

Audit of the State Wage Match Data Transmission Controls
Report No. 07-04, March 28, 2007

INTRODUCTION

This report represents the results of the Office of the Inspector General's (OIG) audit of the state wage match data transmission controls.

BACKGROUND

The Railroad Retirement Board's mission includes an unemployment-sickness insurance benefit program for railroad workers under the Railroad Unemployment Insurance Act. This program provides temporary unemployment and sickness benefits to qualified railroad workers. During fiscal year ending September 30, 2006, about 28,000 unemployment and sickness claimants received approximately \$73 million in benefits.

The Railroad Retirement Board (RRB) has developed integrity programs to identify new information or verify existing information relevant to determining initial or continuing eligibility and entitlement to benefits. These programs are crucial to ensure that the RRB pays benefits in the correct amount to eligible and entitled beneficiaries and to detect fraud and abuse. One of these programs, referred to as the "State Wage Matches," involves matching data with the states and other matching participants.

The RRB has computer matching agreements with 49 states and the District of Columbia. The Office of Programs conducts the state wage matches with the majority of these participants by generating IBM cassette tapes containing the Social Security Numbers (SSNs) of railroad employees who received unemployment and sickness benefits. The RRB sends the IBM cassette tapes to the matching participants to detect instances in which railroad employees received unemployment or sickness benefits for days on which they also worked in non-railroad employment, or for which state unemployment benefits were paid. The RRB occasionally matches data with the State of Hawaii and the Commonwealth of Puerto Rico by mailing paper documents to them. The matching participants provide the RRB with the results of their matches. The results generally include names, SSNs, earnings, state benefits, and employer information. The RRB reimburses the matching participants for their actual costs of performing the matches. The Office of Programs conducts the state wage matches twice a year except for quarterly matches with the state of New York. In some cases, the RRB's field offices verify the accuracy of the match results. The Office of Programs refers some cases to the Office of Inspector General for investigations when fraud is suspected.

Information which can be linked to an individual is referred to as personally identifiable information (PII) by the United States Office of Management and

Budget (OMB). The OMB has defined PII as follows: “Personally Identifiable Information means any information about an individual maintained by an agency, including, but not limited to, education, financial transactions, medical history, and criminal or employment history and information which can be used to distinguish or trace an individual's identity, such as their name, social security number, date and place of birth, mother’s maiden name, biometric records, etc., including any other personal information which is linked or linkable to an individual.”

OBJECTIVE, SCOPE, AND METHODOLOGY

The OIG performed this audit to determine the adequacy of the state wage match data transmission controls for ensuring the security of state wage match data. The OIG accomplished the audit objective by:

- interviewing responsible management and staff;
- assessing RRB data transfer controls including the safeguarding of state wage match data tapes; and
- assessing the data transfer methods included in the state wage match agreements.

This audit was conducted in accordance with generally accepted government auditing standards applicable to the objective. We performed the fieldwork at the RRB headquarters in Chicago, Illinois from November 2006 through February 2007.

RESULTS OF AUDIT

Subsequent to the loss of state wage match data in September 2006, the RRB improved controls over the transmission of this data. Based on the RRB’s actions, we conclude that controls for transmitting state wage match data provide a reasonable assurance that such data is secure. The RRB can, however, take additional actions to further improve controls. Details on the loss of state wage match data, RRB actions to improve controls, and areas in which additional improvements can be made are presented below along with our recommendations.

Until September 2006, the Office of Programs conducted the majority of the state wage matches by mailing unencrypted data tapes in padded envelopes to the matching participants. The RRB sent paper documents to the state of Hawaii and the Commonwealth of Puerto Rico. The RRB had exchanged state wage match data with two states via an electronic transfer of encrypted data. The RRB was in the process of implementing the electronic transfer of encrypted state wage match data with one other state. The Office of Programs had performed state wage matches for approximately 17 years without the loss of any matching data.

In September 2006, the State of Minnesota sent the Office of Programs a package containing two state wage match computer tapes. The Office of Programs received the package, but it was torn open and the tapes were missing. The package was a soft bubble wrap envelope. The State of Minnesota sent the package by first class mail via the United States Postal Service. The state wage match agreement with Minnesota did not specify any shipping method. The RRB reported the incident to the Department of Homeland Security, as required by the Federal Information Security Management Act of 2002, and to the Office of Inspector General for investigation. The tapes have not been found, and there is no indication the data has been misused.

In conducting an investigation of this loss, the Office of Inspector General met with employees of the United States Postal Service. The Postal employees stated that computer tapes should be packaged in boxes. Mail handling equipment is known to squeeze hard items out of soft bubble wrap packages. Once disassociated from the packages, the contents may never be delivered to the intended recipients.

Subsequent to the loss of the Minnesota tapes, the Office of Programs and the State of Minnesota implemented a secure electronic exchange of encrypted state wage match data. In addition, the Office of Programs took the following steps with other matching participants to further protect against the loss of state wage match data:

- instructed matching participants to ship data tapes in boxes rather than in bubble wrap packages,
- directed the matching participants to ship the tapes via a public carrier who provides electronic receipt and tracking during shipment, and
- printed address labels for the data tapes so that they can be delivered to the RRB even if they are separated from the shipping box.

In addition to these improvements, the RRB should take additional actions to further improve security. The following sections present areas in which improvements can be made.

ENCRYPTION AND ELECTRONIC TRANSFER OF DATA

The RRB can take action to increase the number of states encrypting data and transferring it electronically. The Office of Programs indicated that, five or six years ago, the Bureau of Information Services (BIS) contacted all the matching participants regarding encryption of state wage match data and use of electronic transmission. At that time, the matching participants did not show significant interest in these methods.

The Office of Programs has continued to pursue encryption and electronic transmission but with limited success. Program officials indicated that coordinating a change to encrypt data and to transmit it electronically with all matching participants has been a logistical challenge. Implementation of encryption and electronic transmission has been difficult due to the complexities involved. Because the states have different computer systems, various software and hardware issues have to be addressed individually. Matching participants have different preferences for implementing the various methods of encrypting and electronically transferring data. For example, some states may prefer use of an RRB computer server as opposed to using their own server for data transfers. In addition, changing current processing and revising the state wage match agreements can involve multiple departments and individuals at the state level. The Office of Programs indicated that it was a major accomplishment to get all the matching participants to use one of three different data layouts for the computer matching data. Other impediments to change included prohibitive costs of implementing changes, and the RRB having higher priorities over the last few years.

This environment has changed significantly in the last year. State wage match data was lost. Data was lost by the Veterans Administration and other government agencies and these losses were covered in the press raising the concern of both the public and government officials. On October 13, 2006, the Committee on Government Reform issued a staff report on agency data breaches since January 1, 2003. In addition, technology has advanced to the point that the cost of encrypting data and transmitting it electronically is no longer prohibitive. At this time, both the RRB and the matching participants may be motivated to implement changes that will improve data security. The Office of Programs, Program Evaluation Section, has established an internal goal of implementing encrypted electronic data transfers with an additional five state wage matching participants during Fiscal Year 2007.

However, the Office of Programs has not developed a formal plan for increasing the number of participants who encrypt or transfer state wage match data electronically. Without such a plan, the Office of Programs may be missing an opportunity to raise the priority for its initiatives within the RRB and to gain the support of the RRB Executive Committee.

OMB memorandum M-06-16 dated June 23, 2006, *Protection of Sensitive Agency Information*, requires encryption and implementation of National Institute of Standards and Technology (NIST) security controls for PII "transported and/or stored offsite." RRB Form G-5 pamphlet dated 1-07, *The Railroad Retirement Board's Rules of Behavior for the General Support Systems*, which amends Appendix 3 of Administrative Circular IRM-10, *End-User Computing: Network and Microcomputer (PC) Management*, requires encryption for PII stored on remote systems, mobile devices, and removable storage media.

Recommendation

We recommend that the Office of Programs establish a formal plan with short-term and long-term goals for encrypting and transferring data electronically with state wage match participants. (Recommendation #1)

Management's Response

The Office of Programs concurs with the recommendation. The Office of Programs indicated that "Assessment and Training will coordinate with Policy and Systems (P&S) and the Bureau of Information Services (BIS) to develop an action plan to propose electronic data exchanges with state agencies. The plan which will include both short and long-term goals for implementation will be completed by July 31, 2007." The full text of management's response is included as an appendix to this report.

STATE WAGE MATCH AGREEMENTS

The state wage match agreements do not sufficiently address the data transmission methods. When the RRB initiated the state wage match program in the early 1990's, it developed a standard agreement that most, if not all, matching participants could accept. Currently, 43 of the 50 matching participants perform the state wage matches under the terms of the standard agreement. The remaining seven matching participants have made other agreements with the RRB for the state wage matches. The RRB refers to these agreements as non-standard agreements. They generally have requirements that are more extensive than the standard agreements. The majority of non-standard agreements (six of seven) include electronic encryption options in accordance with NIST standards.

The standard agreements do not include methods for shipping the data tapes and six of the seven non-standard agreements provide that data tapes be sent by first class mail in padded envelopes. That is the shipment method that resulted in the loss of the State of Minnesota tapes. The Office of Programs has significantly increased physical security over state wage match data tapes by the use of boxes, padded packaging, tracking, and return receipt. The agreements should be updated to reflect these changes.

The RRB is currently electronically exchanging encrypted state wage match data with three states and is in the process of implementing a similar exchange with one more state. The RRB has standard wage match agreements with all four of these states. The RRB has not updated these agreements to reflect the change from the use of data tapes to the current transfer method, i.e. encrypted electronic data transfers.

The Privacy Act requires that matching agreements include “procedures for ensuring the administrative, technical, and physical security of the records matched and the results of such programs.”

By not addressing the current data transmission methods in the agreements, the agreements are not current and accurate and internal controls are weakened.

Recommendation

We recommend that the Office of Programs update the state wage match agreements to reflect the current transfer methods including security measures for data encryption and electronic data transfer. (Recommendation #2)

Management’s Response

The Office of Programs concurs with the recommendation. The Office of Programs indicated that Assessment and Training “will incorporate wording in the addendum previously developed for initiating electronic data transmission methods or in agreement renewals to specify traceable packaging delivery using a box container. A&T will develop a plan to implement revised agreements by July 31, 2007.”

POLICIES & PROCEDURES

The Office of Programs does not have written policies and procedures for the state wage match data transmission process. The Office of Programs has prepared some written draft procedures and plans to prepare detailed written policies and procedures.

The Standards for Internal Control in the Federal Government, published by the U.S. General Accounting Office (GAO) in November 1999, require that “Management and employees should establish and maintain an environment throughout the organization that sets a positive and supportive attitude toward internal control and conscientious management.” The internal control standards define internal control as an integral component of an organization’s management that provides reasonable assurance that the following objectives are being achieved: (1) effectiveness and efficiency of operations, (2) reliability of financial reporting, and (3) compliance with applicable laws and regulations. Internal control is a major part of managing an organization. It comprises the plans, methods, and procedures used to meet missions, goals, and objectives.

The lack of written policies and procedures for the state wage match process is an internal control weakness which can decrease accountability and weaken security of the state wage match data.

Recommendation

We recommend that the Office of Programs establish target dates for finalizing and implementing written policies and procedures for the state wage match data transmission process. (Recommendation #3)

Management's Response

The Office of Programs concurs with the recommendation. The Office of Programs indicated that Policy and Systems "will develop and publish procedures by September 30, 2007."

TAPE TRANSFER PROCESS

The Office of Programs has not established uniform policies and procedures for monitoring data tapes during the matching process. The RRB does not use the courier's tracking system to monitor approximately one-half of the packages sent to the matching participants. In addition, the RRB does not contact by phone or e-mail approximately one-half of the state matching participants when a package is sent. The matching participants do not notify the RRB when matching tapes are returned to the RRB.

The Standards for Internal Control in the Federal Government, require that "Management and employees should establish and maintain an environment throughout the organization that sets a positive and supportive attitude toward internal control and conscientious management." Internal control comprises the plans, methods, and procedures used to meet missions, goals, and objectives. The possession of clear and concise written policies and procedures is an internal control activity which will help ensure that data tapes are adequately monitored during the data transmission process. The lack of written policies and procedures for the state wage match process has contributed to this condition.

Internal controls are weakened if the RRB does not have a formal procedure for tracking state wage match data tapes and delayed or lost tapes may not be identified in a timely manner.

Recommendation

We recommend that the Office of Programs establish policies and procedures for monitoring state wage match data tapes shipped to and from the matching participants. (Recommendation #4)

Management's Response

The Office of Programs concurs with the recommendation. The Office of Programs indicated that “the employees involved have already been directed to monitor the shipping of these tapes to and from the states. The process will be formalized when uniform procedure is published by September 30, 2007.”

TAPE MONITORING RECORDS

Office of Programs’ records for monitoring and tracking the location of state wage match data tapes do not sufficiently account for the temporary storage of tapes and do not document a complete history of tape activities.

After the matches have been completed, the matching participants send two categories of tapes to the Office of Programs. The first are the input tapes that the Office of Programs sent to the matching participants. The second are the output tapes that the matching participants produce with the match results. Upon receipt, the Office of Programs holds the input tapes in temporary storage and forwards the output tapes to BIS for computer processing of the state wage match data. Occasionally BIS is unable to immediately process the output tapes and the Office of Programs will hold them in temporary storage. After the computer processing output is received, reviewed, and accepted, the Office of Programs sends the input tapes to BIS where the data is erased from both the input and output tapes.

Office of Programs’ employees do not record, in the tape monitoring records, the removal of data tapes from temporary storage. In addition, an employee occasionally overwrites the dates that tapes are received, processed, etc., with the processing dates of other tapes. The Office of Programs manually tracks approximately one-half of the tapes and tracks the remainder in an electronic spreadsheet. The lack of written policies and procedures for the state wage match process has contributed to this condition.

Not accurately documenting tape activity could hinder the detection and investigation of a lost tape. Properly accounting for the temporary storage of tapes and the movement of tapes ensures the protection of both the data tapes and the personal information contained on them.

Recommendations

We recommend that the Office of Programs:

- establish procedures that will ensure the tape monitoring records are current, complete, and accurate; (Recommendation #5) and
- establish procedures to track all data tapes electronically to ensure consistent records are maintained. (Recommendation #6)

Management's Response

The Office of Programs concurs with the recommendations. In response to recommendation #5, the Office of Programs indicated that “the employees involved in handling these tapes have already been directed to maintain current complete and accurate records of the process of monitoring the shipping of the tapes. The documentation requirement will be formalized when uniform procedure is published by September 30, 2007.” In response to recommendation #6, the Office of Programs indicated that “the employees involved in handling these tapes have already been directed to track control of tapes until they are placed in control of BIS hands. The process will be formalized when uniform procedure is published by September 30, 2007.”



UNITED STATES GOVERNMENT

MEMORANDUM

FORM G-115 (1-92)

RAILROAD RETIREMENT BOARD

MAR 26 2007

TO: Henrietta Shaw
Assistant Inspector General, Audit

FROM: Catherine A. Leyser *Catherine A. Leyser*
Director of Assessment and Training

THROUGH: Dorothy Isherwood *D. Isherwood*
Director of Programs

SUBJECT: Draft Report – Audit of the State Wage Match Data Transmission Controls

**Recommendation
1**

We recommend that the Office of Programs establish a formal plan with short-term and long-term goals for encrypting and transferring data electronically with state wage match participants.

OP Response

We concur. Assessment and Training (A&T) will coordinate with Policy and Systems (P&S) and the Bureau of Information Services (BIS) to develop an action plan to propose electronic data exchanges with state agencies. The plan which will include both short and long-term goals for implementation will be completed by July 31, 2007.

**Recommendation
2**

We recommend that the Office of Programs update the state wage match agreements to reflect the current transfer methods including security measures for data encryption and electronic data transfer.

OP Response

We concur. A&T will incorporate wording in the addendum previously developed for initiating electronic data transmission methods or in agreement renewals to specify traceable packaging delivery using a box container. A&T will develop a plan to implement revised agreements by July 31, 2007.

Recommendation 3 We recommend that the Office of Programs establish target dates for finalizing and implementing written policies and procedures for the state wage match data transmission process.

OP Response We concur. P&S will develop and publish procedures by September 30, 2007.

Recommendation 4 We recommend that the Office of Programs establish policies and procedures for monitoring state wage match data tapes shipped to and from the matching participants.

OP Response We concur. The employees involved have already been directed to monitor the shipping of these tapes to and from the states. The process will be formalized when uniform procedure is published by September 30, 2007.

Recommendation 5 We recommend that the Office of Programs establish procedures that will ensure the tape monitoring records are current, complete, and accurate.

OP Response We concur. The employees involved in handling these tapes have already been directed to maintain current complete and accurate records of the process of monitoring the shipping of the tapes. The documentation requirement will be formalized when uniform procedure is published by September 30, 2007.

Recommendation 6 We recommend that the Office of Programs establish procedures to track all data tapes electronically to ensure consistent records are maintained.

OP Response We concur. The employees involved in handling these tapes have already been directed to track control of tapes until they are placed in control of BIS hands. The process will be formalized when uniform procedure is published by September 30, 2007.

cc: Chief Information Officer
 Director of Policy and Systems
 Chief of Program Evaluation (UI/SI/Disability/Field)