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December 23, 1998

**CLARENCE E. LEWIS, JR.,
CHIEF OPERATING OFFICER
AND EXECUTIVE VICE PRESIDENT**

SUBJECT: Survey Results of the South Florida District External
First Class Test Mail (Project Number DS LA 99 001)

The Office of Inspector General (OIG) and the Postal Inspection Service conducted a survey of the South Florida District's handling of potential External First Class (EXFC) test mail. You requested the survey because of concerns that potential EXFC test mail was handled differently than non-EXFC first-class mail. In addition, we received correspondence from Branch 1071 of the South Florida Letter Carriers Union conveying similar concerns.

Purpose/Objectives	The primary focus of concerns with EXFC test mail in the South Florida District related to management's efforts-termed "service improvement initiatives" by United States Postal Service (USPS) management - to create a separate mailstream for EXFC candidate mail for the purpose of ensuring better EXFC test scores. These service improvement initiatives included the establishment of mail hubs for the collection and redistribution of mis-sent first-class mail, manual verification of potential EXFC mail processed through automation and "candy-striping," a method used to identify local originating/destinating mail to be withheld from delivery point sequence processing and processed manually.
Scope/Work Performed	The survey work was conducted in September 1998. The OIG and Postal Inspection Service conducted interviews of union and USPS officials regarding the allegations that actions taken by management resulted in preferential treatment being given to potential EXFC test processing activities at the South Florida District Processing and Distribution Center in Pembroke Pines, Florida.

The Postal Inspection service presented the results of an investigation on Mail Conditions and Service Improvement Initiatives in the South Florida district in a September 14, 1998, report to the District Manager, South Florida District. This report also included a summary of the joint effort by the OIG and the Postal Inspection Service regarding the EXFC test mail allegations. The Chief Inspector subsequently forwarded a copy of that report to your office.

Observations

Discussions with both management and labor officials confirmed that potential EXFC test mail had been handled separately. However, this practice was discontinued in August 1998. Discussions with both postal and union officials confirmed that on August 28, 1998, management discontinued the service improvement initiatives in the South Florida District. According to District management, these initiatives were no longer needed due to improved performance in automation equipment, software programs and database accuracy. During our visit to the South Florida Processing and Distribution Center, we saw no indications that the service improvement initiatives were continuing.

Various interviews disclosed concerns regarding labor-management relations' issues in the South Florida District. We have forwarded these concerns to our Labor-management directorate for future review consideration.

Although no additional EXFC review will be performed in the South Florida district at this time, the Office of Inspector General is aware of past problems with EXFC testing and will continue to monitor this system nationwide for potential future reviews.

We discussed the results of this survey with Meg Brennan, Manager, Field Support and Integration, on October 14, 1998. This report requires no management action. If you have any questions regarding this survey, please contact Ms. Debra Pettitt, Director, Delivery and Support Operations, or me at (703) 248-2300.

//Signed//

Colleen McAntee
Assistant Inspector General
for Performance

cc: Robert T. Davis
John P. Barbanti
Alan B. Kiel
John R. Gunnels

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March 26, 1999

ROBERT T. DAVIS
SOUTHEAST AREA VICE PRESIDENT

SUBJECT: Survey Results of the Atlanta District External
First-Class Test Mail, Advisory Letter
(DS-LA-99-002)

This advisory letter highlights the results of a survey of the Atlanta District's handling of potential external first-class test mail (Project 99PF003DS000). The survey was initiated because of a congressional request to examine allegations that potential external first-class test mail was handled differently than non-external first-class test mail in the Atlanta District.

The United States Postal Service (USPS) contracted with PricewaterhouseCoopers to independently measure First-Class Mail service performance in selected ZIP Code areas. The external First-Class Mail measurement system was designed to measure performance from a customer's perspective.¹ External first-class test mail, fabricated to resemble typical mail, was intended to be transparent to postal employees.

Purpose/ Objective

Our objective was to determine whether potential external first-class test mail was handled differently than non-external first-class test mail in the Atlanta District. Specifically, we determined whether: (1) a mail hub had been established for collecting and redistributing missent local service area First-Class Mail, (2) second deliveries were made to some addresses for missent local service area First-Class Mail, and (3) late arriving local service area First-Class Mail were segregated at the delivery unit for delivery on the day it was received.

**Scope/Work
Performed**

The survey work was conducted from December 1998 to February 1999. We conducted interviews of USPS officials and observed mail processing activities at the North Metro Processing and Distribution Center in Duluth, Georgia. We also conducted interviews and performed observations at the Marietta and Duluth, Georgia associate offices.

¹The customer's perspective is viewed from the time a letter, flat, postcard or double postcard is deposited into a collection box until it is delivered to a household, small business, or post office box.

Observations

Discussions with management confirmed that potential external first-class test mail was handled differently, but this practice had been discontinued around September 1998. Specifically, a mail hub set up at the North Metro Processing and Distribution Center for missent local service area First-Class Mail no longer continued to operate for this purpose. According to district management, the mail hub was no longer needed because the volume of missent mail had decreased due to improved quality control procedures at the plant². Also, during our visits to the North Metro Processing and Distribution Center and the associate offices, we saw no indications that second deliveries were made for missent local service area First-Class Mail, nor that late arriving local service area First-Class Mail was segregated at the delivery unit.

Although no additional external First-Class Mail review will be performed in the Atlanta District at this time, the Office of Inspector General is aware of past problems with external First-Class Mail testing and will continue to monitor this system nationwide for potential future reviews. Additionally, as part of our Fiscal Year 1999 Audit Workload Plan, we will conduct an audit of the PricewaterhouseCoopers external first-class test mail program methodology.

We discussed the results of this survey with management officials in the Atlanta District in January 1999 and advised that this report required no management action.

If you have any questions regarding the survey, please contact Debra Pettitt, Director, Delivery and Support Operations, or me at (703) 248-2300.

//Signed//
Colleen McAntee
Assistant Inspector General
for Performance

cc: Clarence Lewis
Megan Brennan
Robert J. Sheehan
Alan B. Kiel

² We did not substantiate that the hub was needed because of increased missent mail volumes, or that improved quality control procedures were effective in reducing the volume of missent mail.

John R. Gunnels

Major Contributors to this Report:

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March 27, 2000

FRANCIA G. SMITH
VICE PRESIDENT AND CONSUMER ADVOCATE

SUBJECT: External First-Class Measurement System
(Report Number DS-AR-00-001)

This is our report on the audit of the United States Postal Service External First-Class Measurement System (Project Number 99PA018DS000). The objectives of the audit were to evaluate controls for detecting and preventing compromise of the External First-Class Measurement System and system capabilities of measuring First-Class Mail service.

The audit disclosed that the current contractor has adequate controls in place to execute the External First-Class Measurement System. The audit also disclosed that the External First-Class Measurement System satisfies several Postal Service business objectives and is a useful mechanism for improving First-Class service performance. However, the audit identified several adjustments and improvements that could be made in the system to enhance its usefulness and to ensure its results are not misinterpreted. On the basis of audit results, we identified two recommendations that would enhance External First-Class Measurement System.

We met with management numerous times over a six-month period to resolve outstanding differences. In the formal reply, management agreed to take corrective actions that are responsive to the intent of our recommendations. Management's comments and our evaluation of these comments are included in the report.

We appreciate the cooperation and courtesies provide by your staff during the review. If you have any questions or need additional information, please contact Charles Stephens, acting director, Accepting and Processing, at (404) 815-7681, or me at (703) 248-2300.

//Signed//
Richard F. Chambers
Deputy Inspector General

Attachment

cc: John M. Nolan
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TABLE OF CONTENTS

Part I

Executive Summary	i
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Part II

Introduction

Background	1
Objectives, Scope, and Methodology	2

Audit Results

Sampling Methodology	4
Sample Size	5
Test Mail	7
Recommendations	8
Management's Comments	8
Evaluation of Management's Comments	8

Appendix A. Conceptual Design for External First-Class Mail Measurement Sampling using Selection with Probability-Proportion-to Size	10
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Appendix B. Management's Comments	12
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EXECUTIVE SUMMARY

Introduction

This report presents the results of our audit of the External First-Class Measurement System. Our audit objectives were to evaluate: (1) controls established by the contractor to detect and prevent compromise of the External First-Class Measurement System, and (2) system capabilities to measure First-Class Mail service.

Results In Brief

We concluded that the contractor has adequate internal controls for detecting and preventing compromise of the External First-Class Measurement System. Although External First-Class Measurement satisfies several business concerns and is a useful mechanism for improving First-Class Mail service performance, the system needs to be adjusted and improved. Specifically:

- The current system does not include all ZIP Code areas in the selection process. Therefore, results cannot be projected across the entire population of ZIP Codes. Statistical projections can be made only to the test domain.
- The sample size needs to be reviewed since it exceeds the size necessary to obtain projectable results. We estimate the Postal Service could save approximately \$9.6 million over a five year period, by changing the sampling methodology and as a result, decreasing the sample size by about one-third.
- The system does not measure the mail volume flow of many modes of First-Class Mail.

Summary of Recommendations

We recommend that the vice president and Consumer Advocate work with the contractor to either:

- Devise and transition to a probability-based sampling system that allows all three-digit ZIP Codes a non-zero probability of being selected providing a system-wide projection.

-or-

- Fully disclose that the External First-Class Mail system is not a system-wide measurement of all First-Class Mail each time the scores are discussed verbally or in writing outside of the Postal Service.

We also recommend that management establish milestones using the planned information technology platform to capture data and develop a comprehensive system for measuring all streams of First-Class Mail.

**Summary of
Management's
Comments**

Management agreed with our recommendation to fully disclose that the External First-Class Mail Measurement System is not a system-wide measurement of all First-Class mail performance, but they preferred to not adopt our alternative recommendation to use probability-based sampling. Management also agreed to work with the vice president, Information Platform, to develop out-year milestones to include other First-Class mail data. Management's comments are summarized in the report and the full text is shown in Appendix B.

**Evaluation of
Management's
Comments**

We met with management numerous times over a six-month period to resolve our differences. Management's plan to disclose that the External First-Class Mail System is not a system-wide measurement of First-Class mail performance is responsive to the intent of our recommendation. In addition, we view management's proposal to establish milestones to leverage the information technology platform as responsive.

INTRODUCTION

Background

The Origin Destination Information System was used as an internal mechanism for measuring First-Class Mail service before the External First-Class Measurement System was implemented. The Origin Destination Information System provided data based on post office-to-post office results. However, the system did not show service from a customer's perspective since it did not measure mail received from a collection box or misdelivered mail. Postal Service management was not confident in the reliability of the results from the Origin Destination Information System and decided to develop an external means of measuring the performance of First-Class Mail service. Thus, in 1990 a contractor was retained to design, execute and facilitate an independent and objective measurement system. Postal Service management views the External First-Class Measurement System as an essential tool for evaluating First-Class Mail performance.

Beginning in fiscal year (FY) 1992 the External First-Class Measurement System was designed to provide estimates of destinating First-Class Mail service performance by cities. This encompassed 302, three-digit ZIP Codes from overnight,¹ two-day, and three-day originating² and destinating³ service commitment areas. However, as the system evolved, it transitioned into measuring service by performance clusters.⁴

In FY 1999 the External First-Class Measurement System expanded to include 465, three-digit ZIP Codes. According to postal management, this represents approximately ninety percent of originating volume and eighty percent of destinating the First-Class Mail volume. In addition, the test pieces inducted at the three-digit ZIP level is based now based on three-digit ZIP Origin Destination Information System volumes rather than the number of collection boxes within a three-digit ZIP Code area.

¹ Mail deposited and delivered within local areas.

² Outgoing mail and local mail that enters the mailstream for processing and delivery.

³ Incoming mail arriving for final delivery.

⁴ An administrative field unit that oversees most operational and support functions for post offices in a specific geographic area.

Measurement Process The External First-Class Measurement System process is designed to emulate the actual flow of First-Class Mail. The number of test mail pieces disseminated to each performance cluster is in proportion to its Origin Destination Information System volume scores. From a customer's perspective, External First-Class Measurement System measures First-Class Mail performance from the time the mail enters the mail stream until it is delivered to a household, small business or post office box.

The contractor tracks service times for approximately three million test mail pieces per year. First-Class Mail is measured from the time it is deposited in a collection box or building mail chute to receipt. Individuals, known as droppers, are independently hired by the contractor to enter the External First-Class Measurement System test mail pieces into collection boxes and lobby receptacles. The contractor recruits a separate staff of mostly volunteers, known as reporters, to receive and report the External First-Class Measurement System test mail. Once the test mail has been delivered, reporters call a toll-free number to report the date mail is received and the mail's identification number.

The contractor provides Postal Service management with test results on a daily, weekly and quarterly basis. These results are put on the Postal Service Corporate Information System, its intranet Web site and into employee publications. In addition, management uses the results to analyze the timely delivery performance of First-Class Mail service, which ultimately has a direct impact on pay for performance for Postal Career Executive Service and Executive and Administrative Schedule employees.

Objectives, Scope, and Methodology

Our audit objectives were to evaluate controls for detecting and preventing compromise of the External First-Class Measurement System and system capabilities for measuring First-Class Mail service.

In conducting our audit, we interviewed responsible personnel,⁵ reviewed Postal Service policies and other

⁵ We interviewed members of Postal Service Headquarters Consumer Advocacy team; statistician from the General Accounting Office; personnel of the contractor for External First-Class Measurement System; and the subcontractors for External First-Class Measurement System.

pertinent documents,⁶ and evaluated controls over the External First-Class Measurement System model.

We conducted the audit from April 1999 through March 2000, in accordance with generally accepted government auditing standards and included such tests of internal controls, as we considered necessary under the circumstances. We discussed our conclusions and observations with appropriate management officials and included their comments, where appropriate.

⁶ Policies and documents reviewed included the statement of work, the contract between Postal Service and PricewaterhouseCoopers, External First-Class Measurement System scores for the fourth quarter of FY 1998.

AUDIT RESULTS

The contractor has adequate internal controls to detect and prevent compromise of the External First-Class Measurement System. However, the system design needs improvement. Specifically, care needs to be taken to ensure that the External First-Class Mail system sample results are not used as a projection of national service since not all ZIP Codes are subject to testing. The sample size exceeds the amount that would be necessary to obtain First-Class Mail service projectable results, and the design does not include many modes of First-Class Mail service.

Sampling Methodology

The External First-Class Measurement System is used to reward postal field managers for performance, but it does not provide a true estimation of First-Class Mail service. Specifically, the system is a panel study that uses a judgment sample to select ZIP Codes for testing. The system is a representation of the mail volume flow of First-Class Mail only within the matrix of 465 ZIP Codes, which does not represent the totality of the nation's ZIP Codes. Consequently, the External First-Class Measurement System may not accurately measure overall performance of First-Class Mail service ZIP Codes that are not represented in the testing universe.

While the External First-Class Measurement System does not represent delivery performance for all the nation's ZIP Codes, management does point out that it represents collection box performance for areas from which 90 percent of First-Class Mail volume originates and 80 percent destines.

Management recognizes that not all three-digit ZIP Codes have a chance to be selected but they believe their methodology was appropriate because:

- Every major processing and distribution center is included
- Every state is included
- Major volume and mid-size volume O/D pairs are selected
- Consistent volumes of test mail data are supplied
- Reporter panels are stabilized
- Panel recruitment costs are minimized

- Performance data is tracked over time.
- Risk of breach or bias of system results is minimized.

While we understand the methodology of the postal service, we have concerns regarding the use of this methodology to measure the overall performance of First-Class Mail. Specifically, collection points for some three-digit ZIP Code areas were not eligible for selection because three-digit ZIP Codes were not randomly selected. Statistical sampling at the first stage of this multi-stage procedure would provide the opportunity for every ZIP Code to be selected to measure performance of First-Class Mail service. According to Postal Service management, the contractor must maintain dependable droppers and reporters from period to period, requiring testing to be conducted in the same ZIP Code areas.

According to former Postal Service managers and technical staff who developed the concept of an External First-Class Measurement System, the system is a surrogate model of mail measurement. Test mail pieces are inducted based on actual origin-destination mail flow as measured through Origin Destination Information System; therefore, these results reflect the movement of test mail pieces only in the ZIP Codes chosen.

Sample Size

The sample size used to measure the performance of First-Class Mail service exceeds the size necessary to obtain projectable results. The Postal Service can save approximately \$9.6 million by decreasing the sample size by about one-third.

We found that the sample size has been dictated by the Postal Service management's need to obtain coverage from an explicitly chosen sample. Since the current methodology does not permit projection to the whole population, we believe postal service management is striving to reduce bias by selecting more three-digit ZIP Codes over time. However, postal management believes this methodology is used to ensure that data is adequate for each performance cluster to recognize and drive service improvement to various operational processes.

In FY 1999 the External First-Class Measurement System was expanded to measure 465, three-digit ZIP Code areas

representing over eighty percent of the nation's destinating First-Class Mail volume; up from sixty-two percent in the 302, original three-digit ZIP Code areas. Because of the larger coverage area, the test sample for most performance clusters has increased to 5000 overnight, 1600 two-day and 1600 three-day pieces. Seven clusters with large expansion ZIP areas will receive overnight samples of up to 8800 pieces. According to Postal Service management, the expansion was necessary to provide a broader application of the *CustomerPerfect!* Management system to achieve Voice of the Customer goals: improving customer satisfaction and delivery times.

Statistical probability sampling at the first stage of the multistage procedure would reduce sample size and allow projections of the total population with fewer ZIP Codes. We believe that by modifying the sampling methodology, the overall number of pieces can be reduced by one-third.

Postal Service management and the contractor did not agree with the use of probability selection because of the threat of losing dependable droppers and reporters resulting from ZIP Code changes. Droppers and reporters are needed to cover change as it occurs. We believe use of statistical sampling methods such as Probability-Proportional-to-Size sampling of most of the larger ZIP Codes would not change from one time period to another. Even when ZIP Codes change, they would be within performance cluster areas and many of the same droppers and reporters could be used. See Appendix A for the discussion of the sampling methodology.

For FY 1998 and FY 1999 the Postal Service budgeted \$45 million to maintain the existing contract of the Transition-Time Measurement system. Effective June 11, 1999, an additional \$5.7 million was budgeted for the expansion of the External First-Class Measurement System. By reducing the sample size, Postal Service could save approximately \$9.6 million over a five-year period directly allocated to the External First-Class Measurement System.

Test Mail

The contractor established adequate system controls, but the system does not measure the mail volume flow of the various modes of First-Class Mail. Specifically, the system only measures mail inducted in collection boxes or lobby receptacles. The system does not consider the service performance of mail presented to post office window clerks, mail inducted by presort⁷ or remittance⁸ mail. Until all modes of receiving First-Class Mail from customers are critically evaluated, the External First-Class Measurement System will not be representative of all First-Class Mail received. While collection boxes do not represent all First-Class Mail streams, management views this as the most difficult mail stream to achieve high service performance. As a consequence, management views this as the most conservative measure of service performance for these three-digit ZIP Codes.

According to the contractor, First-Class Mail received by post office window clerks would not provide substantive results since customers rarely induct mail in this manner.

Measuring presorted First-Class Mail may not be reliable since mailers do not track mail on a piece by piece basis. Mailers may not deliver mail to the processing plant in a timely manner, and droppers would easily be identified when delivering mail to processing plants.

Postal Service management and the contractor previously thought that remittance mail should be factored in the measurement for First-Class Mail service. Remittance mail generates significant revenue for the Postal Service, and customers heavily rely on Postal Service to deliver this mail timely. From November 1998 to June 1999, the Postal Service and the contractor conducted a pilot study for remittance mail service. According to the Postal Service, this study demonstrated that remittance mail does not need to be included in External First-Class Mail Measurement System.

However, we believe that all modes of First-Class Mail service should be measured to reflect service performance

⁷ A form of mail preparation, required to bypass certain postal operations, in which the mailer groups pieces in a mailing by ZIP Code or by carrier route or carrier walk sequence.

⁸ Mail sent to a mailer for payment of an invoice.

from a customer's perspective and achieve *Customer Perfect!* goals.

Recommendations

The vice president and Consumer Advocate should work with the contractor for the External First-Class Measurement System to either:

1. Devise and transition to a statistical probability-based sampling system that allows all three-digit ZIP Codes a non-zero probability of being selected. This would provide a means for statistically testing a sample representation of all First-Class Mail ZIP Codes and reduce cost.

-or-

Fully disclose that the External First-Class Mail does not provide a system-wide measurement of all First-Class Mail each time the scores are discussed verbally or in writing outside of the Postal Service.

**Management's
Comments**

Management agreed with our alternative recommendation to fully disclose that the External First-Class Mail Measurement System is not a system-wide measurement of all First-Class Mail. Management stated that all external information transmittals regarding national External First-Class Mail results initiated by the Consumer Advocate will clearly state the following:

External First-Class Measurement is an external measurement system of collection box to mailbox delivery performance. External First-Class Mail Measurement continuously tests a panel of 465 ZIP Code areas selected on the basis of geographic and volume density from which 90 percent of first-class volume originates and 80 percent destinate. External First-Class Mail Measurement is not a system-wide measurement of all First-Class Mail performance.

**Evaluation of
Management's
Comments**

Management's plan to disclose that the External First-Class Measurement system is not a system-wide measurement of First-Class Mail performance is responsive to the intent of our recommendation.

-
2. Establish milestones using the planned information technology platform to capture data and develop a comprehensive system for measuring all streams of First-Class Mail.

**Management's
Comments**

Management agreed to work with the vice president, Information Platform, to develop out-year milestones so that the Information Platform may include First-Class Mail data if the technology is developed and available at a reasonable cost.

**Evaluation of
Management's
Comments**

Management's comments are responsive to the intent of our recommendation. The Information Platform may be used in the future to track mail, capture information and present it in a way that improves service and reduces cost.

APPENDIX A.

Conceptual Design for External First-Class Mail Measurement Sampling using Selection with Probability-Proportion-to Size

Assumption:

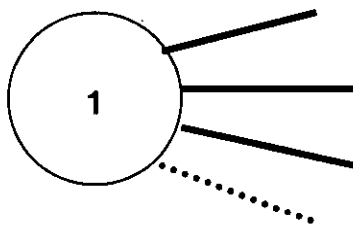
- All 85 Performance Clusters in the population must be sampled.
- Proper statistical projection possible to entire population of three-digit ZIP Codes.
- For logistics purposes, minimize the number of changes in three-digit ZIP Codes chosen from year-to-year.
- Give all three-digit ZIP Codes some chance of being selected; better oversight possible.

With Probability-Proportion-to-Size sampling, the probability that a specific three-digit ZIP Code will be selected within a specific performance cluster area is proportional to the volume of collection box mail handled by that ZIPped area. Very large three-digit ZIP Codes are very likely (although not certain) to be selected every time, while smaller ones will tend to vary from time period to time period. We believe that for each of the 85 performance clusters, a sample of 4 to 5 three-digit ZIP Codes will be enough to make valid projections with reasonable precision for the entire population. Furthermore, since every performance cluster is being subsampled, there will be valid information to judge managerial performance.

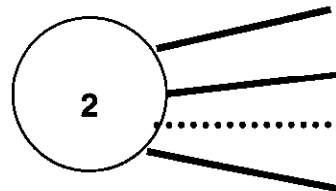
Legend

- 3 digit ZIP Codes likely to repeat through time.
 3-digit ZIP Codes likely to change from time period to time period.

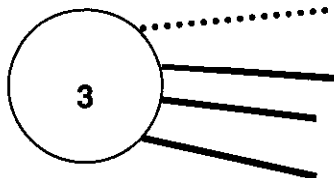
Performance Cluster



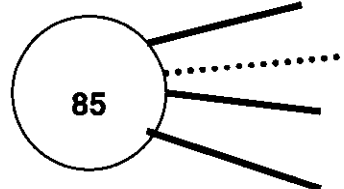
Performance Cluster



Performance Cluster



Performance Cluster



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In addition, since every performance cluster is being covered with certainty, only the sampling variability within clusters needs to be measured for computing sampling error.

Using this approach may require some small number of three-digit ZIP Code changes through time (once a year should be enough). The fact that Postal Service can cut back on the number of ZIP Codes to be: sampled, inducted, reported and managed, along with the decrease in the actual number of pieces being handled, should make this a more efficient process. Postal Service will also be able to guarantee that they have a result that is a valid representation of all First-Class Mail because no three-digit ZIP Code is arbitrarily prevented from being selected, as is the case now.