September 15, 2005

STEVEN W. MONTEITH
EXECUTIVE DIRECTOR, HUMAN CAPITAL ENTERPRISE

SUBJECT: Audit Report – Human Capital Enterprise SAP Human Resources Project
(Report Number IS-AR-05-015)

This report presents the interim results of our audit of the Human Capital Enterprise
SAP Human Resources Project (Project Number 05BG006IS001). Postal Service
management requested that the Office of Inspector General (OIG) review the system
controls over roles and separation of duties in the SAP Human Resources system. We
plan to perform additional work in this area and issue a final report in the near future.

The Postal Service has not finalized a strategy to establish a core security group for
administering the SAP Human Resources security functions, although management has
nearly completed the initial phase of project implementation. Also, the Postal Service
needs to implement a change management system to document and manage
configuration changes. Establishing a security function early in the project
implementation phase will reduce dependence on contractors for security functions and
facilitate knowledge transfer to Postal Service personnel. Additionally, a suitable
change management system will provide the Postal Service with audit trails of all
authorized changes to roles and avoid incorrect role assignments.

We made two recommendations pertaining to establishing a core security group to
administer SAP security functions. Management has taken action or planned initiatives
to address the core functions of the security group. Management also agreed with the
intent of recommendation three to implement a formal change management system to
document authorized role changes. Management plans to implement an audit trail of
these changes after completing its current testing, and stated it is in the process of
documenting each role. Management plans to use standard SAP tools and reports to
track role assignments and changes and eAccess to track SAP authorization requests.
However, we believe the eAccess system may not be able to comprehensively track all
the data needed for SAP authorization requests. Management plans to implement
these initiatives no later than January 2006. Management's comments and our
evaluation of these comments are included in the report.

We appreciate the cooperation and courtesies provided by your staff during the audit. If you have any questions or need additional information, please contact Gary Rippie, Director, Information Systems, or me at (703) 248-2300.

John M. Seeba
Deputy Assistant Inspector General
  for Financial Operations

cc: Anthony J. Vegliante
      Robert L. Otto
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INTRODUCTION

Background

There are more than 70 systems supporting the Postal Service's human resources and payroll functions. The nonintegrated environment creates inefficient and redundant work for a large network of Postal Service employees in area and performance cluster offices.

The Board of Governors approved a Decision Analysis Report that provides $103.4 million in funding for implementation of a human resources shared services project to replace this legacy environment. An Enterprise Resources Planning (ERP) system for the human resources functionalities of the Postal Service is the main component of this shared services project.

The Human Capital Enterprise office has the overall responsibility for implementing the shared services project. The Postal Service established the office as a way to move toward a performance-based culture, which they plan to do by redesigning and streamlining processes and implementing world-class human resources solutions. This effort–called the *PostalPeople* initiative–consists of the shared services project and the human resources ERP system. The manager, Human Capital Enterprise Programs, has day-to-day responsibility for managing the *PostalPeople* initiative.

The Postal Service issued a contract for $29 million to SAP Public Services, Incorporated, in July 2004 to acquire software services for ERP implementation. As of March 2005, the total commitment for the shared services project was $70 million. Management expects the project to be completed at the estimated cost of $103.4 million.

The Postal Service is implementing the ERP system using SAP R/3, a commercial ERP solution. This solution will incorporate human resources functionality for all Postal Service employees into a single integrated system. When management fully implements the system, it will incorporate the following modules:

- Organization management
- Personnel administration
- Benefits management
- Personnel development
- Bid management

- Recruitment
- Environmental health and safety
- Training events management
- Compensation management
- Time and leave management

This implementation will also include the employee self-service and manager self-service components that let employees and managers access the system through Web portals.

The initial timeline for the current phase was to complete implementation in the following three performance clusters by August 2005: the Triboro performance cluster in the New York Metro Area, the Santa Ana performance cluster in the Pacific Area, and the Northland performance cluster in the Western Area. However, delay in integration testing forced the Postal Service to postpone implementation until October 2005. This postponement could extend to January 2006 for the Santa Ana and Northland performance clusters.[1]

Reconciliation issues within associate offices in the Santa Ana and Northland performance clusters contributed to the delay in integration testing. Postal Service executives said they have developed a standardized approach to address these issues in performance clusters targeted for future implementation. Delays in the bid management module and payroll interface readiness also contributed to the delay in integration testing.

Management has configured 88 roles[2] for implementing the first phase. Management will load and test organizational data for the Triboro cluster before assigning these roles to the appropriate positions. Additionally, they will perform customer acceptance testing before the Triboro performance cluster goes online.

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[1]Prior to issuing this final report, we learned the Postal Service plans to delay the Triboro cluster implementation until January 2006 and implement the Santa Ana and Northland clusters in April 2006.
[2]A role is a collection of privileges that management can assign to a user or to a different role. These privileges provide the ability to perform operations and impose restrictions on operations the holder of the role can perform.

Objective, Scope, and Methodology

The objective of this audit was to determine whether there are adequate system controls over roles and separation of duties within the SAP Human Resources system. We conducted our work at Postal Service Headquarters in Washington, D.C., and the SAP development office in Arlington, Virginia.

To identify system controls over the roles and authorizations within the SAP system, we analyzed SAP quality assurance system reports. Our review was limited to determining the adequacy of authorizations in 62 roles identified as of May 23, 2005. During our review, management made a net increase of 26 roles, and we will perform additional work to evaluate these new roles. We will also perform additional work to review the configuration of organizational positions, which were not ready for this review.

To determine the progress made in establishing a security group, we interviewed the executive director, Human Capital Enterprise; manager, Human Resources Payroll; and the senior SAP consultant. We also reviewed system requirement specifications and SAP best practices.

To determine the adequacy of a change management system, we interviewed the executive sponsors and the SAP consultant and compared procedures to industry best practices.

This audit was conducted from March through September 2005, in accordance with generally accepted government auditing standards and included such tests of internal controls as were considered necessary under the circumstances. We used manual and automated techniques to analyze the computer-processed data. Based on these tests and assessments, we concluded the data were sufficiently reliable for meeting the objective of our review. We discussed our observations and conclusions with management officials and included their comments where appropriate.

Prior Audit Coverage   We did not identify any prior audits or reviews related to the objective of this audit. This is the initial SAP implementation within the Postal Service.

AUDIT RESULTS

Our preliminary review of the system controls over roles and separation of duties within the SAP Human Resources system indicates the Postal Service is making progress in refining the roles to be implemented in the initial phase of the project. However, the Postal Service has not appointed a core security group or implemented a change management system. Security and controls over the ERP system can be enhanced by appointing a core security group early in the project and implementing a formal change management system.

Core Security Group

Human Capital Enterprise personnel have not finalized a strategy to establish a security group to administer the SAP Human Resources security functions. Management has not defined functional specifications or organizational structure for a security function for the human resources ERP system. SAP best practices recommend management establish a security function with separate duties for user maintenance, authorization maintenance, and authorization assignment at the inception of the project. Timely establishment of a security group would reduce Postal Service dependence on the contractor to establish and implement the initial SAP controls and security configurations and would facilitate the knowledge transfer to Postal Service personnel needed to provide effective oversight of the system implementations.

With a centralized structure and administration in an ERP system, it is critical for management to establish a security group to oversee ERP administration to ensure that security controls remain effective. The security function for the SAP system should ensure proper segregation of duties in creating roles, assigning roles, role maintenance, and locking and unlocking users. Considering the size and structure of the Postal Service's ERP system, a dedicated security function with adequate staffing and a proper reporting structure is necessary in order to obtain the desired benefits.

Without definitive guidance from Postal Service management, the SAP contractor has implemented a security architecture that is organized into three functional areas:

- A *user maintenance* function responsible for locking and unlocking users, changing passwords, and changing attributes. This position cannot create or assign roles or profiles.

- An *authorization maintenance* function responsible for creating roles and profiles. This function cannot create organizational positions or security-related roles or assign any roles.

- An *authorization assignment* function responsible for assigning roles. This function cannot create roles or profiles or assign security-related roles.

The SAP contractor made these preliminary decisions because management did not designate any Postal Service personnel for SAP security functions. Postal Service management still needs to evaluate and approve these decisions.

Certain functional responsibilities, such as role maintenance, are operational functions. Best practices suggest separating security oversight from operational functions. The security function will require a proper reporting structure to ensure sufficient independence for oversight and, at the same time, provide the required operational support.

During the requirements analysis stage of the project, the SAP consultants recommended the establishment of a security team that meets the above control requirements. However, because of competing priorities and project management challenges, management has not implemented this recommendation. Establishing a security function early in the project implementation phase will enable the Postal Service to reduce dependence on consultants, transition smoothly from the contractor, and facilitate knowledge transfer.

Recommendation	We recommend the executive director, Human Capital Enterprise**:**
	1. Develop a strategy and milestones to establish a security group for administering the SAP Human Resources security functions.
Management's Comments	Management agreed with our recommendation and is forming a security group to administer the SAP Human Resources security functions. To ensure separation of duties between the security functions, the Postal Service plans to establish two teams for the security group. Management stated it would initially staff the security group with two full-time personnel by December 10, 2005, and add more full-time or part-time staff as appropriate after the Postal Service implements the three initial sites. The initial staff will attend necessary SAP classes and will receive training from SAP necessary to ensure knowledge transfer. Management's comments, in their entirety, are included in the appendix of this report.
Recommendation	We recommend the executive director, Human Capital Enterprise, direct the manager, Human Capital Enterprise Programs, to:
	2. Verify that role authorizations conform to this strategy.
Management's Comments	Management agreed with our recommendation and stated they have created and reviewed three separate authorization roles to enforce the separation of duties. The manager, Human Capital Enterprise Programs, will complete this activity by December 10, 2005.
Evaluation of Management's Comments	Management's comments are responsive to recommendations 1 and 2, and their actions taken or planned should correct the issues identified in the finding.
Change Management	The Postal Service needs a formal change management system for the ERP system to document baseline role authorizations and subsequent changes. Management has not chosen a final change management solution to

document and manage authorization changes. Handbook AS-805[3] requires that management establish baseline configurations of Postal Service information resources and make changes prior to deployment to ensure employees do not inadvertently expose information resources to unnecessary risks and vulnerabilities. A formal change management system is required to maintain an audit trail of all authorized role changes and prevent incorrect role configurations and incompatible role assignments.

The Postal Service also needs to develop comprehensive baseline documentation of the roles configured on the SAP system. Without clear documentation, support personnel will have difficulty understanding the design objectives and functionalities of SAP objects such as roles and authorizations. This may lead to incompatible role assignments, incorrect changes, and difficulty in system maintenance. Detailed baseline documentation of the roles will serve as a foundation for future change management and facilitate employee transition.

Management is considering two potential change management solutions: (1) the eAccess system and (2) SAP Solutions Manager. The eAccess system, which manages user accounts and logon procedures, may not be adequate to serve as a change management system. The Postal Service could use the eAccess system to manage the assignment of roles, but the system is not capable of managing changes made to roles. An appropriate change management solution for the SAP ERP system should both incorporate baseline documentation maintenance and provide change management functionalities for roles, positions, organizational units, sensitive and restricted transaction codes, and other critical SAP objects.

Recommendation

We recommend the executive director, Human Capital Enterprise, direct the manager, Human Capital Enterprise Programs to:

3. Implement a formal change management system to document baseline role authorizations and subsequent changes.

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[3]Information Security, March 2002 (updated with Postal Bulletin revisions through May 26, 2005).

Management's Comments	Management agreed the Postal Service should implement an audit trail of authorized role changes. Management stated it is impractical and unfeasible to capture all role, configuration, and programming changes that result from daily integration and customer acceptance testing. Therefore, management stated the Postal Service will implement the audit trail after completing current testing. Management also stated the Postal Service is writing detailed documentation of each role. Management's plans include using existing SAP software that provides standard tools and reports to track role changes, role assignments, and changes to role assignments, which staff would run daily after completing current testing. In addition, management's plans include using eAccess as a tracking tool for SAP authorization requests after implementing SAP. The manager, Human Capital Enterprise Programs, will implement these initiatives by January 2006.
Evaluation of Management's Comments	Management agreed with the intent of our recommendation, and their action to document each role is responsive to our recommendation. In addition, management's plans to implement an audit trail of authorized role assignments and changes using standard SAP tools and reports are responsive to the recommendation, and the actions taken or planned should correct the issues identified in the finding. However, we have reservations about management's plans to use eAccess as a tracking tool for SAP authorization requests. Management may be able to use eAccess to manage the assignment of roles; however, eAccess may not be able to manage the authorization of changes for roles, positions, organizational units, sensitive and restricted transaction codes, and other critical SAP objects. Because we have concerns with management's plans to rely on eAccess to track authorization requests, we may review the process for managing SAP authorizations in a follow-up audit.
Other Matters	The potential for delay, leading to cost escalation, exists throughout the project implementation period. Management was scheduled to complete the SAP implementation in phases, with the initial phase targeted for completion in August 2005. However, the Postal Service has encountered

data conversion and integration testing issues that have forced postponement in project implementation schedules. These issues could potentially be found in other performance clusters, resulting in overall project delay and additional costs. Management, based on lessons learned, developed a standardized approach to deal with reconciliation issues caused by associate offices.

Though we do not provide recommendations to address project management issues, management should be aware of the potential for project management risks, which can result in increased project costs and the system not being ready on time. There is also the potential risk that tasks such as integration testing and customer acceptance testing may be condensed or conducted concurrently to make up lost time, thereby impacting the overall reliability of the production system.

APPENDIX. MANAGEMENT'S COMMENTS

EXECUTIVE DIRECTOR
HUMAN CAPITAL ENTERPRISE
**UNITED STATES
POSTAL SERVICE**

August 31, 2005

KIM H. STROUD
DIRECTOR, AUDIT REPORTING
OFFICE OF INSPECTOR GENERAL

SUBJECT: Human Capital Enterprise SAP Human Resources Project
          (Report number IS-AR-05-DRAFT)

After review of the Audit Report number IS-AR-05-Draft, management is in agreement with the initial findings. Our responses and action plans are contained in the detailed discussion below.

Recommendation 1:
Develop a strategy and milestones to establish a security group for administering the SAP Human Resources security functions.

Response:
Management agrees to establish a security group to administer the SAP Human Resources security functions. The SAP security architecture is organized into three functional areas, Authorization Maintenance, Authorization Assignment and User Maintenance and is being implemented by management. To support this structure and to ensure separation of duties the security group will consist of a primary and secondary team reporting to the manager, Human Capital Enterprise Programs.

The Primary Team will be responsible for roles and profiles.

Responsibilities will include:
- Creation and maintenance of roles/profiles;
- Creation of user IDs for non-dialog and temporary/vendor users;
- Assignment of roles/profiles to all Production Support Personnel (Basis, ABAP Developers, IT Configurators, Trainers, etc.);
- Assignment of roles/profiles to the Regional Security Administrators;
- Monitoring of user activities in R/3;
- Auditing of users authorizations;
- Testing of authorization roles/profiles; and
- Troubleshooting authorization issues.

The Secondary Team will be responsible for Authorization Assignment and User Maintenance; assigning the appropriate roles/profiles to the end user positions. Each administrator will be restricted to users within specified geographical/organizational regions.

Responsibilities include:
- Assignment of roles/profiles to the positions of end users;
- Locking/unlocking user IDs;
- Password resets (until this is automated through the USPS' Enterprise Password Reset System)

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We will initially staff two full-time USPS employees to be onboard by December 10, 2005 with plans to add additional personnel, full time or part time, as appropriate, after Go-Live for three initial sites. The initial employees will attend necessary SAP classes and will be trained by SAP for the amount of time necessary to ensure knowledge transfer.

Recommendation 2:
Verify that role authorizations conform to this strategy.

Response:
Management agrees and three separate authorization roles (user maintenance, authorization maintenance and authorization assignment) have been created and reviewed to enforce the separation of duties. The manager, Human Capital Enterprise Programs will complete this activity by December 10.

Recommendation 3:
Implement a formal change management system to document baseline role authorizations and subsequent changes.
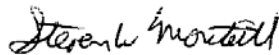
Response:
Management agrees that an audit trail of authorized role changes should be implemented; however, this should occur at the completion of Integration Testing and Customer Acceptance Testing (CAT). It is impractical and unfeasible to capture all role changes as a result of the daily integration and CAT testing currently being conducted. It is also not practical to capture every configuration or ABAP code that has to be corrected as a result of current testing cycles. To maintain such an audit trail would involve unnecessary workload on an already overstretched team. Starting an audit trail after all testing has been completed would help to ensure more accurate results. The manager, Human Capital Enterprise Programs will implement by January 2006.

Tracking Role Changes: SAP software already provides standard tracking tools to perform this tracking of role changes and assignments in the system. Standard reports in transaction code SUIM in SAP will be run daily to track these changes after all current testing has been completed. Detailed documentation of each role is currently being written. The manager, Human Capital Enterprise Programs will implement by January 2006.

Tracking Role Assignments in SAP: Role assignment changes can also be checked in SAP using standard reports in transaction code SUIM. These reports will also be run daily after all current testing has been completed. The manager, Human Capital Enterprise Programs will implement by January 2006.

Tracking Authorization Requests for SAP: Management plans to use eAccess as a tracking tool for SAP authorization requests after Go-Live. The manager, Human Capital Enterprise Programs will implement by January 2006.

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