and Security Concerns

During our review of the loading and unloading of containers at the Cincinnati NDC, we consistently observed employees not following Postal Service policy for restraining trailer loads. Postal Service policy requires two straps for every 10 feet of rolling stock.¹⁴ However, employees in some cases used only two or three straps at the back end of the entire load in the 53-foot trailers to secure MTE rolling stock. This increases the risk the load will shift during transport, potentially injuring employees and contractors, damaging mail, and endangering the general public in the event that contents spill onto roadways (see Figure 3).¹⁵

Figure 3. Inadequate Number of Load Restraining Straps



Source: OIG photograph taken November 11 – 15, 2013. A trailer with only two straps at the end of the load and no other straps restraining the rolling stock at the Cincinnati NDC.

We also determined that employees did not always secure MTE rolling stock pins in the stake pockets available on the trailer bed floors, as shown in Figure 4. This increases the risk that the load will not be properly restrained. Safety procedures require that MTE rolling stock heavy with mail (such as over-the-road [OTR] containers) be secured in the stake pockets.

Figure 4. Large OTR Containers not Secured in Trailers at the Cincinnati NDC



Source: OIG photographs taken November 13, 2013. Trailer arriving at the Cincinnati NDC with pins not in the stake pockets.

¹⁴ Logistics Order LO201101, dated February 8, 2011, prescribes policies for safe loading and proper restraint during transportation of mail to facilities. In particular, the order states that “All vehicles transporting containers and pallets must have the load secured with two restraining devices about every 10 feet.”

¹⁵ Improperly restrained trailer loads of mail have resulted in unnecessary movement of containers within trailers, damaging containers and mail.

Recommendations

We recommend the Postal Service improve the efficiency of the Cincinnati NDC's manual operations and reduce workhours in other operations; remove an unnecessary highway contract round trip; reinforce compliance with NDC guidelines; and reinforce existing safety procedures.

We recommend the vice president, Eastern Area:

1. Improve the efficiency of the Cincinnati Network Distribution Center's distribution operations by attaining the average productivity level of 186 mailpieces per workhour by fiscal year 2016.
2. Reduce the amount of workhours used for allied and indirect operations by 2.15 percent and 4.14 percent, respectively, to be in line with workhours used for those operations at similar network distribution centers.

We also recommend the vice presidents, Eastern and Western areas:

3. Remove an unnecessary highway contract round trip associated with the Cincinnati and Des Moines Network Distribution Centers.
4. Reinforce field, feeder station, and plant employee compliance with network distribution center guidelines for properly sorting, labeling, and consolidating mail prior to transport.
5. Reinforce existing safety procedures requiring restraint of mail transport equipment rolling stock containers in trailers.

Management's Comments

The Eastern Area disagreed with our finding and recommendation 1 to improve the efficiency of the Cincinnati NDC distribution operations by raising the average productivity level to the average of comparable facilities. The Eastern Area stated that the Postal Service uses the Breakthrough Productivity Initiative (BPI) to measure productivity and it shows the Cincinnati NDC outperforms similar NDCs used in our analysis for benchmarking. In addition, the Eastern Area stated that there is a large disparity between similar NDCs in regards to workload credit for LDC 17 and indicated that our analysis of PPH is not credible for LDC 17 and 18 because of the disparity. However, management acknowledged that there is opportunity to improve efficiencies and will continue to monitor and provide feedback on performance during weekly teleconferences.

Management partially agreed with our finding and recommendation 2 to reduce the amount of workhours used for allied and indirect operations and stated they are committed to improve efficiency to reduce workhours in those operations. The Eastern Area stated there are many factors that could contribute to the higher workhour usage for LDC 17 and 18 for its facility as compared to other facilities. For example, the similar NDCs in our analysis may be using different operations or have functional towlines.

Both the Eastern and Western Areas disagreed with our finding and recommendation 3 to remove unnecessary highway contract transportation. The Eastern Area stated they have a 78.2 percent utilization of trips between Cincinnati and Des Moines and they have already reduced service in that lane in July 2013. They stated they will continue to monitor this route and stay in contact with the Western Area to identify future opportunities. The Western Area based their disagreement on discussion with the Eastern Area.

Both the Eastern and Western Areas fully agreed with our findings and recommendations 4 concerning the proper sorting, labeling, consolidation, and restraining of MTE equipment prior to the transport of mail. The Eastern Area stated the Cincinnati NDC had delivered a service talk on July 18, 2014, to their employees to ensure proper sorting, labeling, and containerization procedures. In addition, the Cincinnati NDC will also observe and spot-check containers for noncompliance of mail preparation procedures of feeder stations and associated offices. The Western Area stated they will issue a directive by September 5, 2014, to facilities to reinforce guidelines for properly sorting, labeling, and consolidating mail.

Finally, both the Eastern and Western Areas agreed with our finding and recommendation 5 concerning reinforcing safety procedures that require the restraint of MTE equipment rolling stock containers in trailers. The Western Area stated they will issue a directive to all facilities by September 5, 2014, to reinforce the restraint of MTE equipment in trailers, while the Eastern Area stated the Cincinnati NDC immediately addressed this issue by having service talks with its employees.

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

Evaluation of Management's Comments

Management disagreed with recommendation 1 to improve efficiency of distribution operations; partially agreed with recommendation 2 to improve efficiency of allied and indirect operations; and disagreed with recommendation 3 to remove one HCR round trip between Cincinnati and Des Moines. We will work with management during the process of closing out significant recommendations to resolve management's comments and concerns.

Management agreed with recommendations 4 and 5 and we consider management's comments responsive to these recommendations. Further, the corrective actions taken or planned for these recommendations should resolve the issues identified in the report.

Regarding recommendation 1, we believe our findings and related monetary impact related to distribution operations are valid based on our assessment of productivity, even though the Postal Service uses the BPI to determine efficiency. We acknowledge the Postal Service's BPI takes various factors into account, such as the floor space of a plant and the number of towlines, but we have not audited or validated BPI information and did not use it in our analyses. In addition, based on management's initial input to our draft findings, we revised our methodology and compared the Cincinnati NDC to similar facilities — as opposed to all facilities — to account for facility differences. We determined the Cincinnati NDC's parcel distribution operations were efficient compared those of similar facilities; however, the Postal Service could improve productivity in manual distribution operations. The Cincinnati NDC has the opportunity to save workhours through improved efficiency of its LDC 14 – Manual Distribution Operations. Comparable NDCs process, on average, 200 PPH, while the Cincinnati NDC processes 141 PPH.

Regarding management's response to recommendation 2 and comment that our analysis of productivity is not credible due to workload credit, we did not use the PPH when calculating the efficiencies of LDC 17 and LDC 18. We calculated the efficiency for these LDCs by dividing total workhours by total function 1 workhours. We believe our calculations are still valid based on our methodology.

Regarding recommendation 3, our analysis showed there were a total of eight round trips from Cincinnati to Des Moines. The data we analyzed were from January 1 to November 30, 2013. We did not include extra trips during peak season in our analysis because of the extra service needed. Our data showed the eight trips had a total combined use of 556 percent from Cincinnati to Des Moines and a total combined use of 507 percent from Des Moines to Cincinnati. Combining current transportation would allow the Postal Service to reduce transportation by at least one round trip, as recommended, and possibly more.

The OIG considers all recommendations significant, and therefore requires OIG concurrence before closure. Consequently, the OIG requests written confirmation when corrective actions are completed. These recommendations should not 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

Background

The Postal Service's NDCs are part of a national system consisting of 21 automated mail processing facilities linked by a dedicated transportation network. This system is dedicated to sorting and transporting bulk mail – Package Services, Standard Mail, and Periodicals. Network Operations is responsible for domestic mail processing and transportation networks.

After several years of declining mail volume, a changed mail mix, and mailers entering more mail near final destinations, the volume of mail that former BMCs processed declined significantly. Facing the need to reduce costs and recognizing opportunities to make better use of space in trailers sent on long-distance transportation routes and to improve mail dispatching and processing operations, the Postal Service reorganized the 21 facilities into NDCs with a three-tiered structure. Under the plan, NDCs consolidated mail processing and dispatching to achieve economies of scale, greater operational efficiency, and reduced workhours and transportation costs. The Postal Service saved over \$111 million in transportation and processing costs based on the realignment. According to the NDC realignment plans, Tier 1 facilities send and receive mail to or from their Tier 2 NDCs. In May 2009, the Postal Service activated Phase 1 of the NDC concept and began implementation in Cincinnati in March 2010. The Cincinnati NDC is Tier 1.

The Postal Service implemented the NDC network in phases, with phases II through IV implementation accelerated before the Postal Service completed, sufficiently analyzed, and properly evaluated Phase I. The agency also instituted manual sorting operations in and adjacent to dock operations at P&DCs and P&DFs. The manual operations are responsible for separating and consolidating mail for transport to Tier 2 NDCs.

In addition, management added transportation from Tier 1 service areas to Tier 2 NDCs to accommodate transportation of manually sorted Tier 1 mail. The new layer of transportation from the Cincinnati NDC service area to the Des Moines and Pittsburgh NDCs for originating mail was planned to be efficient only on inbound trips to Des Moines or Pittsburgh. See the map in [Figure 5](#) showing all 21 NDCs by tier.

Figure 5. Location of NDCs Nationwide by Tier



Source: Postal Blue Pages – Network Operations.

Objective, Scope, and Methodology

Our objective was to evaluate the efficiency of Cincinnati mail processing and transportation operations. This report focuses on processing and transportation at the Cincinnati NDC and related processing and transportation at the Des Moines and Pittsburgh NDCs and their feeder processing facilities.

We performed this audit by comparing NDC productivity and evaluating the realignment of the transportation network. We identified the Cincinnati NDC as having the potential for savings through improved efficiency of productivity and transportation. The goal is to process and transport mail using the fewest resources needed while still meeting service timeframes.

To assess efficiency, we observed mail processing operations and transportation operations, analyzed mail volume and workhours, reviewed HCR transportation trailer use, and analyzed machine use. We conducted site visits to evaluate transportation use and processing at the Cincinnati NDC and the Cincinnati P&DC. We also reviewed relevant Postal Service policies and procedures, interviewed managers and employees, observed and photographed operations, assessed mail container contents, and evaluated mail placarding (container labels).

We interviewed Postal Service officials and benchmarked the Cincinnati NDC's achievement of target productivities against comparable NDCs. We calculated PPH productivities for LDCs 13 and 14 and calculated workhour usage to overall workhours for LDCs 17 and 18, for FYs 2009 through 2013. We benchmarked the Cincinnati NDC's productivity against the average productivity of comparable NDCs. We calculated the difference between Cincinnati NDC workhours and comparable NDCs' average workhours for LDCs 13 and 14. For LDCs 17 and 18, we calculated the difference between the Cincinnati NDC's percentage of workhours to overall workhours and compared the percentages to those of similar NDCs. We identified corresponding workhour costs for the differences and identified the workhour costs savings. In addition, we identified a round trip for consolidation and removal.

We relied on Postal Service computer-processed data, including the Management Operating Data System, EDW, and the Web End-of-Run System to analyze mail volume and workhours. We also relied on HCR information from the Transportation Contract Support System and trailer use data from the Transportation Information Management and Evaluation System. We determined the data were sufficiently reliable for the purposes of this report.

We conducted this performance audit from October 2013 through September 2013, 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 July 10, 2014, and included their comments where appropriate.

Prior Audit Coverage

| Report Title | Report Number | Final Report Date | Monetary Impact (In millions) |
|--|---------------|-------------------|----------------------------------|
| <i>Efficiency of the Atlanta Network Distribution Center – Processing and Transportation</i> | NO-AR-13-005 | 8/16/2013 | \$15,999,708 |
| Report Results: This report determined that Atlanta NDC operations and associated transportation to and from the Memphis NDC could be more efficient. Management generally agreed with our recommendation to improve the efficiency of the Atlanta NDC's mail processing operations by attaining the above average median productivity level of 119 pieces per workhour. They also generally agreed with our recommendation to remove or modify existing HCR transportation associated with the Atlanta and Memphis NDCs, reinforce NDC guidelines to properly sort, label, and consolidate mail prior to transport, and reinforce safety procedures requiring the restraint of mail transport equipment in trailers. | | | |
| <i>Efficiency Review of the Los Angeles Network Distribution Center</i> | NO-AR-12-007 | 8/3/2012 | \$14,001,557 |
| Report Results: This report determined that opportunities exist at the Los Angeles NDC to improve efficiency by reducing workhours and taking advantage of existing automation. Management agreed with the recommendations to improve operational efficiency by reducing workhours by 200,019 and disagreed with the associated workhour savings. They also agreed to provide more training, including employee oversight training, and improve the maintenance program and sorting operations. | | | |
| <i>POSTAL SERVICE INITIATIVE: Consolidation of Mail for Transportation Between Network Distribution Centers</i> | NL-AR-12-006 | 5/29/2012 | \$15,365,532 |
| Report Results: This report determined that the loading and unloading method used before the mail consolidation pilot was efficient based on workhours; however, it resulted in additional transportation costs. Management generally agreed with our recommendations, but not our monetary impact, stating they expanded the number of consolidation lanes in February 2012, would continue to pursue additional opportunities and a 2.5:1 utilization ratio; and would evaluate the consolidation of mail bound for Puerto Rico. Management also stated they would conduct locally managed quarterly meetings with contractors. | | | |

Appendix B: Operational Analysis

Comparison to Other Network Distribution Centers

Comparing the Cincinnati NDC to NDCs with similar equipment and distribution processes provides a benchmark for operational efficiency. Variations in operations performed at different NDCs require a review of the specific LDCs.¹⁶

We found that the Cincinnati NDC is efficient in LDC 13 – Mechanized Distribution Operations. Comparable NDCs processed, on average, 248 PPH during FY 2013, while the Cincinnati NDC processed 262 PPH. As a result, the Cincinnati NDC used 15,370 fewer workhours than comparable NDCs annually (see Table 2).

Table 2: LDC 13 – Parcel Distribution Potential Workhour Efficiencies

| | Comparable NDCs | Cincinnati NDC |
|---|------------------------|-----------------------|
| LDC 13 Volume | 203,567,977 | 71,174,459 |
| LDC 13 Workhours | 821,626 | 271,899 |
| LDC 13 Productivity | 248 PPH | 262 PPH |
| Cincinnati NDC Target Workhours* ¹ | | 287,269 |
| Potential Workhour Efficiencies | | 15,370 |

*Source: EDW.

¹ The number of workhours necessary to raise Cincinnati NDC productivity to that of comparable NDCs' average productivity.

¹⁶ The Postal Service compiles workhour, labor use, and other financial reports for management's use by functional category or LDC.

Potential Sources of Workhour Reduction

We also identified specific mail processing functions for which the Cincinnati NDC could improve efficiency. Table 3 shows a complete breakdown of potential workhour savings/redistribution by LDC. We calculated these savings by raising Cincinnati NDC productivity to the average productivity of comparable NDCs. We calculated LDC 14 productivity as PPH, since mail volume is directly involved, and calculated LDC 17 and 18 productivity as a percentage of total workhours, as they are ancillary functions. Raising the Cincinnati NDC's productivity for these comparable operations to the average level would require a reduction of 51,352 workhours (see Table 3).

Table 3: Summary of Potential Workhour Savings

| LDC ¹ | Potential Workhour Savings |
|------------------------------|----------------------------------|
| LDC 14 – Manual Distribution | 7,032 |
| LDC 17 – Allied Operations | 15,155 |
| LDC 18 – Indirect/Related | 29,165 |
| Total | 51,352 |

Source: EDW.

¹ The Postal Service uses LDC 13 to record mechanized distribution operations and LDC 14 to record manual sortation of letters and flats. LDC 17 records hours in allied operations or mail processing operations spent on activities other than distribution, including mail preparation, presort operations, opening, pouching, and platform operations.

LDC 14 – Manual Distribution

The Cincinnati NDC has the opportunity to save workhours through improved efficiency of its LDC 14 – Manual Distribution Operations. Comparable NDCs process, on average, 200 PPH, while the Cincinnati NDC processes 141 PPH. Increasing Cincinnati NDC productivity to comparable NDC average productivity could save 7,032 workhours annually (see Table 4).

Table 4: LDC 14 – Manual Distribution Potential Workhour Savings

| | Comparable NDCs | Cincinnati NDC |
|----------------------------------|--------------------|-------------------|
| LDC 14 Volume | 11,289,358 | 3,380,462 |
| LDC 14 Workhours | 398,291 | 23,959 |
| LDC 14 Productivity | 200 PPH | 141 PPH |
| Cincinnati NDC Target Workhours* | | 16,927 |
| Potential Workhour Savings | | (7,032) |

*Source: EDW.

Note: The number of workhours necessary to raise Cincinnati NDC productivity to comparable NDCs' average productivity.

LDC 17 – Allied Operations

Allied operations provide another opportunity for the Cincinnati NDC to reduce workhours. LDC 17 includes mail preparation — presort operations, opening, pouching, and platform operations. During FY 2013, the Cincinnati NDC used over 47 percent of its processing workhours in LDC 17, while NDCs comparable to the Cincinnati NDC used 45 percent of their workhours in allied labor. Reducing LDC 17 workhours by 15,155 would enable the Cincinnati NDC to raise productivity to the average of that of comparable NDCs (see Table 5).

Table 5: LDC 17 – Allied Operations Potential Workhour Savings

| | Comparable NDCs | Cincinnati NDC |
|----------------------------------|--------------------|-------------------|
| Total Workhours | 2,133,436 | 704,830 |
| LDC 17 Workhours | 961,324 | 332,751 |
| LDC 17 Percentage to Workhours | 45.06% | 47.21% |
| Cincinnati NDC Target Workhours* | 317,596 | |
| Potential Workhour Savings | | (15,155) |

*Source: EDW.

Note: The number of workhours necessary to raise Cincinnati NDC productivity to the average of comparable NDCs. Cincinnati NDC workhours should be the same percentage as that of the average of comparable NDCs, which, in this case, is 45.06 percent.

LDC 18 – Indirect/Related (Miscellaneous Operations)

The Postal Service can also reduce workhours for the Cincinnati NDC for LDC 18, which includes stand-by time, empty equipment processing, office work, and several other activities. The Cincinnati NDC used over 7 percent of its processing workhours in LDC 18 during FY 2013. Comparable NDCs used, on average, just over 3 percent of their workhours in indirect labor. By reducing workhours by FY 2016, the Cincinnati NDC could raise productivity to that of the average of comparable NDCs (see Table 6).

Table 6: LDC 18 – Indirect Operations Potential Workhour Savings

| | Comparable NDCs | Cincinnati NDC |
|----------------------------------|------------------------|-----------------------|
| Total Workhours | 2,133,436 | 704,830 |
| LDC 18 Workhours | 76,165 | 54,328 |
| LDC 18 Percentage to Workhours | 3.57% | 7.71% |
| Cincinnati NDC Target Workhours* | | 25,163 |
| Potential Workhour Savings | | (29,165) |

*Source: EDW.

Note: The number of workhours necessary to raise Cincinnati NDC productivity to the average of that of comparable NDCs. Cincinnati NDC workhours should be the same percentage as that of the average of comparable NDCs, which, in this case, is 3.57 percent.

Appendix C: Detailed Transportation Analyses and Observations

Based on our analyses of existing HCR transportation, we concluded the Postal Service could eliminate one round trip between the Cincinnati and Des Moines NDCs. Table 7 summarizes the affected HCRs and related transportation cost impacts. The net savings identified is about \$473,000 annually.

Table 7: HCR Transportation Savings

| WORKSHEET | HCR | SEG | PRE MILEAGE | POST MILEAGE | MILEAGE CHANGE | PRE ANNUAL RATE | POST ANNUAL RATE | ANNUAL RATE CHANGE |
|-----------|--------|-----|-------------|--------------|----------------|-----------------|------------------|--------------------|
| HCR 1 | 45,213 | A | 3,475,148.9 | 3,163,791.1 | (311,357.8) | \$6,208,148.72 | \$5,735,359.76 | (\$472,788.96) |
| TOTAL | | | 3,475,148.9 | 3,163,791.1 | (311,357.8) | \$6,208,148.72 | \$5,735,359.76 | (\$472,788.96) |

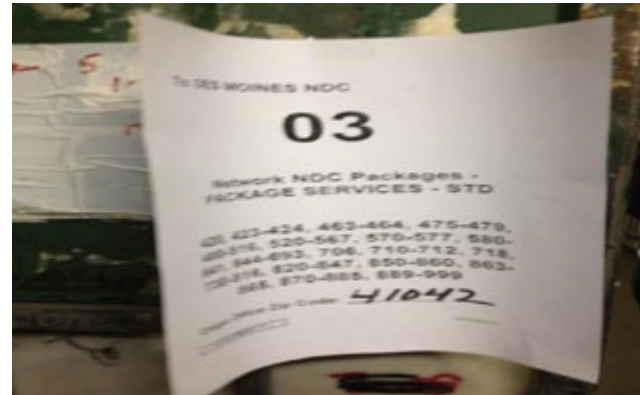
Unnecessary and Underused Transportation

We observed some mail containers arriving at the Cincinnati NDC from local plants and stations with local (Tier 1) and network (Tier 2) mail commingled.¹⁷ In addition, we found that some machinable parcels¹⁸ were commingled in containers with NMO parcels. We observed employees at the Cincinnati local processing plants, retail units, and stations not properly separating local and network mail and employees at local plants not separating the mail on the docks, as required, prior to sending it to the NDCs. [Figure 6](#) shows a mail container from a retail unit with an improperly prepared placard. Specifically, the station did not use the proper mail transport equipment label (MTEL) placard with scannable barcodes.

¹⁷ We calculated Cincinnati NDC target workhours by multiplying Cincinnati NDC mail volume and median NDC productivity. The workhour savings is the difference between target workhours and Cincinnati NDC workhours.

¹⁸ The *Domestic Mail Manual* defines an NMO as “a parcel larger than 27” x 17” x 17” and heavier than 35 pounds, an irregularly shaped parcel, or an outside parcel.”

Figure 6. Containers Improperly Labeled With a Retail Unit Placard



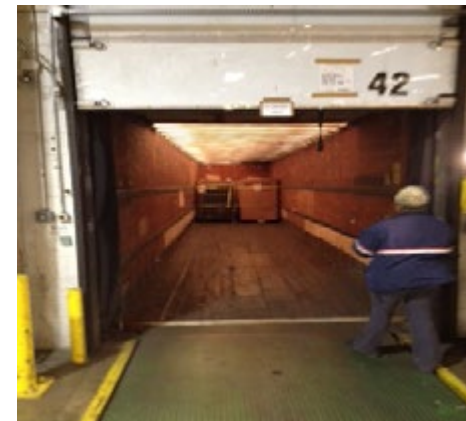
Source: OIG photograph taken November 12, 2013, at the Cincinnati P&DC. Retail placard labeled 03 was used but MTEL placards (which have a scannable barcode) should have been used.¹⁹

We observed that Postal Service staff was not consolidating mail from stations and post offices in the Cincinnati NDC area into MTE containers at plant docks before sending them to the Cincinnati, Des Moines, and Pittsburgh NDCs. Many containers were only 20 to 30 percent full and could have easily been combined on the docks of the plants. In addition, we observed very low volumes of mail in trailers. This mail should have been combined, resulting in fewer HCR trips to transport the mail (see Figure 7).

Figure 7. Trailer and MTE Underuse at Plants



Source: OIG photograph taken November 13, 2013, at the Cincinnati NDC. MTE that was only 10 percent full.



Source: OIG photograph taken November 13, 2013, at the Cincinnati NDC. A trailer that was less than 20 percent full.

¹⁹ MTEL placards have a unique scannable barcode as described in the *User Guide for MTEL National – AO/DU/Functionality*, dated 10/3/2007.

Appendix D: Management's Comments

DISTRIBUTION NETWORKS
WESTERN AREA



August 13, 2014

LORI LAU DILLARD
DIRECTOR, AUDIT OPERATIONS (A)

SUBJECT: Efficiency Review of the Cincinnati, OH, Network Distribution Center –
Operations and Transportation (Report Number NO-AR-14 Draft)

The Western Area disagrees that a highway contract round trip should be eliminated after discussion with the Eastern Area. The Western Area does agree to providing guidelines for properly sorting, labeling and consolidating mail prior to transport and procedures for restraining MTE rolling stock containers for transport

Recommendation (3):

Remove an unnecessary highway contract round trip associated with the Cincinnati and Des Moines network distribution centers.

Management Response/Action Plan:

The Western Area Distribution Networks Office has contacted the Eastern Area Networks in regards to the HCR route that runs between the two facilities since the contract is under the administration of the Eastern Area. As a result of this discussion the Eastern Area informed the Western Area that based on the need to move mail in the air to surface environment they will not implement any reduction in transportation between the Cincinnati NDC and the Des Moines NDC.

Target Implementation Date:

Not implemented

Recommendation (4):

Reinforce field, feeder station, and plant employee compliance with network distribution center guidelines for properly sorting, labeling and consolidating mail prior to transport.

Management Response/Action Plan:

Western Area Distribution Networks will issue a directive to all facilities to reinforce the guidelines for properly sorting, labeling and consolidating mail prior to transport.

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DENVER, CO 80299-6000
303 313 5158
FAX: 303 313 5177

Target Implementation Date:

This will be accomplished by email with completion by September 5, 2014.

Responsible Official:

Manager, Network Operations
Western Area

Recommendation (5):

Reinforce existing safety procedures requiring restraint of mail transport equipment rolling stock containers in trailers.

Management Response/action Plan:

Western Area Distribution Networks will issue a directive to all facilities to reinforce the procedures requiring restraint of MTE rolling stock containers in trailers for transport.

Target Implementation Date:

This will be accomplished by email with completion by September 5, 2014.

Responsible Official:

Manager, Network Operations
Western Area

This report and management's response do not contain information that may be exempt from disclosure under the FOIA.



Joseph Lujan
Manager, Network Operation
Western Area

Cc: Drew Aliperto, Western AVP
Joshua D. Colin, Eastern AVP
Sally K. Haring, Mgr. Corporate Audit and Response Management
Steven Juhl, Controller Western Area

JOSHUA D. COLIN, Ph.D.
VICE PRESIDENT, AREA OPERATIONS
EASTERN AREA



September 4, 2014

MEMORANDUM FOR LORI LAU DILLARD, ACTING DIRECTOR, AUDIT OPERATIONS

SUBJECT: DRAFT OIG Audit Report - Efficiency Review of the Cincinnati, OH,
Network Distribution Center – Operations and Transportation
(NO-AR-14-DRAFT)

The Eastern Area has reviewed the draft audit report of the Office of Inspector General on the efficiency of the Cincinnati OH NDC. The report identified expectations to reduce work-hour and transportation costs, worth over \$5 million over the next two years, by improving Cincinnati's performance to that observed in similar NDCs.

The Eastern Area agrees that there are opportunities to improve in the areas identified by the auditors, and we have prepared responses to the recommendations, below.

Recommendation 1:

Improve the efficiency of the Cincinnati Network Distribution Center's distribution operations by attaining the average productivity level of 186 mail-pieces per work-hour by Fiscal Year 2016.

Management Response / Action Plan:

The Eastern Area does not agree with this recommendation. The Postal Service measures productivity performance using the Breakthrough Productivity Initiative (BPI). The Cincinnati NDC currently outperforms the other similar NDCs in the study, FY14 YTD:

| Area Name | Unit Name | Total F1 Hours % Achd |
|---------------|---------------------|-----------------------|
| EASTERN | CINCINNATI NDC | 74.44 |
| WESTERN | KCKS NDC | 74.26 |
| WESTERN | MINN-SAINT PAUL NDC | 70.49 |
| CAPITAL METRO | WASHINGTON NDC | 66.23 |
| | Average | 71.04 |

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There is a large disparity between the similar NDCs included in the comparison, with regards to LDC-17 workload credit, which is factored into the audit report's calculation of PPH. The significant difference in workload credited at the comparison NDCs skews the comparison of PPH in these facilities. We do not feel it is necessarily credible to include LDC-17 and LDC-18 workload into the calculation due to this disparity:

| Finance Name | Expediter Platform | Inbound Platform | Opening Unit Incoming 180C | Opening Unit Outgoing 110C | Other Volume/Hrs | Outbound Platform | LDC-17 TOTAL |
|---------------------|--------------------|------------------|----------------------------|----------------------------|------------------|-------------------|--------------|
| CINCINNATI NDC | 101,023 | 402,021 | - | 1,457,048 | 511,240 | 466,183 | 2,937,520 |
| MINN-SAINT PAUL NDC | 87,165 | 183,845 | 48,437,221 | 16,720 | 4,840,635 | 219,265 | 53,784,871 |
| KCKS NDC | 73,314 | 210,352 | 1,363,008 | 15,769,293 | 13,231,310 | 305,221 | 30,952,471 |
| WASHINGTON NDC | 170,407 | 540,053 | - | - | 34,183,883 | 531,011 | 35,425,360 |

The Eastern Area acknowledges that there is opportunity to improve efficiencies and we will continue to monitor and provide feedback on productivity performance. Productivity performance is addressed during weekly budget review meetings with the District and via in-depth quarterly business reviews.

Recommendation 2:

Reduce the amount of work-hours used for allied and indirect operations by 2.15 percent and 4.14 percent, respectively, to be in line with work-hours used for those operations at similar network distribution centers.

Management Response / Action Plan:

The Eastern Area partially agrees with this recommendation. There are other many factors that could be contributing to the higher LDC-17 and LDC-18 work-hour usage in the Cincinnati NDC in comparison to the other similar NDCs. As noted above, regarding the workload credited in LDC-17, there is clearly a difference in the LDC-17 operations. The other NDCs may be using different operations and/or may have functional towlines that could easily impact LDC-17 work-hour usage. The Cincinnati NDC is committed to reviewing LDC-17 and LDC-18 operations to identify opportunities to reduce work-hours.

Recommendation 3:

Remove an unnecessary highway contract round trip associated with the Cincinnati and Des Moines network distribution centers. Eliminating the trip would result in a net savings of approximately \$473,000, annually.

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Management Response / Action Plan:

The Eastern Area has reviewed the transportation between the Cincinnati NDC and Des Moines NDC. Records indicate a 78.3% total utilization on the route YTD, with many additional trips required during peak periods. The Eastern Area has reduced service on this HCR, as part of the DRIVE initiative, for an actual savings of \$218,363.54 in July of 2013. We will continue to monitor this route, and stay in contact with the Western Area. We will work to capture any future opportunities to reduce as they are identified.

| HCR # | REDUNDANT SCR | Est | Actual |
|-------|---------------|--------------|--------------|
| 45213 | 236412 | \$202,859.89 | \$218,363.54 |

Recommendation 4:

Reinforce field, feeder station, and plant employee compliance with network distribution center guidelines for properly sorting, labeling, and consolidating mail prior to transport.

Management Response / Action Plan:

The Eastern Area agrees with this recommendation. The Cincinnati NDC delivered a service talk, July 18th, to their employees to help ensure everyone understands the proper sorting, labeling, and containerization procedures at the NDC. The Cincinnati NDC and P&DC are investigating ways to better segregate NMOs without adding containers and impacting transportation utilization. The Cincinnati NDC will also spot check containers and communicate observed non-compliance of the mail preparation procedures to the feeder stations and associate offices for corrective action.

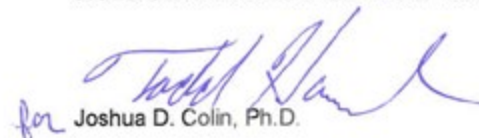
Recommendation 5:

Reinforce existing safety procedures requiring restraint of mail transport equipment rolling stock containers in trailers.

Management Response / Action Plan:

The Eastern Area agrees with this recommendation. The SOP for load restraints was sent by Tom Ware, Manager of Networks, to the Cincinnati NDC with instructions to inform their employees of the proper procedures. The Cincinnati NDC immediately addressed this issue by providing service talks with their employees.

We have no Freedom of Information Act (FOIA) issues related to this audit.


for Joshua D. Colin, Ph.D.

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OFFICE OF
**INSPECTOR
GENERAL**
UNITED STATES POSTAL SERVICE

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