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SUBJECT: Audit Report – Service Performance Measurement System – Delivery Confirmation (Report Number CRR-AR-09-005)

This report presents the results of our audit of the Postal Service's Service Performance Measurement System – Delivery Confirmation™ (Project Number 09RG005CRR000). Our objective was to assess the reliability of Delivery Confirmation data used to calculate the service performance measures for retail parcels. In addition, we assessed whether the Postal Service has a strategic plan using service performance measurement results. This self-initiated audit addresses operational, customer service, and strategic risk factors. See [Appendix A](#) for additional information about this audit.

Conclusion

The Delivery Confirmation data used to calculate the service performance measures for retail parcels is reliable. Certain parcels are excluded from service performance measurement calculations based on established business rules that we found to be reasonable. However, because retail parcels are a small percentage of mail volume, these results may not reflect the broader mail classes.

The Postal Service has a strategic plan for using service performance results, which includes incorporating service performance results into the National Performance Assessment (NPA) program. However, the NPA program does not include service measurements for Package Services parcels. This plan also significantly depends on implementing and using the Intelligent Mail Barcode (IMB). With broader adoption of the IMB, additional audit work will be necessary to evaluate its effectiveness in accurately measuring service performance.

Service Performance Measurements are Reliable for Parcels

The Postal Service has adequate controls over reporting of service performance measurement for retail First-Class® and Package Services parcels. We tested the migration of Delivery Confirmation data from original entry sources to reporting sources and determined the data is reliable.

The Postal Service excluded approximately 11 percent of the retail First-Class Mail and Package Services parcels from service performance measurements. The Postal Service established seven business rules to identify retail parcels that should be excluded from service performance measurement calculations, which we found to be a reasonable approach. For example, mailpieces are not included in the service performance calculations when the Delivery Confirmation start-the-clock and stop-the-clock scanning events are incomplete.

Retail parcels comprise approximately 0.4 percent of First-Class Mail volume and 14.5 percent of Package Services annual mail volume; therefore, the results of this audit may not reflect the accuracy of the service performance of the broader mail classes.

See [Appendix B](#) for our detailed analysis of this topic.

Strategic Planning

The Postal Service has a strategic plan for using service performance results. The plan includes incorporating service performance metrics into the NPA process

In June 2008, the Postal Service submitted to Congress a plan to establish service performance standards.¹ The plan outlines Postal Service strategies to establish service performance standards; implement systems to measure service performance; addresses the establishment of performance goals; and describes changes to processing, transportation, and retail networks necessary to meet service performance goals. The plan significantly depends on implementing and using the IMB; therefore, additional audit work will be necessary to evaluate the success of IMB implementation and use to accurately measure service performance.

A number of service performance indicator metrics are part of the NPA program, which collects performance-related metrics from source systems across the Postal Service. These metrics are translated into balanced scorecards used to monitor performance at both the corporate and unit levels.

The service performance results for some Package Services parcels are not included as an NPA indicator. As the Postal Service refines the service performance measurement system for Package Services parcels, those service performance metrics should also be included in the NPA process. According to management, the Postal Service is committed to incorporating new service performance measures, as they are defined, into the NPA process. We are not making any recommendations in this report and management chose not to respond formally to this report.

¹ *Postal Accountability and Enhancement Act 302 Network Plan*, June 2008.

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Paul Kuennen, Director, Cost, Revenue and Rates, or me at (703) 248-2100.

E-Signed by Darrell E. Benjamin, Jr. 
VERIFY authenticity with ApproveIt

Darrell E. Benjamin, Jr.
Deputy Assistant Inspector General
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cc: Bill Harris

APPENDIX A: ADDITIONAL INFORMATION

BACKGROUND

The Postal Accountability and Enhancement Act (the Act) required the Postal Service to establish service standards for market-dominant products, develop a system of objective external performance measurements for each market-dominant product, and develop and submit to Congress a plan for meeting the service performance standards.

In November 2007, the Postal Service provided the Postal Regulatory Commission (PRC) a draft service performance measurement plan that proposed to measure service performance using a mix of external and internal service performance measurement systems. In November 2008, the PRC approved the Postal Service plan to use internal Delivery Confirmation data to measure the service performance of parcel-shaped First-Class Mail, Standard Mail, and Package Services mail.

Delivery Confirmation provides the date and time an article was delivered and, if delivery was attempted but not successful, the date and time of the attempted delivery. For market-dominant products, Delivery Confirmation service can be purchased for retail and presort First-Class Mail parcels, Standard Mail parcels, and retail and presort Package Services parcels. For retail parcels, the Delivery Confirmation scan at the retail counter is the start-the-clock event. For presort parcels, a documented arrival time at a Postal Service acceptance facility along with mailer provided electronic documentation is used to determine the start-the-clock time.

The Postal Service scans² or manually enters and transmits Delivery Confirmation data to the Product Tracking System (PTS), a national database that records delivery information for products and services. From the PTS, Delivery Confirmation data is downloaded to the Enterprise Data Warehouse (EDW). The EDW is used as a single repository for analyzing and reporting Postal Service data.

Customer Knowledge Management, a division of the Consumer Advocate Office, extracts service performance scores from the EDW system. The service performance results for First-Class Mail parcels are combined with the single-piece First-Class Mail letter and flat scores which are determined by the External First-Class Measurement (EXFC)³ system. The service performance results for Standard Mail parcels are included with the Standard Mail aggregate performance. The aggregate First-Class Mail and Standard Mail service performance results, along with the Package Services parcels results, are reported quarterly to the PRC and published on the Postal Service's external website.

² Scanning includes electronic scans or keyed entries into the Intelligent Mail® Device scanner.

³ EXFC is an end-to-end service performance system that measures First-Class Mail performance from the time mail enters collection until it is delivered to a household, small business, or Post Office box.

The Postal Service NPA program is a system that collects performance-related metrics, such as on-time delivery, from source systems across the Postal Service. The metrics are translated into balanced scorecards that are used to monitor performance at both the organization and individual unit level. Under the NPA, a number of service performance indicators are tracked. They include First-Class Mail service performance, Express Mail® and Priority Mail® service performance, and retail Package Services parcels that are processed at a Network Distribution Center.

OBJECTIVES, SCOPE, AND METHODOLOGY

Our objectives were to determine the reliability of Delivery Confirmation data used to calculate the service performance measurement of retail parcels and whether the Postal Service has a strategic plan for using service performance measurement results.

To assess the reliability of Delivery Confirmation data, we obtained first quarter, FY 2009 Delivery Confirmation records from the EDW System. We analyzed the records to determine whether:

- Delivery Confirmation records were properly excluded. We examined the basis for exclusion and verified the data was excluded in accordance with established business rules.
- Delivery Confirmation stop-the-clock scans were completed before the parcel was delivered. We compared stop-the-clock scan time with normal delivery hours.
- Manually entered Delivery Confirmation records were reliable. We calculated service performance results for manually-entered records and compared the service performance results to scanned records.
- Service performance results were representative of active 3-digit ZIP Codes™. We compared the destinating 3-digit level ZIP Codes against the roster of active 3-digit ZIP Codes.

To perform this audit, we relied on computer-processed data obtained from the EDW and the PTS systems. While we did not assess the reliability of those systems, we conducted tests to ensure the data we obtained was reliable for the purposes of our audit.

To determine whether the Postal Service has a strategic plan for using service performance measurement results, we:

- Reviewed the Postal Service 5-Year Vision 2013.
- Reviewed the Postal Accountability and Enhancement Act 302 Network Plan, June 2008.
- Reviewed service and field operations performance measurements.
- Interviewed Postal Service management.

We conducted this performance audit from November 2008 through August 2009 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 objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Management reviewed a discussion draft of this report. We incorporated their suggested changes into this final report.

PRIOR AUDIT COVERAGE

Report Title	Report Number	Final Report Date	Monetary Impact	Report Results
Government Accountability Office (GAO), <i>New Delivery Performance Measures Could Enhance Managers' Pay for Performance Program</i>	GAO-08-996	September 2008	None	Implementation of the postal reform law for measuring delivery performance will give the Postal Service opportunities to incorporate new indicators into its pay for performance (PFP) program. The GAO recommended the Postal Service incorporate new delivery performance indicators into its PFP program once the measurement systems are implemented. Management agreed with the recommendation and stated that it is committed to incorporating new delivery performance measures into its PFP program.

<p><i>Business Rules for Modern Service Standards</i></p>	<p>EN-AR-09-002</p>	<p>March 12, 2009</p>	<p>None</p>	<p>The Postal Service complied with the statutory requirements in the Act for developing and implementing service standards for market-dominant mail products. However, the report noted several potential strategic and operational risk factors, including management’s use of operational capability rather than actual service performance in establishing the modern service standards. Management agreed that it complied with the statutory requirements for developing modern service standards.</p>
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APPENDIX B: DETAILED ANALYSIS

Service Performance Measurements were Reliable for Parcels

The Delivery Confirmation data used to calculate the service performance measurement for retail First-Class Mail and Package Services parcels was reliable. However, retail parcels comprise approximately 0.4 percent of First-Class Mail volume and 14.5 percent of Package Services annual mail volume; therefore, the results of this audit may not reflect the accuracy of the service performance of the broader mail classes. We tested the migration of Delivery Confirmation data from original entry sources to reporting sources and determined the systems were reliable. This included data collection at Point-of-Sale (POS) systems, which transfers to the PTS and EDW. Our tests also concluded that the Postal Service followed their established business rules for excluded data.

The Postal Service improved their on-time delivery of retail First-Class Mail parcels and Package Services parcels during the second quarter, FY 2009; however, the on-time delivery performance for these products is still short of performance targets. For the second quarter, FY 2009, the service performance measurement results for retail First-Class Mail parcels was 88.5 percent for overnight delivery, 80.4 percent for 2-day delivery, and 84.0 percent for 3-5 day delivery.⁴ Those results are 8 to 14 percent below service performance goals. The service performance results for Package Services parcels were 69.3 percent, about 21 percent below the service performance goal. Table 1 shows the first and second quarter, FY 2009 service performance results and goals for retail First-Class Mail and Package Services parcels.

Table 1. Service Performance Results

Mail Class	Percent On-Time		Service Performance Target
	1 st Quarter FY 2009	2 nd Quarter FY 2009	
Retail First-Class Mail Parcels			
Overnight	86.3	88.5	96.5
2-Day	77.0	80.4	94.0
3-5 Day	77.8	84.0	92.7
Retail Package Services Parcels	64.7	69.3	90.0

Excluded Data

In the first quarter, FY 2009 there were over 7.9 million retail First-Class Mail and Package Services parcels with Delivery Confirmation service. Based on the business

⁴ The service performance results for retail First-Class Mail parcels are combined with the single-piece First-Class Mail letters and flats service performance results which are measured by the EXFC measurement system.

rules for exclusion, 875,857 retail First-Class Mail and Package Services parcels (approximately 11 percent) were omitted from the service performance measurement calculations. Table 2 shows the total and excluded retail First-Class Mail and Package Services parcels in the first quarter of FY 2009.

Table 2. Excluded Parcels

Mail Categories	Quantity
Total Retail First-Class Mail Parcels	4,288,014
Total Retail Package Services Parcels	<u>3,661,258</u>
Total Parcels	7,949,272
Excluded Retail First-Class Mail Parcels	409,079
Excluded Retail Package Services Parcels	<u>466,778</u>
Excluded Retail Parcels	875,857
Percent Excluded	11.0

The Postal Service established seven business rules to identify parcels that should be excluded from service performance measurement calculations. For example, mailpieces are not included in the service performance calculations when the Delivery Confirmation start-the-clock and stop-the-clock events are incomplete. The following three business rules accounted for 94 percent of the excluded data:

1. Mailpieces that originate or destinate in a unique 5-digit ZIP Code. The Postal Service assigns unique ZIP Codes exclusively to a firm or government agency.
2. Mailpieces that receive the earliest stop-the-clock scan in a 5-digit ZIP Code that is different from the destination ZIP Code of the start-the-clock scan. In other words, the intended and actual destination ZIP Codes are mismatched.
3. Mailpieces that originate or destinate in a 100 percent business 5-digit ZIP Code.

The remaining four business rules for exclusion are:

4. Mailpieces that:
 - have scan events out of chronological order;
 - are accepted on a Sunday or a holiday; or
 - are accepted after a critical entry time,⁵ on either a Saturday or a day before a holiday.
5. Mailpieces that originate or destinate in military Army Post Office/Fleet Post Office ZIP Codes.⁶

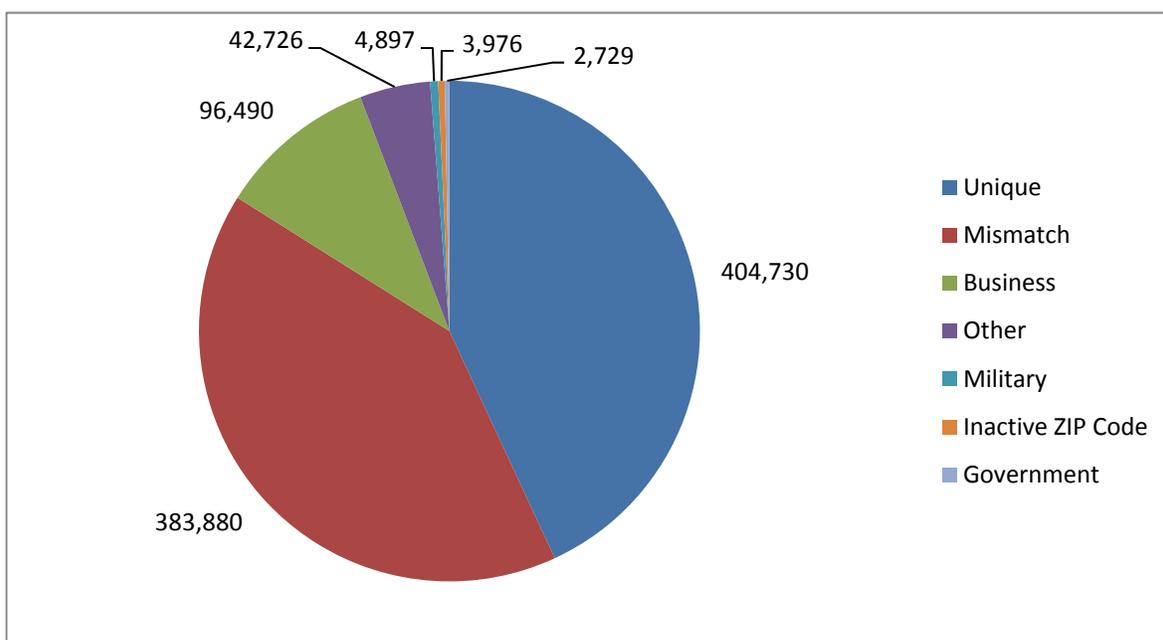
⁵ The critical entry time is the latest time mail can be received at designated induction point for it to be processed and dispatched in time to meet service standards.

6. Mailpieces that originate or destinate in an inactive 5-digit ZIP Code™.

7. Mailpieces that destinate in government mail ZIP Codes.

A retail First-Class Mail or Package Services parcel may be excluded from service performance measurement based on any of the above criteria. A parcel also may have multiple reasons for exclusion. Chart 1 shows a break-out of the reasons retail First-Class Mail and Package Services parcels were excluded from service performance measurement.

Chart 1. Reasons for Exclusion from Service Performance Measurement



** The total excluded criteria count is 939,428. The total excluded parcels count is 875,857. The difference between the criteria and parcels count is due to some parcels being excluded for multiple reasons.

Reliability of Data

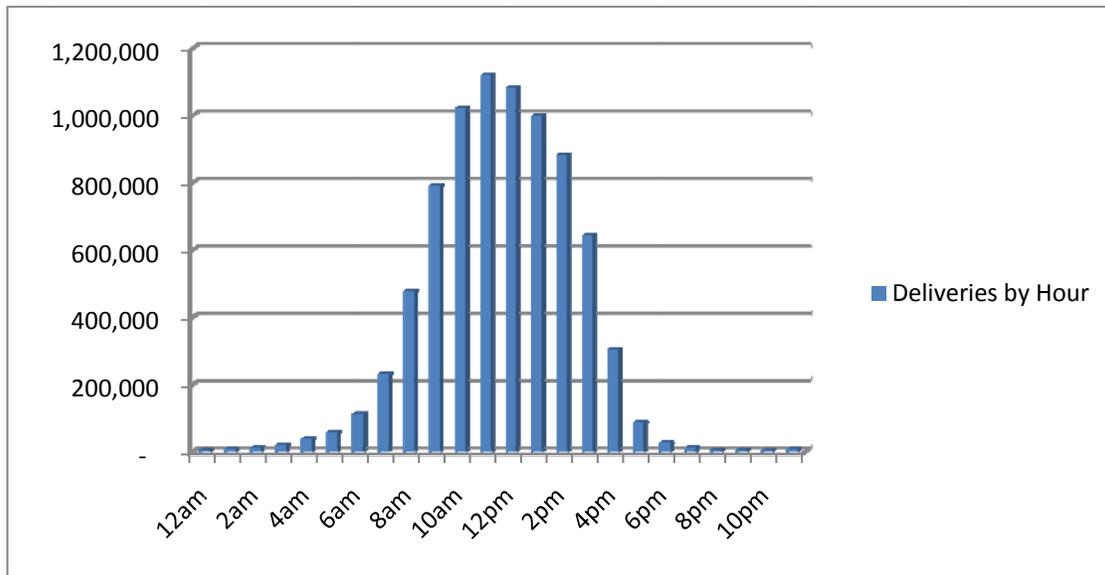
The timing of stop-the-clock Delivery Confirmation scans and manually entered Delivery Confirmation scans did not affect the reliability of service performance measurements.

The majority of stop-the-clock scan times occurred during standard delivery hours. In our opinion, this indicates that stop-the-clock scans were not being conducted before delivery to improve service performance results. For the first quarter, FY 2009, 86 percent of the stop-the-clock scans for retail First-Class Mail and Package Services

⁶ Mail addressed to or mailed from a military unit located outside the continental U.S. or between two military units overseas.

parcels occurred between 9 a.m. and 4 p.m. and were normally distributed over standard delivery periods. Chart 2 depicts the stop-the-clock scan times distributed over a 24-hour period.

Chart 2. Stop-the-Clock Delivery Time



Additionally, manually entered stop-the-clock events did not impact the calculation of service performance measurement results. In the first quarter, FY 2009, less than one percent of the stop-the-clock times were manually entered. For that quarter, there were 7,953,860⁷ retail First-Class Mail and Package Services parcels with Delivery Confirmation service. Of those parcels, 29,115 had manually entered stop-the-clock events. The service performance results for manually entered stop-the-clock events were lower than service performance results based on scanned Delivery Confirmation stop-the-clock events. We calculated service performance for scanned entries as 62.43 percent and for manual entries as 60.15 percent.

Representativeness of Delivery Confirmation

The retail First-Class Mail and Package Services parcels included in the first quarter, FY 2009 service performance measurements were representative of over 99 percent of active 3-digit ZIP Codes. For the first quarter, FY 2009, there were approximately 4.3 million First-Class Mail parcels and approximately 3.7 million Package Services parcels that totaled the 7.9 million parcels included in the service performance measurements. The destination 3-digit ZIP Codes for the retail First-Class parcels included all 930 active 3-digit ZIP Codes. The destination ZIP Codes for the retail Package Services

⁷ This number varies from the 7,949,272 pieces reported on page 8 by 4,588 pieces. This represents a timing difference in the collection of data. We requested the data to compare manually entered and scanned entries several weeks after obtaining the original data.

parcels included 926 of the 930 active 3-digit ZIP Codes. The highest volume destination ZIP Code represented less than 1 percent of the total delivery volume. The top ten districts per number of deliveries were populated areas with high mail volume. Table 3 lists the retail First-Class Mail and Package Services parcel deliveries to the top ten destination ZIP Codes.

Table 3. Top Ten Zip Code Destinations

3-Digit ZIP Code	Destination	Total	Percent of Total
917	Santa Ana, CA	71,529	0.90
100	New York PC	69,034	0.87
194	Philadelphia, PA Metro	68,637	0.86
600	Northern IL	61,353	0.77
900	Los Angeles, CA	61,327	0.77
750	Dallas, TX	60,810	0.76
945	Bay-Valley, CA	60,302	0.76
334	Central FL	56,336	0.71
926	Santa Ana, CA	56,142	0.71
601	Northern IL	54,910	0.69