# Review of Document Imaging
# Railroad Unemployment Insurance Act Programs
# Report No. 01-01, November 17, 2000

This report represents the results of the Office of Inspector General's (OIG) review of the Railroad Retirement Board's (RRB) document imaging initiative. This is the second report of the OIG's ongoing review of the imaging system. The prior review examined the planning process for expanding document imaging to Railroad Retirement programs (Audit Report No. 99-15, dated September 23, 1999). This report concentrates on imaging initiatives in the RRB's Unemployment and Sickness Insurance programs.

## BACKGROUND

The RRB administers comprehensive retirement-survivor and unemployment-sickness insurance benefit programs for railroad workers and their families under the Railroad Retirement (RRA) and Railroad Unemployment Insurance (RUIA) Acts. During fiscal year 1999, the RRB paid $8.2 billion in railroad retirement and survivor benefits to 748,000 beneficiaries. The RRB also paid unemployment and sickness insurance benefits of $95 million to nearly 34,000 claimants.

The RRB is an information-intensive agency that stores and handles many paper documents in claim folders. The Strategic Plan for 1997-2002 contains an objective to "ensure that the technology infrastructure supports achievement of the agency's Strategic Plan." One way in which the agency plans to accomplish this goal is to "take advantage of existing and emerging technologies," such as document imaging.

Document imaging is the scanning of paper documents to create easily accessible electronic records instead of paper claim folders. The RRB's Office of Programs scans paper documents into a Local Area Network (LAN) to create an electronic image of the document. Indexing information is then added to the document to facilitate later retrieval. Examples of indexing information include the claimant's social security number and name, the type of document (e.g. sickness application or correspondence), and the scan date. Some of this information is prefilled by the imaging system. After indexing, the document is placed in a work queue based on agency workflow rules. If the document does not require adjudicative action, a supervisor reviews the accuracy of the indexing fields as part of the quality assurance review. A document requiring adjudicative action is sent to the appropriate work queue based on the type of document. Examiners are responsible for the quality of the image on cases that they adjudicate. After agency personnel complete all required actions on the imaged document, the document is archived on a permanent storage media known as an optical platter.

The potential benefits of a document imaging system include faster adjudication of claims and improved control over work items. Examiners no longer have to wait for paper documents. Also, multiple users can view a document at the same time. The workflow features enable the agency to automatically route work, to set call-up dates, and to

establish security over the handling of items. The system can also provide management with reports of pending work items and other useful information such as historical work volumes and processing times.

The RRB has used document imaging to process sickness insurance applications and to retain copies of tax statements since the early 1990s. During fiscal year 1998, the agency's Automated Data Processing Steering Committee approved capital expenditures of approximately $400,000 for computer hardware and software to replace the existing obsolete system with a modern system. The replacement RUIA system became operational on June 14, 1999. The RRB expanded the RUIA document imaging system to include correspondence and to allow limited access to other operational units within the agency. The RRB considered the expansion complete in March 2000, and continues to work on enhancements to the system including making the system available to its field offices. The agency is also in the process of expanding the document imaging system to include its retirement programs.

## OBJECTIVE, SCOPE AND METHODOLOGY

The OIG's objectives for this review were to determine if: the RRB is in compliance with federal regulations on document retention; controls are in place to ensure reliability of the imaged documents; and controls are in place to ensure security over access to the documents. Our review of document retention and reliability of imaged documents was limited to unemployment and sickness insurance documents scanned into the system between July 1999 and May 2000. To accomplish the audit objectives, the OIG:

--reviewed applicable laws and regulations;
--reviewed industry guidelines on document imaging;
--reviewed agency policies and procedures related to entering documents, accessing documents, quality assurance, and backup and recovery;
--reviewed three judgmental samples of documents entered into the system between July 1999 and May 2000 (see the Appendix for details);
--interviewed personnel regarding policies and procedures and preliminary sample results; and
--reviewed and tested access controls.

The OIG conducted the audit in accordance with generally accepted government auditing standards. Auditors performed the fieldwork at the RRB headquarters office in Chicago, Illinois from December 1999 through September 2000.

## RESULTS OF REVIEW

The OIG did not find any violations of Federal regulations on document retention but determined that inadequate procedures currently in use create the potential for illegal destruction of paper documents. The RRB has not finalized procedures for storing and destroying paper input documents.

The review also noted inadequate controls over the reliability of the imaged documents. During the sample review of input documents, we found documents that were not on the imaging system, had missing and/or unreadable pages, and had incorrect index information (see the Appendix for complete results of our sample review). Missing documents and incomplete records violate Federal law and regulations.

The RRB should improve the document imaging system's access controls, management reports, and backup and recovery procedures. A large number of employees have access but are not currently authorized to use the system. Management reports are currently not available. There is inadequate offsite storage of backup media, which could result in the loss of all archived images if a disaster struck the headquarters operation. Finally, it will be difficult to operate the document imaging system within the appropriate time in the event of a disaster at its headquarters. The RRB's Disaster Recovery Manual has not been updated to include the imaging system.

Detailed findings and recommendations are discussed below.

## Retention of Paper Documents

### Misfiled Documents

Our sample review of input documents found that the Office of Programs staff improperly filed some sickness applications and claim forms, documents scheduled for long-term retention (6 years, 3 months), with documents marked for destruction after 60 days. In addition, the OIG identified a few file folders containing documents with long-term retention schedules that were filed with the 60-day retention folders.

All paper input documents are filed for either 60 days or 6 years and 3 months based on type of document. The RRB's Records Disposition Authority (SF 115), approved by the National Archives and Records Administration (NARA), states that sickness applications and claim forms should be destroyed 6 years and 3 months after the close of the benefit year. Title 36 Code of Federal Regulations (CFR) Section1228.100 states, in part, that "Records may not be removed from Federal Custody or destroyed without regard to agency records schedules (SF 115) approved by NARA…" The agency head is required to establish safeguards against the loss of records (Title 44 United States Code (U.S.C.) Section 3105).

One reason that the Office of Programs misfiled documents is that the imaging procedures do not clarify scanning, indexing and filing actions when a paper document includes several related types of forms. For example, the procedures do not clearly state that an application attached to correspondence should be scanned, indexed, and filed together as an application. Also, there are no adequate internal controls to ensure that paper documents are not destroyed before their required retention periods.

The RRB would be in violation of Federal regulations if it destroyed the sickness

applications and claims prior to their 6 year, 3 month retention schedule.

Recommendations:

The Office of Programs should:

--Revise the imaging procedures to clarify scanning, indexing and filing actions for documents with several types of forms (Recommendation #1).

--Implement internal controls to ensure that paper documents are not destroyed before their required retention periods (Recommendation #2).

Management's Response

The Office of Programs concurs with these recommendations.

Incomplete Procedures

The Office of Programs has no written procedures for storing and destroying paper input documents. In addition, the Bureau of Information Services' (BIS) Division of Information Management has not developed formal procedures to immediately notify the agency head if a document (paper or electronic) is inadvertently or willfully destroyed in violation of the agency's approved record retention schedule.

The agency head is required to report any unlawful or accidental record destruction to NARA (36 CFR Section1228.104). Criminal penalties can result if the law is willfully violated (36 CFR Section 1228.102). The agency head is responsible for ensuring that all employees are aware of provisions of law relating to the unauthorized destruction of documents (36 CFR Section 1228.100).

The Office of Programs is still finalizing procedures on document retention. Without written procedures, the RRB is at risk of violating Federal laws and regulations on document retention.

Recommendations

The Office of Programs should immediately finalize internal procedures for storing and destroying paper documents related to the RUIA imaging system and make the procedures available to appropriate RRB personnel (Recommendation #3).

The BIS, with input from Office of Programs and other RRB organizations, should develop procedures for the immediate notification of the agency head in the event agency records are destroyed, either inadvertently or willfully, in violation of the agency's approved record retention schedule. Any unlawful document destruction should also be reported to the OIG (Recommendation #4).

Management's Response

The Office of Programs and BIS concur with these recommendations.

Reliability of the Imaging System

Missing Documents

The OIG could not find an imaged document for several paper input documents reviewed. The documents were either never scanned into the system, or the documents were indexed with the wrong social security number and name. In one case, a sickness application was entered into the RRB's computer system 129 days late due to a missing image.

Federal statute charges the agency head with the duty to make and preserve records necessary to protect the legal and financial rights of the government (44 U.S.C. Section 3101). Adequate records and management controls over the creation of agency records are required to ensure that agency functions are adequately and properly documented.

The Office of Programs does not have sufficient input controls to ensure that all documents are entered into the imaging system. The imaging system counts the number of documents scanned in a batch, but there is no manual batch count to compare to the system count.

Without the input controls, RRB personnel cannot rely upon the imaging system as a complete record of the RRB's transactions with its RUIA beneficiaries. Also, missing images may cause delays in processing benefits.

Recommendation:

The Office of Programs should revise the scanning procedures to include a manual batch count that is compared to the system count (Recommendation #5).

Management's Response

The Office of Programs concurs with this recommendation.

Incomplete Records

The document on the imaging system is not always complete and legible. Almost 3% of the documents in our sample were not completely legible, and over 8% of the documents had missing pages (See Appendix). Examples of missing pages include: 1) two-sided documents for which the reverse side was not on the imaging system; 2) entire sheets of paper that were not on the system, and 3) date stamps that were missing from the system because they were on the back with no other information.

Federal regulations (36 CFR Section 1222.50) require the preservation of complete records. Because the RRB uses the imaging system as the record copy, the documents on the imaging system must contain all the information on the input documents.

One reason for missing pages is that the Office of Programs management has not instructed employees who are scanning the documents to always scan the back of a document when it contains information. Furthermore, the employees have been instructed not to scan the back if it only contains a date stamp.

In addition, the imaging system quality control features are not sufficient to ensure that all records are complete and readable. The person indexing a document performs the initial quality control review. The indexer is instructed to check each page of an imaged document, but the indexer does not have a copy of the paper document when performing this step. Without the paper document, the indexer cannot determine if a page of the document is missing.

A second quality control feature is the quality assurance review of items not sent to an examiner for adjudication. There are no written procedures for this quality assurance review. This review is also performed without the paper document.

Missing information could lead to faulty adjudicative decisions. Records from the imaging system cannot be used as evidence in a court of law because of reliability and completeness deficiencies.

Recommendations:

The Office of Programs should:

--Revise the scanning procedures to include scanning of the back of a sheet of paper if anything, other than preprinted instructions on RRB Forms, appears on the back (Recommendation #6).

--Strengthen internal controls to ensure that all pages are scanned and legible (Recommendation #7).

--Develop written procedures for the quality assurance review to include a comparison of the paper document to the image (Recommendation #8).

Management's Response

The Office of Programs concurs with recommendations #6 and #7. For recommendation #8, the Office of Programs will develop written procedures for the quality assurance review and will consider using the paper document to compare to the image in this review.

OIG Response

The OIG strongly believes that the quality assurance review should include a comparison of the paper document to the image, given that about 8% of the OIG's sampled documents had missing pages. A quality review without the paper document generally would not identify missing pages.

Indexing

The indexing information in the imaging system does not always match the input document. Our sample review identified numerous index errors, including several documents indexed under the wrong social security number. Examples of other indexing errors included: wrong form type, missing form type when the document contains more than one form type, and wrong name or wrong railroad employer identification number. One sample case also included a sickness application that was entered into the RRB's computer system 20 days late because it was indexed under the wrong social security number.

Federal Regulations (36 CFR Section1234.22 and Section 1222.50) require that, if an agency keeps the official file copy of text documents on electronic media, the agency must provide a method, such as an indexing or text search, for all authorized users to retrieve desired documents. Since the RRB uses an imaged document as the record copy, and the imaging system uses indexing fields to retrieve a document, the indexing fields must be accurate.

There are no adequate procedures and controls to ensure the accuracy of the index information. Indexers do not compare the image to the paper input document when performing the initial quality control review. In addition, the imaging procedures do not clarify scanning and indexing actions when a paper document includes several related types of forms. For example, the procedures do not clearly state that a document containing a sickness application and a Statement of Sickness should be separated for scanning and indexing purposes because the application and the statement are sent to different work queues.

Due to the inadequate procedures and controls, some images are difficult to find. Indexing errors may cause delays in processing benefits.

Recommendations:

The Office of Programs should:

--Develop written procedures for the quality assurance review to include a verification of all index fields (Recommendation #9).

--Revise the imaging procedures to clarify when a document with several types of forms should be separated into two or more documents for scanning and indexing purposes (Recommendation #10).

Management's Response

The Office of Programs concurs with these recommendations.

Security and Control Environment

Access Controls

There is no formal procedure for controlling access to the RUIA document imaging system. The Office of Programs had developed Form G-67 for requesting access to PC systems, but BIS never implemented use of this form in its procedures.

This lack of a formal procedure resulted in BIS establishing access based on an Office of Programs request to have imaging software installed on PCs for the future RRA document imaging system.

The RRB's Automated Data Processing Standards and Procedures require that access to computer systems be limited to employees on a need-to-know basis. Additionally, access is to be revoked when an employee leaves his/her position.

As a result, BIS has given RUIA document imaging system access to 111 employees who do not require that access. In addition, one inactive employee who separated from the RRB in July 1999 continues to have access to the system.

Because unauthorized access is possible, there is a security risk of the RUIA document imaging system.

Recommendations:

--BIS and the Office of Programs formalize procedures to establish new users in the RUIA document imaging system (Recommendation #11).

--BIS should remove the separated employee and the active employees who do not require access to the RUIA document imaging system (Recommendation #12).

Management's Response

Concerning recommendation #11, BIS and the Office of Programs advised that the login procedures will be revised to eliminate the role of BIS in granting access to the imaging system. The BIS and the Office of Programs concur with Recommendation #12.

OIG Response

The corrective action for Recommendation #11 is acceptable to the OIG.

Management Reports

The RUIA document imaging system is not currently producing management reports on aging of cases, deleted images, social security number changes and cases returned to the workflow queue. These reports assist management in controlling the document imaging system and should have been available when the RUIA system became operational in June 1999. For example, most documents are retrieved by social security number, which makes it important for management to control the accuracy of and changes to the social security number. The management reports are produced using several Structured Query Language (SQL) tables in the document imaging system. The SQL tables contain data on the image documents, such as scan date, examiner, and work completed.

Internal control standards issued by the Government Accounting Office state that relevant, reliable and timely information should be recorded and communicated to management. Management needs aging data to determine if cases are worked timely, and deletion data to determine if images are being deleted without authorization. Some images are the agency's official record copy. The unauthorized deletion of an official record would violate Federal laws and regulations.

The management reports are still under development because revisions to reports have become necessary as the Office of Programs has made changes to the document imaging system. Some SQL tables stopped functioning when the RRB revised the tables and reports. In addition, design flaws in the SQL tables caused operational problems when the RUIA document imaging system was converted from the obsolete system in 1999.

Without reports, agency management does not have sufficient information to monitor and assess the RUIA document imaging system.

Recommendation:

The Office of Programs should complete their changes/development of the management reports for the RUIA document imaging system (Recommendation #13).

Management's Response

The Office of Programs concurs with this recommendation.

LAN Server Backup Procedures

Current backup procedures are not adequate for the LAN server containing RUIA document imaging data. BIS sends LAN server backup tapes that are one week old to the offsite storage facility, rather than the most current week's tapes.

The fundamental reason for maintaining current backup copies offsite is to recover data

timely in case of a disaster at headquarters. BIS performs full backups of the LAN system containing document imaging data approximately every seven days. Over a three-week period, three generations of backup tapes are maintained. BIS rotates the LAN tapes so that the first generation (current week's tape) is retained onsite for a full week before being sent offsite. The second generation (prior week's tape) is kept offsite and the third generation tape is returned to headquarters.

BIS sends the prior week's LAN backup tapes for offsite storage because only one set of backup tapes is made and BIS has decided to keep the current week's tapes at RRB headquarters for immediate recoveries should problems arise. In contrast, BIS generates two sets of the current backup for the RRB's mainframe operating system and database, sending one copy for offsite storage and retaining one copy at headquarters.

BIS plans to eliminate the current procedure of individual LAN tape backups by having the mainframe perform the backup of data from all LANs. The RRB has recently installed a new, higher speed data communications connection between the mainframe and all LANs. In addition, the agency has purchased a mainframe software product that will back up LAN server contents to the mainframe storage using the data communication connection. However, BIS has not prepared a project plan or determined a completion date for installation of this LAN backup software.

There is a risk of losing as much as two weeks of LAN data should a disaster strike and destroy the LAN server backup tapes kept onsite. The loss of LAN data could delay the payment of RUIA benefits because imaged documents are stored on the LAN until the RRB processes the document.

Recommendation:

BIS should complete installation of the mainframe software that will back up LAN server contents (Recommendation #14).

Management's Response

The BIS concurs with this recommendation.

Backup of the Optical Platter

The backup optical platter containing archived image documents rotates between headquarters and the offsite storage facility approximately every two weeks (similar to backup LAN server backup tapes), rather than being retained offsite for six years and three months.

RRB Form G-1 is used to request offsite security storage of electronic media for business resumption plans and to specify the retention period. After an RUIA optical platter backup is full, the RRB's Records Disposition Authority requires that the platter be retained for six

years and three months. Presently, one platter has been filled.

The backup optical platter is not properly retained offsite because the Office of Programs did not use Form G-1 to request offsite storage and to specify the retention period of six years and three months. All archived images on the optical platter backup could be lost in a disaster because the platter is not properly stored offsite.

Recommendation:

The Office of Programs should request offsite storage of all optical platter backups and specify the proper retention period using Form G-1 (Recommendation #15).

Management's Response

The Office of Programs concurs with this recommendation.

Disaster Preparedness

The document imaging system is not included in the RRB's Disaster Recovery Manual's Critical Applications Report. In addition, the Disaster Recovery Manual's PC/Office Hardware Acquisition List does not include all of the hardware necessary to run the document imaging system.

The RRB's Disaster Recovery Manual states that critical applications essential to operations are to be recovered within 72 hours after disaster declaration. Many of the critical applications, such as the RUIA Daily Claims Processing system, are now dependent upon the document imaging system. The Disaster Recovery Manual also includes a detailed listing of all PC/office hardware acquisitions necessary to resume business operations.

RRB management updated the Disaster Recovery Manual in September 1999 but failed to include the document imaging system, which became operational in June 1999. Since the document imaging system is not included in the RRB's Disaster Recovery Manual, it could be difficult for the agency to resume some critical operations within the appropriate time (72 hours) should a disaster occur at headquarters.

Recommendations:

--The Office of Programs should update the Disaster Recovery Manual's Critical Applications Report to include the document imaging system (Recommendation #16).

--The Office of Programs should update the Disaster Recovery Manual's PC/Office Hardware Acquisition List to include the appropriate hardware necessary to run the document imaging system (Recommendation #17).

Management's Response

The Office of Programs concurs with these recommendations.

A COPY OF THE APPENDIX IS AVAILABLE UPON REQUEST.