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SUBJECT: Audit Report – Efforts to Prevent Accidents, Injuries, and Illnesses in the Mississippi and Suncoast Performance Clusters (Southeast Area) (Report Number HM-AR-04-006)

This report presents the results of our self-initiated audit of the Mississippi and Suncoast Performance Clusters' (Southeast Area) efforts to prevent accidents, injuries, and illnesses (Project Number 03YG011LH001). Our overall objective was to determine whether the performance clusters were reducing the number of accidents, injuries, and illnesses through prevention methods. This report is the first in a series of seven reports we will issue on accident prevention initiatives in 6 areas and 12 performance clusters. The seventh report will address issues with nationwide impact and will provide the results of our best practice review of safety issues.

The Mississippi and Suncoast Performance Clusters had implemented prevention initiatives that have the potential to become best practices in reducing accidents, injuries, and illnesses. However, we could not determine whether the prevention initiatives reduced the number of accidents, injuries, and illnesses, or whether the initiatives were implemented in a timely manner.

Although both performance clusters were accumulating and analyzing accident, injury, and illness data for prevention initiatives, the Human Resource Information System and the Risk Management Reporting System were inconsistent and did not provide an efficient method of analyzing data for prevention initiatives. Finally, in all six of the facilities we visited in the Mississippi and Suncoast Performance Clusters, the reporting processes facilitated accurate reporting of accidents, injuries, and illnesses. However, several Mississippi facilities can improve their completion of accident report forms.

We provided management with one recommendation to help the Mississippi Performance Cluster improve its accident reporting processes. Management agreed to the recommendation and has initiatives completed or planned addressing the issues in this report. Management's comments and our evaluation of these comments are included in this report.

We appreciate the cooperation and courtesies provided by your staff during the review. If you have any questions or need additional information, please contact Chris Nicoloff, Director, Human Capital, at (214) 775-9114 or me at (703) 248-2300.

/s/ Mary W. Demory

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TABLE OF CONTENTS

Executive Summary	i
Part I	
Introduction	1
Background	1
Objectives, Scope, and Methodology	2
Prior Audit Coverage	3
Part II	
Audit Results	4
Accident Prevention Initiatives	4
Management's Comments	5
Effectiveness and Timeliness of Prevention Initiatives	5
Accident Reporting Systems	7
Management's Comments	8
Reporting Processes	8
Opportunity for Improvement	9
Recommendation	10
Management's Comments	10
Evaluation of Management's Comments	11
Appendix A. Abbreviations	12
Appendix B. Scope and Methodology	13
Appendix C. Statistical Sampling and Projections for Review of Accident Reporting Processes in Mississippi Performance Cluster	15
Appendix D. Statistical Sampling and Projections for Review of Accident Reporting Processes in Suncoast Performance Cluster	18
Appendix E. Management's Comments	21

EXECUTIVE SUMMARY

Introduction	This report presents the results of our self-initiated audit to determine whether the Mississippi and Suncoast Performance Clusters, located in the Southeast Area, were reducing the number of accidents, injuries, and illnesses through prevention initiatives.
Results in Brief	<p>The Mississippi and Suncoast Performance Clusters had implemented prevention initiatives that could become best practices in reducing accidents, injuries, and illnesses. However, we could not determine whether the prevention initiatives reduced the number of accidents, injuries, and illnesses, or whether the initiatives were implemented in a timely manner. This occurred because the measurement tools in place did not allow safety personnel to track and monitor the effectiveness of specific prevention initiatives.</p> <p>Although both performance clusters were accumulating and analyzing accident, injury, and illness data for prevention initiatives in the Human Resource Information System and the Risk Management Reporting System, both systems were inconsistent and did not provide an efficient method of analyzing data for prevention initiatives. Management told us they plan to replace both systems.</p> <p>Postal Service Headquarters officials told us they were addressing these issues at the headquarters level. We will issue a summary report on the audit results for the six areas visited. In that report, we may make recommendations to the Senior Vice President, Human Resources, regarding the measurement tools and data systems.</p> <p>Finally, in all six of the facilities we visited in the Mississippi and Suncoast Performance Clusters, reporting processes used within the various functional areas facilitated the accurate reporting of accidents, injuries, and illnesses. However, we noted an opportunity for improvement in several Mississippi facilities.</p>
Summary of Recommendation	We recommended Postal Service management provide the necessary training and instructions to managers and supervisors to ensure the completion and review of accident forms.

Summary of Management's Comments	Management agreed with the recommendation and has initiatives completed or planned addressing the issues in this report. Management agreed to ensure the completion and review of accident report forms by providing training and instruction to managers and supervisors. Management stated this training and instruction has already commenced. Management's comments, in their entirety, are included in Appendix E of this report.
Overall Evaluation of Management's Comments	Management's actions taken or planned are responsive to the recommendation and should resolve the issues identified in this report.

INTRODUCTION

Background

With responsibility for more than 38,000 facilities, major transportation networks, and universal delivery, the Postal Service faces significant challenges in the areas of health and safety. These include making the health and safety of Postal Service employees a priority, managing the associated costs and lost productivity in operations, and responding when accidents and injuries have an unfavorable impact on the workplace. In addition, the Postal Service must address citations and monetary penalties for noncompliance with Occupational Safety and Health Administration (OSHA) standards.

In its April 2002 Transformation Plan, the Postal Service stated that to meet its challenges and prepare for transformation, it would implement a number of strategies to “push business effectiveness and operational efficiency.” One of the strategies outlined was to reduce its workers’ compensation costs. According to the Office of Workers’ Compensation Programs’ (OWCP) chargeback¹ reports, the Postal Service workers’ compensation costs have increased from \$538 million to \$822 million between chargeback years 1997 to 2003.²

The following table is a comparison of Postal Service-wide accidents³ and OSHA injuries and illnesses⁴ for fiscal years (FYs) 2002 and 2003, which shows decreases in four categories. In addition, total expenses in FY 2003 decreased significantly.

¹ OWCP’s chargeback system is the mechanism by which the Department of Labor annually bills the cost of compensation for work-related injuries and deaths to employing agencies.

² The Office of Workers’ Compensation Programs’ chargeback year is July 1 through June 30.

³ The Postal Service considers accidents as all reportable and nonreportable incidents, including unadjudicated occupational illness cases that cover certain kinds of injuries, illnesses, or damages. OSHA defines an accident as any unplanned event that results in personal injury or property damage.

⁴ OSHA defines an injury or illness as an abnormal condition or disorder. Injuries include, but are not limited to, cuts, fractures, sprains, or amputations. Illnesses include both acute and chronic illnesses such as, but are not limited to, skin diseases, respiratory disorders, or poisoning.

Table 1. Comparison of Postal Service-wide Accidents and OSHA Injuries and Illnesses, FYs 2002 and 2003

Category	FY 2002	FY 2003
Motor Vehicle Accidents	23,404	23,100
Non-Motor Vehicle Accidents	99,195	93,251
OSHA Injuries	51,630	46,317
OSHA Illnesses	6,972	5,550
Total Accident, Injury, and Illness Expenses	\$1,652,449,865	\$1,620,024,027

Source: Postal Service Web-Enabled Enterprise Information System (WebEIS).

Postal Service Headquarters officials did not know specifically what was responsible for the reduction in accidents. They believed, however, it was the result of accident prevention initiatives.

To determine why the number of accidents, injuries, and illnesses declined, we conducted a survey of the accident prevention initiatives in the Postal Service's Western New York and Baltimore Performance Clusters, located in the Northeast and Capital Metro Areas, respectively. Our results showed that accident prevention initiatives in each performance cluster were different and yielded contrasting results. We conducted this audit to determine whether similar situations existed in the Mississippi and Suncoast Performance Clusters. We did not audit the performance clusters' overall safety programs. Our focus was on accident prevention initiatives at the locations we visited.

Objectives, Scope, and Methodology

Our overall objective was to determine whether the Mississippi and Suncoast Performance Clusters were reducing the number of accidents, injuries, and illnesses through prevention initiatives. Our four subobjectives were to determine whether:

- The number of accidents and injuries were declining as a result of corrections to unsafe working conditions and practices.⁵
- Corrective actions and/or prevention initiatives were made in a timely manner.

⁵ Corrections to unsafe working conditions and practices were considered both corrective actions and prevention initiatives. The purpose of this subobjective was to determine the effectiveness of prevention initiatives.

- Data were being accumulated and analyzed for prevention initiatives.
- Processes facilitated accurate reporting.

We discuss our scope and methodology in Appendix B.

Prior Audit Coverage

In the Mississippi and Suncoast Performance Clusters, we did not identify any prior audits or reviews related to the objectives of this audit.

AUDIT RESULTS

The Mississippi and Suncoast Performance Clusters had implemented accident prevention initiatives. We could not determine; however, whether the prevention initiatives were reducing the number of accidents, injuries, and illnesses, or whether the initiatives were implemented in a timely manner.

Although the performance clusters were accumulating and analyzing accident, injury, and illness data in two different automated systems, both systems' data did not always reconcile and the systems will be replaced. Further, the reporting processes used within the various functional areas facilitated accurate reporting of accidents, injuries, and illnesses. However, we noted an opportunity for improvement in several Mississippi's facilities.

Accident Prevention Initiatives

The Mississippi and Suncoast Performance Clusters' prevention initiatives had the potential to become best practices in reducing accidents, injuries, and illnesses. These initiatives could also help other performance clusters to enhance their safety programs. For example, the Mississippi Performance Cluster:

- Implemented the Strobe Light Program to reduce motor vehicle accidents in rural areas by installing strobe lights on top of all rural carrier vehicles.
- Held power-lift classes in facilities with the highest number of lifting accidents to provide training on proper lifting procedures.
- Implemented the SAF-IT Program to reduce the number of accident repeaters by providing training to employees who had two or more accidents.

The Suncoast Performance Cluster implemented the following prevention initiatives:

- A Safety Captain Program to monitor the safety of employees throughout each facility. Rotational assignments were made every six months, giving more employees training opportunities and elevating their safety awareness.

- Facility Improvement boxes for employees to anonymously submit information directly to the plant manager. As a result, plant management regularly discussed safety concerns, made decisions concerning actions needed to address safety concerns, and proposed safety improvements were forwarded to department heads for action.

Management's Comments	Although management comments were not required regarding accident prevention initiatives, the Suncoast District Manager stated they will continue their efforts in accident prevention through hazard assessments and site specific initiatives while maintaining their focus on headquarters mandated, target specific, action plans.
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Effectiveness and Timeliness of Prevention Initiatives	For FY 2002 through accounting period 11 in FY 2003, we could not determine whether the Mississippi and Suncoast Performance Clusters were reducing the number of accidents, injuries, and illnesses through prevention initiatives, or whether prevention initiatives were implemented in a timely manner. We could not make this determination because the measurement tools in place did not allow safety managers to: <ul data-bbox="667 1098 1403 1167" style="list-style-type: none">• Track and monitor specific prevention initiatives.• Document when initiatives were implemented. <p data-bbox="610 1209 1455 1461">Some categories of accidents (slips, trips, falls, and lifts) had decreased in both performance clusters; however, the reasons for the decreases could not be determined. District safety personnel told us they did not think decreases in the number of accidents were related to specific prevention initiatives. In addition, they had not documented the implementation dates.</p> <p data-bbox="610 1503 1435 1791">Although both performance clusters had implemented several accident prevention initiatives, their numbers and frequency rates varied for OSHA injuries and illnesses and motor vehicle accidents. From FYs 2002 to 2003, Mississippi's OSHA injury and illness and motor vehicle accident frequency rates,⁶ and motor vehicle accident numbers increased. However, OSHA injury and illness numbers stayed about the same for the same period.</p>
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⁶ OSHA injury and illness and motor vehicle accident frequency rates are the number of accidents per 100 employees for a specific period of time. These rates provide measurements that make accident data comparable between large and small facilities.

Suncoast's OSHA injury and illness and motor vehicle numbers and frequency rates decreased. The following table illustrates these changes.

Table 2. OSHA Injury and Illness and Motor Vehicle Accident Numbers and Frequency Rates in the Mississippi and Suncoast Performance Clusters for FYs 2002 and 2003

Performance Cluster	Numbers		Average Frequency Rates	
	FY 2002	FY 2003	FY 2002	FY 2003
Mississippi				
OSHA Injury and Illness	209	207	4.19	4.30
Motor Vehicle	176	224	5.12	6.38
Suncoast				
OSHA Injury and Illness	927	852	8.15	7.76
Motor Vehicle	488	465	13.43	12.52

Source: Postal Service WebEIS.

Postal Service policy⁷ stated that safety personnel were responsible for developing and monitoring a comprehensive safety and health program and analyzing accident, injury, and illness data so they could advise management on corrective actions. Policy⁸ also required installations to develop methods to identify program needs for accident preventions. In addition, policy⁹ required supervisors to implement written programs and action plans, monitor employees' safety performance, and prevent operational safety accidents. District safety personnel at the Mississippi and Suncoast Performance Clusters confirmed that facility managers were responsible for documenting that prevention initiatives had been implemented.

Without implementation dates and adequate measurement tools, the Postal Service does not have reasonable assurance that prevention initiatives help the performance clusters reduce the number of accidents, injuries, and illnesses. To follow prudent business practices, Postal Service managers should evaluate whether prevention initiatives are accomplishing their goal and whether the resources expended are justified.

⁷ Employee and Labor Relations Manual 17.2, Section 813.31, February 2003.

⁸ Employee and Labor Relations Manual 17.2, Section 821.32, February 2003.

⁹ Supervisor's Safety Handbook, Handbook EL-801, Chapter 1, Section 1-1, May 2001.

Headquarters officials told us the safety tool kit that safety managers use to assess their safety programs is being modified to include trend line charts to track prevention initiatives. The officials said the tool kit would also be modified to include a field for managers to enter the date initiatives are implemented. Therefore, we will address the need for tracking and monitoring initiatives in a separate report.¹⁰

Accident Reporting Systems

Both the Mississippi and Suncoast Performance Clusters were accumulating and analyzing accident, injury, and illness data in the Human Resource Information System (HRIS) and the Risk Management Reporting System (RMRS). However, safety personnel at both performance clusters told us the systems' data did not always reconcile. Consequently, safety personnel had to develop and rely on alternative software applications to fully analyze data for prevention initiatives. In addition, safety personnel told us they did not have the proper training needed to create queries and customize reports from RMRS.

Safety personnel also told us accident, injury, and illness data were accumulated on a daily basis in HRIS. They said the HRIS information was then downloaded into RMRS once every accounting period. They said both systems were used because the HRIS generated standard reports that provided limited means for analysis, while RMRS reports could be customized. For example, HRIS distinguishes between recordable and nonrecordable accidents, whereas RMRS does not. In addition, HRIS can only identify accidents by the accident number, while RMRS identifies accident category, type, and accident number.

Safety personnel also said the RMRS reports did not reflect all HRIS data because HRIS was on real time, but RMRS was not. Specifically, RMRS was accurate as of the date it received the data from HRIS (once every accounting period). The HRIS, however, was updated daily with information from accident report forms. Finally, headquarters personnel told us these systems are antiquated and will be replaced.

Postal Service policy¹¹ required the safety offices

¹⁰ We will issue a summary report on the audit results for the six areas visited.

¹¹ Employee and Labor Relations Manual 17.2, Section 821.123, February 2003.

responsible for facilities where accidents occurred to enter accident report information into HRIS. Postal Service policy¹² also stated that the analysis of accidents and injuries was vital to effective accident prevention programs, and required management to use reports and statistical analyses to identify and eliminate the principal causes of accidents and hazardous conditions. Postal Service policy¹³ further required each business area that managed source data to identify an individual or organization responsible for developing standards and usage rules to ensure data integrity. The policy also stated that the standards and rules must ensure that data was accurate, available, usable, and consistent with the data location and other business considerations.

According to the headquarters Program Manager, Information Technology, Human Resource Portfolio, the Postal Service has developed the Injury Compensation Performance Analysis System and a component of it will replace HRIS and RMRS. The manager also stated that the system is scheduled for implementation late in calendar year 2004. We will address this issue in a separate report.

Management's
Comments

Although management comments were not required regarding the accident reporting systems, the Manager, Suncoast District, stated that throughout the year, the safety staff prepared analyses based on current accident data that outlined trends. He also said that plans, programs, and procedures were implemented depending on how accidents and injuries were trending. The manager also stated the performance cluster will continue to establish action plans as needed, monitor for trends and results, and implement necessary activities.

Reporting Processes

In all six of the facilities we visited in the Mississippi and Suncoast Performance Clusters, the reporting processes used within the various functional areas facilitated accurate reporting of accidents, injuries, and illnesses. In addition, the Suncoast Performance Cluster accident report forms¹⁴ were completed in accordance with policy. However, we noted an opportunity for improvement in several Mississippi facilities.

¹² Employee and Labor Relations Manual 17.2, Section 821.31, February 2003.

¹³ Management Instruction Administrative Support, 860-2003-2, March 6, 2003.

¹⁴ The Postal Service Form 1769, Accident Report, was used to report accidents. The instructions on the form required it to be completed for all accidents regardless of the extent of injury or amount of damage. This included all first aid injury cases both reportable and non-reportable.

We used a statistical sample to project the accuracy of the Mississippi and Suncoast data in HRIS, for FY 2002 and the first eight accounting periods of FY 2003. We projected that almost all of the information on the accident reports was contained in the system (see Appendices C and D). We also projected that almost all of the Suncoast Performance Cluster accident report forms, for the same period, were complete (see Appendix D).

Postal Service policy¹⁵ required supervisors to fully complete the accident report by including Preventive Action codes¹⁶ and descriptions of accident prevention efforts. The policy also required managers to review each accident report for accuracy and conduct a follow-up assessment to ensure that action was taken to prevent similar occurrences. In addition, supervisors and managers were required to sign the report as proof they had reviewed it. In addition, policy¹⁷ required that the safety officer enter the accident report information into HRIS.

We believe the accident reporting process was accurate because supervisors and managers had received the safety training required by the performance clusters and had communicated the accident reporting process to employees through safety talks and posters.

Opportunity for
Improvement

An opportunity for improvement existed in several Mississippi facilities that reported their accidents to the Jackson Safety Office. Specifically, some supervisors did not report the Preventive Action codes and descriptions on the accident report forms, and some managers did not ensure that the forms were accurate and complete. For example, some accidents involving lifting, dropping equipment, and motor vehicles did not have Preventive Action codes and descriptions on the forms. This was required by policy and supported whether accidents had been investigated and the appropriate prevention initiatives had been identified. Employee safety may have been compromised if appropriate corrective actions and prevention initiatives were not implemented.

We used a statistical sample to project the accuracy of the

¹⁵ Employee and Labor Relations Manual 17.2, Section 821.13, February 2003.

¹⁶ Preventive Action codes described the action taken to eliminate or reduce the accident cause(s) and prevent similar accidents.

¹⁷ Employee and Labor Relations Manual 17.2, 821.12, February 2003.

accident report forms processed from FY 2002 through the first eight accounting periods of FY 2003. We projected that 25¹⁸ (11.7 percent) of the 218 forms did not contain accident prevention descriptions, and 69 (31.2 percent) of the 218 forms did not contain accident Preventive Action codes (see Appendix C).

According to the Mississippi District safety manager, supervisors did not always complete the accident report forms for a number of reasons. For example, she said some supervisors could not determine which Preventive Action codes or actions were applicable. She also stated that when codes were not displayed on the forms, she determined the appropriate codes and input them into the system. In addition, the safety manager told us that managers might not have reviewed the forms for accuracy because they believed supervisors had completed the forms.

Recommendation

We recommend the Manager, Mississippi District, instruct the district safety manager to:

1. Provide the necessary training and or instructions to managers and supervisors to ensure the completion and review of accident forms.

**Management's
Comments**

Management agreed to the recommendation and has initiatives completed or planned addressing the issues in this report. Management agreed to ensure the completion and review of accident report forms by providing training and instruction to managers and supervisors. Management stated this training and instruction has already commenced with the first two classes conducted by the district safety manager on March 9 and March 10, 2004. Management stated additional classes are scheduled for April 21 and April 22, 2004.

Management also stated the performance cluster is committed to ensuring the health, safety, and welfare of every employee, and is proud that its performance, as measured by OSHA injury and illness frequency rates and other indicators, is one of the best in the Postal Service. Management said this sustained performance can only be attributed to the emphasis placed on the observation of safe

¹⁸ The projected 25 accident reports were a result of rounding off the product of 11.667 percent times the universe of 218 ($0.11667 \times 218 = 25.43$).

work practices, elimination of hazardous conditions, correction of unsafe practices, and other accident prevention initiatives by all levels of the district leadership staff, as well as the individual district employees. Management stated it will continue its efforts in accident prevention through hazard assessments and site-specific initiatives while maintaining their focus on headquarters mandated, target specific, action plans.

**Evaluation of
Management's
Comments**

Management's actions taken or planned are responsive to our recommendation and should resolve the issues identified in this finding.

APPENDIX A. ABBREVIATIONS

e-FOIA	Electronic Freedom of Information Act
FOIA	Freedom of Information Act
FY	Fiscal Year
HRIS	Human Resource Information System
OSHA	Occupational Safety and Health Administration
OWCP	Office of Workers' Compensation Programs
RMRS	Risk Management Reporting System
WebEIS	Web-Enabled Executive Information System

APPENDIX B. SCOPE AND METHODOLOGY

Our performance cluster selections were based on the lowest and highest combined OSHA injury and illness and accident frequency rates from FY 2002¹⁹ through accounting period²⁰ 7 in FY 2003.²¹ The Mississippi average total OSHA injury and illness, and accident frequency rates were 4.33 percent and 11.86 percent, respectively. The Suncoast average total OSHA injury and illness and accident frequency rates were 8.3 percent and 18.73 percent, respectively. The average total accident frequency rate of 11.86 percent in the Mississippi performance cluster meant that out of every 100 employees, an average of 11.8 had an accident for that period.

We selected three facilities at each performance cluster based on size and type (for example, airport mail center, processing and distribution center, and main post office). The Mississippi facilities we visited were the Jackson Main Post Office, the Jackson Processing and Distribution Center, and the LeFleur Post Office. The Suncoast facilities we visited were the Lakeland Main Post Office and the Lakeland and Tampa Processing and Distribution Centers.

To accomplish our objectives, we reviewed applicable federal laws and Postal Service and OSHA policies and procedures related to accident and injury prevention.

To verify whether the number of accidents and injuries were declining as a result of corrections to unsafe working conditions and practices, we obtained data by accident category and code (slips, trips and falls, lifting, dog bites, repetitive motion, striking against, struck by objects, and motor vehicles) for each performance cluster we visited. In addition, we obtained accident numbers and accident frequency rate data from the Postal Service WebEIS for FYs 2002 and 2003. We also obtained from RMRS the accident frequency rates and OSHA injury and illness for FY 2002, and the first eight accounting periods in FY 2003.²² We reviewed both WebEIS and RMRS data to determine whether downward trends indicated a reduction in accidents, injuries, and illnesses.

To determine whether corrective actions and prevention initiatives were made in a timely manner to reduce the number of accidents, injuries, and illnesses, we reviewed Postal Service policy to learn whether a national or other standard policy existed that addressed how timely unsafe working conditions and practices should be corrected. We reviewed documentation for corrective actions and prevention initiatives implemented from FY 2002 through accounting period 11 in FY 2003.²³

To determine whether accident, injury, and illness data were accumulated and analyzed for prevention initiatives, we analyzed accidents, injuries, training documents, and workplace inspection data for sources and locations of accidents and jobs with high occurrences of accidents. We also analyzed accident and injury trends to determine whether a pattern of accidents with common causes could be identified in order to prevent future occurrences. We reviewed action plans and Program Evaluation Guide data that were accumulated and analyzed for prevention initiatives during FYs 2002 and 2003.

To determine whether processes used within the various functional areas facilitated accurate reporting of accidents, injuries, and illnesses, we interviewed human resources, safety and health program personnel, and management at the area, performance cluster, and facility levels. We obtained information related to accident prevention, such as resources, training, accident and hazard reporting, safety talks, and internal controls. In addition, we selected two statistical samples of

¹⁹ The FY 2002 period for the Postal Service began September 8, 2001, and ended September 6, 2002.

²⁰ An accounting period is defined as a four-week period that forms one-thirteenth of the Postal Service fiscal year.

²¹ The first seven accounting periods for FY 2003 began September 7, 2002, and ended March 21, 2003. The FY 2003 period for the Postal Service began September 7, 2002, and ended September 5, 2003. However, the Postal Service transitioned its financial reporting system from accounting periods to monthly reporting periods on October 1, 2003. The transition period began September 6, 2003, and ended September 30, 2003.

²² The first eight accounting periods for FY 2003 began September 7, 2002, and ended April 18, 2003.

²³ The first 11 accounting periods for FY 2003, began September 7, 2002, and ended July 11, 2003.

accidents, injuries, and illnesses entered into HRIS for FY 2002 and the first eight accounting periods in FY 2003. We reviewed a sample of accident report forms for accuracy and completeness; and reviewed a sample of accidents from HRIS to determine whether the information on the accident reports was entered accurately. (See Appendices C and D for a discussion of the sampling and projection methodologies used.)

This audit was conducted from May 2003 through April 2004 in accordance with generally accepted government auditing standards and included such tests of internal controls as were considered necessary under the circumstances. We discussed our conclusions and observations with appropriate management officials and included their comments, where appropriate. We believe the computer-generated data was sufficiently reliable to support the opinions, conclusions, and recommendation in this report.

APPENDIX C

STATISTICAL SAMPLING AND PROJECTIONS FOR REVIEW OF ACCIDENT REPORTING PROCESSES IN MISSISSIPPI PERFORMANCE CLUSTER

Purpose of the Sampling

One of the objectives of this audit was to assess the accuracy and completeness of the accident data in HRIS. In support of this objective, the audit team employed a simple random sample of accidents listed in the database. The sample design allowed statistical projection of the number of discrepancies between the database and the accident report forms on file. Existence of the appropriate supporting forms was also tested using the sample.

Definition of the Audit Universe

The total population of accident report forms for the Mississippi Performance Cluster was divided among three locations: Jackson, Tupelo, and Gulfport, Mississippi. Only the forms located in Jackson were tested because the facilities that submitted forms to the Jackson Safety Office had the larger complement of employees. Therefore, all projections are limited to the Jackson location (hereafter referred to as the Jackson group). The Jackson group universe consisted of 218 individuals who, according to the HRIS database, were involved in a total of 261 accidents for all of FY 2002 through accounting period 8 in FY 2003. The universe was obtained on-site by requesting printed HRIS data from the safety manager responsible for the accident and injury prevention program. To review accident report forms for as many different individuals as possible in the available time, we further defined the audit universe as the first-accident instance for each of the 218 people represented by the 261 accidents (some individuals had more than one accident). The final audit universe is the 218 accidents represented by the first accident occurrence within the audit scope for each of the 218 individuals. Results are projected to these 218 accidents.

Based on information provided by the safety manager, the Jackson group consisted of approximately 15 installations.

Sample Design and Modifications

Based on experience at a prior site,²⁴ we expected a very low error rate. Therefore, we calculated the sample size on a one-sided confidence interval and a binomial distribution. Including the finite population correction for the original universe of 261 accidents, our calculated sample size was approximately 60 records for an expected error rate of 0.0 percent, a desired risk of over reliance of 4 percent, and a tolerable error of 5 percent. We also noted that the same sample size was adequate for an expected error rate of 0.5 percent, a risk of over reliance of 10 percent, and a tolerable error rate of 5 percent. We did not change the sample size when the audit universe was later revised to 218 accidents.

To select accidents for inclusion in the sample, we used the “randbetween” function in Microsoft Excel²⁵ to assign random numbers to the individuals on the universe listing.

²⁴ The Suncoast Performance Cluster was chosen in the Southeast Area because it had the highest combined OSHA injury and illness and accident frequency rates.

²⁵ Microsoft Excel is a spreadsheet program from the Microsoft Office suite of productivity tools for Windows and Macintosh.

To test the completeness and accuracy of the database, we tested five attributes:

- Was the accident shown on the accident report form listed in the database?
- Did the accident control number in the database agree with that on the form?
- Did the accounting period date in the database agree with the accident date on the form?
- Did the listing of the involved person(s) in the database agree with that on the form?
- Did the accident description in the database agree with that on the form?

For the completeness of the accident report forms, we tested two additional attributes:

- Was the Preventive Action code on the form?
- Was the preventive action on the form?

For completeness of the database, the team planned to select files from the filing storage using a systemic sampling methodology. However, the records were filed by employee, with accidents over multiple years included in each individual's file. Therefore, the files included numerous instances of individuals with no accidents within the audit scope. As a result, the systematic sample of 75 files did not produce enough instances of accidents within the audit scope to provide projectable data, and review of a greater number of files was not feasible.

Statistical Projections of the Sample Data

For projection of the number of errors for each attribute, we observed that most of the sampled items contained very low error rates, as anticipated. Because of the extremely low occurrence rates, we were not able to use the normal approximation to the binomial to calculate occurrence limits for those error categories. Instead, we analyzed the upper occurrence limits for each sample using as a basis the cumulative binomial methodology, as used in past General Accounting Office Financial Audit Manual work, to generate the table "Statistical Sampling Results Evaluation Table for Compliance Tests." We used a 5 percent risk of over reliance (beta risk). The tabulated values for the upper occurrence limits were adjusted by appropriate finite population correction factors because the universe sizes were small.

For two error categories, there were sufficient numbers of errors to make the use of the binomial methodology inappropriate. For those cases, the normal approximation applied and the sample data were analyzed using the formulas for estimation of a population proportion for a simple random sample, as described in Elementary Survey Sampling, Scheaffer, Mendenhall, and Ott, 1990.

Results

All projections were made to the audit universe of 218 accidents in the Jackson group, as described in the definition of the audit universe.

1. Was the accident shown on the accident report form listed in the database?

For this attribute, we make no projection. Reviewing 75 personnel files, we found a total of 132 accidents, but only 17 of the accidents were within the audit scope. All of the 17 accidents were recorded in the HRIS database, but 1 of the 17 forms contained an accident date that differed from that shown in the HRIS database.

2. Did the accident control number in the database agree with that on the form?

Based on projection of the sample results, we can state with 95 percent reliance that no more than 10 accident control numbers (4.6 percent of the universe of 218 accident control numbers) disagreed with the number on the form. The point estimate is that all 218 (100 percent) of the accident control numbers agreed.

3. Did the accounting period date in the database agree with the accident date on the form?

Based on projection of the sample results, we can state with 95 percent reliance that no more than 17 accounting period dates in the database (7.7 percent of the universe of 218 accident dates) disagreed with the date on the form. The point estimate is that 4 (2 percent) accounting period dates disagreed (98 percent were correct or processed in a timely manner).

4. Did the listing of the involved person(s) in the database agree with that on the form?

Based on projection of the sample results, we can state with 95 percent reliance that no more than ten database records of person(s) involved (4.6 percent of the universe of 218 records) disagreed with the form record of person(s) involved. The point estimate is that all 218 (100 percent) of the records agreed for this attribute.

5. Did the accident description in the database agree with that on the form?

Based on projection of the sample results, we can state with 95 percent reliance that no more than 22 accident descriptions as listed in the database (10.2 percent of the universe of 218 forms) disagreed with the accident descriptions as listed on the form. The point estimate is that seven (3.3 percent) of the records disagreed for this attribute.

6. Was the Preventive Action code on the form?

Based on projection of the sample results, we are 95 percent confident that 47 to 91 of the forms (21.6 to 41.8 percent) lacked the Preventive Action code. The point estimate is that 69 forms (31.2 percent) lacked the Preventive Action code.

7. Was the preventive action on the form?

Based on projection of the sample results, we are 95 percent confident that 10 to 41 of the forms (4.7 to 18.6 percent) lacked the preventive action. The point estimate is that 25 forms (11.7 percent) lacked the preventive action. (The projected 25 accident reports and forms were a result of rounding off the product of 11.667 percent times the universe of 218 ($0.11667 \times 218 = 25.43$).)

Summary of Results

(Universe Size = 218; Sample Size = 60)

Attribute (Number above corresponds to number below)	Number of Errors in Sample	Projected Number of Errors	95 Percent Confidence Interval, Number of Errors
1	0 (1**)	No Projection	No Projection
2	0	0	0 to 10
3	1	4	1 to 17
4	0	0	0 to 10
5	2	7	2 to 22
6	19	69	47 to 91
7	7	25	10 to 40

**A record existed, but one data element contained a discrepancy with the accident report form.

APPENDIX D

STATISTICAL SAMPLING AND PROJECTIONS FOR REVIEW OF ACCIDENT REPORTING PROCESSES IN SUNCOAST PERFORMANCE CLUSTER

Purpose of the Sampling

One of the objectives of this audit was to assess the accuracy and completeness of the accident data in the HRIS. In support of this objective, the audit team employed a two-stage random sample, with stratification at the second stage. The sample design allows statistical projection of the number of discrepancies between the database and the accident report forms on file. Existence of the appropriate supporting forms is also tested using the sample.

Definition of the Audit Universe

The audit universe consisted of 3,239 accidents, according to the HRIS database, for all of FY 2002 through accounting period 8 in FY 2003. The universe was obtained on-site by requesting printed HRIS data from the safety manager responsible for the accident and injury prevention program.

Based on information provided by the OIG Computer-Aided Assessment Techniques team, the Suncoast Performance Cluster consisted of 147 installations.

Sample Design and Modifications

For projection of a two-sided interval with +/- 7 percent precision at the 95 percent confidence level, our desired sample size was approximately 200 accident report forms. We began with the concept of taking a simple random sample of 200 accidents listed in the printed data. However, the audit team found that the storage of accident report forms in separate files by year and by installation would make execution of that sample plan difficult. To accommodate the filing system, we used a two-stage sample design, with installations selected at the first stage and individual accident report forms selected at the second stage. Because the forms for each installation were separated by year, the actual execution and analysis of the sample involved stratification by year at the second stage. Forms outside the audit scope would be ignored. The simple average number of accidents per installation per year $[(3,239 \text{ accidents} / (147 \text{ installations} * 2 \text{ years}) = 11)]$ would have led us to select about 20 installations to obtain our targeted 200 accident report forms. However, because many installations had few or no accidents within the audit scope, we chose additional sites so we would have a reasonable expectation of collecting enough accident report forms to be projectable. We selected 40 installations.

To test of completeness and accuracy of the database, we tested five attributes:

- Was the accident shown on the accident report form listed in the database?
- Did the accident control number in the database agree with that on the form?
- Did the accounting period date in the database agree with the accident date on the form?
- Did the listing of the involved person(s) in the database agree with that on the form?
- Did the accident description in the database agree with that on the form?

For the completeness of the accident report forms, we tested two additional attributes:

- Was the Preventive Action code on the form?
- Was the preventive action on the form?

To select installations for inclusion in the sample, we used the “randbetween” function in Microsoft Excel to assign random numbers to the installations on the universe listing. The audit team selected individual accident report forms on-site, using interval sampling defined as follows:

For a single place, pull both folders. For each folder:

- If fewer than 10 accident report forms, check all forms.
- If 10 to 20, check every other form starting with the first form.
- If 20-49, check every third form starting with the second form.
- If 50-99, check every fifth form starting with the fourth form.
- If more than 99, start with the seventh form.
 - For 100-199, divide by 10 and use that number as the interval.
 - For 200-299, divide by 20 and use that number as the interval.
 - For 300-399, divide by 30 and use that number as the interval.

Statistical Projections of the Sample Data

For projection of the number of errors for each attribute, we observed that the sampled items contained very low error rates. Because of the extremely low occurrence rates, we were not able to use the normal approximation to the binomial to calculate occurrence limits. Instead, we analyzed the upper occurrence limits for each sample using as a basis the cumulative binomial methodology, as used in past General Accounting Office Financial Audit Manual work to generate the table “Statistical Sampling Results Evaluation Table for Compliance Tests.” We had to adapt the concept of upper error limit analysis to the two-stage design, calculating and combining the within and between variances for each installation in the sample, combining an implied within variance for each installation in the sample (based on the cumulative binomial methodology) with a calculated between installation variance. We used a 5 percent risk of over reliance (beta risk).

Results

All projections were made to the audit universe of 3,239 accidents, as described in the definition of the audit universe.

1. Was the accident shown on the accident report form listed in the database?

Based on projection of the sample results, we can state with 95 percent reliance that no more than 43 forms (1.34 percent) were missing from the HRIS database. The point estimate is that six (0.19 percent) forms were missing.

2. Did the accident control number in the database agree with that on the form?

Based on projection of the sample results, we can state with 95 percent reliance that no more than 36 accident numbers (1.1 percent) disagreed. The point estimate is that no accident numbers disagreed (100 percent are correct).

3. Did the accounting period date in the database agree with the accident date on the form?

Based on projection of the sample results, we can state with 95 percent reliance that no more than 36 accounting period dates in the database (1.1 percent) were inconsistent with the date shown on the form. The point estimate is that no accounting period dates disagreed (100 percent were correct or processed in a timely manner).

4. Did the listing of the involved person(s) in the database agree with that on the form?

Based on projection of the sample results, we can state with 95 percent reliance that no more than 50 database listings of person(s) involved (1.55 percent) disagreed with the information on the form. The point estimate is that 11 database listings of person(s) involved (0.35 percent) disagreed with the form.

5. Did the accident description in the database agree with that on the form?

Based on projection of the sample results, we can state with 95 percent reliance that no more than 40 accident descriptions in the database (1.23 percent) disagreed with the information on the form. The point estimate is that four accident descriptions in the database (0.11 percent) disagreed with the form.

6. Was the Preventive Action code on the form?

Based on projection of the sample results, we can state with 95 percent reliance that no more than 46 of the forms (1.41 percent) lacked the Preventive Action code. The point estimate is that eight forms (0.24 percent) lacked the Preventive Action code.

7. Was the preventive action on the form?

Based on projection of the sample results, we can state with 95 percent reliance that no more than 90 of the forms (2.77 percent) lacked the preventive action. The point estimate is that 42 forms (1 3 percent) lacked the preventive action.

Summary of Results

(Universe Size = 3,239; Sample Size = 210)

Attribute (Number above corresponds to number below)	Number of Errors in Sample	Projected Number of Errors	95-Percent Confidence Interval, Number of Errors
1	1	6	1 to 43
2	0	0	0 to 36
3	0	0	0 to 36
4	1	11	1 to 50
5	1	4	1 to 40
6	1	8	1 to 46
7	9	42	9 to 90

APPENDIX E. MANAGEMENT'S COMMENTS

DISTRICT MANAGER, CUSTOMER SERVICE & SALES
MISSISSIPPI DISTRICT



April 13, 2004

Memorandum For: Kim H. Stroud
Director, Audit Operations

Subject: Transmittal of Draft Audit Report – Postal Services' Efforts to Prevent Accidents, Injuries, and Illnesses in the Mississippi and Suncoast Performance Clusters (Southeast Area) (Report Number HM-AR-04-Draft), March 16, 2004.

Thank you for allowing me the opportunity to address the preliminary results of the referenced report. The Mississippi District is totally committed to ensuring the health/safety/welfare of every employee, and we are proud that our performance, as measured by OSHA Illness/Rate Frequency and other indicators, is one of the best in the United States Postal Service. This sustained performance can only be attributed to the emphasis placed on the observation of safe work practices, elimination of hazardous conditions, correction of unsafe practices, and other accident prevention initiatives by all levels of the district leadership staff as well as the individual district postal employee. We will continue our efforts in accident prevention through hazard assessments and site specific initiatives while maintaining our focus on headquarters mandated target specific action plans.

The draft audit report provided one recommendation for the Mississippi District. The team recommended that the district manager instruct the district safety manager to provide the necessary training and instructions to managers and supervisors to ensure the completion and review of accident forms. Instruction has been issued to ensure the completion and review of accident forms by providing training and instruction to our managers and supervisors. This training/instruction has already commenced with the first two classes conducted by the district safety manager on March 9 and 10, 2004. Additional classes are scheduled of April 21 and 22, 2004.

Again, we thank you for the opportunity to respond.

A handwritten signature in black ink, appearing to read "James A. Daily".

James A. Daily
District Manager, Customer Service & Sales

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**Efforts to Prevent Accidents, Injuries,
and Illnesses in the Mississippi and Suncoast
Performance Clusters (Southeast Area)**

HM-AR-04-006

DISTRICT MANAGER, CUSTOMER SERVICE & SALES
SUNCOAST DISTRICT



April 13, 2004

Kim H. Stroud
Director, Audit Operations
1735 North Lynn St.
Arlington, VA 22209-2020

SUBJECT: Transmittal of Draft Audit Report – Postal Services' Efforts to Prevent Accidents, Injuries, and Illnesses in the Mississippi and Suncoast Performance Clusters (Southeast Area) (Report Number HM-AR-04-Draft), March 16, 2004.

Thank you for allowing me the opportunity to address the preliminary results of the referenced report.

We will continue our efforts in accident prevention through hazard assessments and site specific initiatives while maintaining our focus on headquarters mandated target specific action plans:

- Handling and Lifting
- Slips, Trips, and Falls On and Off Postal Premises
- Dog Bites and Attacks
- Musculoskeletal Disorders (MSDs)
- Backing
- Roll/Runaway
- At Risk Drivers

Improvements were made in most targeted indicators and significant improvements continue in FY 04. These action plans were long term in scope.

Throughout the year, the safety staff prepared analyses based on current accident data which outlined trends. Plans, programs and procedures were implemented depending on how accidents and injuries were trending. Therefore, there were the long term plans and the interim plans.

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- 2 -

Absent any recommendations, we will commit to and continue the following actions/
activities.

1. Upon the development of the appropriate reporting and tracking programs that will be used for analytical purposes, the responsible personnel will be trained. This is national in scope and we must wait for implementation.
2. We will continue to establish action plans as needed, monitor for trends and results and implement necessary activities. We were successful in FY 03 in meeting both our Injury/Illness and motor vehicle accident goals, and on pace to again reduce those indicators for FY 04.



Michael P. Jordan
District Manager, Customer Service & Sales