

# **Evaluation of the Railroad Retirement Board's Disaster Recovery Plan Report No. 06-08, August 14, 2006**

## **INTRODUCTION**

This report presents the results of the Office of Inspector General's evaluation of the Railroad Retirement Board's (RRB) Disaster Recovery Plan (DRP).

### **BACKGROUND**

The RRB's mission is to administer retirement and survivor insurance benefit programs for railroad workers and their families under the Railroad Retirement Act. The RRB also administers unemployment and sickness insurance benefit programs under the Railroad Unemployment Insurance Act. During Fiscal Year 2005, the RRB paid approximately \$9 billion in age and service benefits to retired workers and their families.

A DRP applies to major, usually catastrophic, events that deny physical or remote access to the normal facility for an extended period. The DRP includes a continuity of operations plan that focuses on restoring an organization's essential functions at an alternate site and performing those functions for a period of time before returning to normal operations.

The Office of Administration oversees and coordinates overall disaster recovery planning for the agency. The Bureau of Information Services (BIS) shares responsibility for plans relating to information technology systems. Over the past several years, the Information Resources Management component of BIS has taken the lead on disaster planning, with involvement by other units and the Executive Committee.

The RRB published a DRP on December 23, 2003. This plan, prepared with the assistance of Science Applications International Corporation (SAIC), outlines provisions for:

- Recovery and continuity of critical business functions performed by agency bureau and offices immediately following a major disruption or disaster, and
- Reconstitution of full normal operations when conditions permit return to original, or replacement, primary facilities.

This plan recognized that a disaster affecting RRB Headquarters (HQ) could extensively impact operations, especially if the information technology (IT) infrastructure were lost or significantly disrupted. The vast majority of the critical business functions performed by the agency are dependent on applications maintained on the RRB's mainframe. Likewise, the RRB's local area network is essential for providing connectivity between Field Office networks, HQ user workstations and the RRB's mainframe computer.

The RRB's DRP is an IT-focused plan designed to restore operability of the target system, application, or computer facility at an alternate IT site after an emergency. The RRB has established several key recovery objectives that include restoring within 15 days the functions most critical to accomplishing the agency's contingency planning objectives. Additional functions will be restored within 30 days to ensure backlogs do not become unmanageable.

### OBJECTIVE, SCOPE AND METHODOLOGY

The objective of this review was to determine if the agency's DRP provided reasonable assurance that the agency will be able to recover from a major disruption or disaster and continue critical business functions, and reconstitute full normal operations within established timeframes.

The scope of this review included the agency's most recent DRP, and any agency activity and testing that has been done.

To accomplish the objective, we:

- reviewed the DRP prepared by SAIC;
- reviewed outstanding recommendations made by SAIC;
- reviewed pertinent Federal laws, policies and background information as they related to the objective;
- conducted meetings with RRB officials to discuss agency policies and procedures;
- reviewed results of past emergency preparedness exercises for type, frequency, and thoroughness;
- assessed efforts to mitigate business disruption risks and to ensure adequate disaster preparation; and
- identified opportunities for improvement.

This review was conducted in accordance with generally accepted government auditing standards applicable to the objective. The fieldwork was performed at the RRB headquarters in Chicago, Illinois from October 2005 through June 2006.

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### **RESULTS OF REVIEW**

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The agency's DRP provides assurance that major information technology functions would be operational in the event of a disaster. But, this assurance is based on the RRB having access to a Chicago area offsite disaster recovery site. The RRB is not guaranteed access to this site and should address this risk and plan accordingly. In addition, the RRB has not tested portions of the DRP related to reconstitution of operations. Because of these vulnerabilities and other concerns presented in this report, the RRB does not have a reasonable assurance that it will be able to recover from a major disaster and perform its critical business functions in a timely manner.

## RECOVERY SITE

In the event a disaster renders the RRB headquarters unusable, the DRP calls for relocating critical business functions to an offsite recovery facility in the Chicago area. When the DRP was developed, a concern was raised that RRB's contract for this offsite facility did not provide the RRB with priority use of the site, and it was questionable whether it would be available for RRB use under "September 11, 2001, terrorist attack" conditions. In response to this concern, the RRB replied that the contractor reported they have had a 100% success rate in over 1,500 disaster declarations including many multiple disaster scenarios during the 9/11 terrorist attacks. They claimed to have supported over 90 disaster declarations as a result of the attacks.

Even with the contractor's assurances, the RRB is at risk of not having access to the Chicago area offsite recovery facility in the event of a catastrophic event. The RRB has access to the offsite facility on a first-come, first-served basis. If the offsite facility is unavailable, the contract provides for an alternate facility located in Philadelphia, PA. The RRB has not done any testing at this alternate facility. The RRB's DRP does not provide for contingencies in the event this alternate facility is required. These contingencies would include transportation and housing of employees and the impact traveling to this alternate site would have on recovery timeliness.

### Recommendation

We recommend that the Chief Information Officer (CIO) address the risk of denied access to the Chicago area disaster recovery site, and identify actions the RRB would need to take in the event this disaster recovery site is not available. The CIO should also address the use of the Philadelphia facility to include verifying and evaluating the adequacy of this secondary location and exploring housing issues (Recommendation #1).

### Management's Response

Management concurs with the recommendation. Management will update the Business Continuity Plan (BCP) with additional documentation regarding the alternate SunGard back-up site describing the secondary Philadelphia facility and potential vicinity housing. The target date for the revised BCP is December 1, 2006.

The full text of management's response is included as an appendix to this report.

## TESTING

The RRB's current DRP was created in 2003 with the help of an outside company. The RRB adequately tests the recovery phase of the DRP but needs to expand testing of the other phases.

RRB's DRP identifies the following three phases of the contingency planning/emergency response cycle:

- Notification and Activation Phase - notifying key personnel of an incident, assessing conditions and, if warranted, activating contingency plans;
- Recovery Phase - recovery of critical business functions generally at an alternate site location; and
- Reconstitution Phase - documenting in detail the damage done to the primary facility, developing a plan for its repair or replacement, accomplishing the required restoration or replacement, and reconstituting full normal operations at the original or new permanent facility.

The plan calls for testing and exercises to verify the completeness and workability of the plan, identify needed revisions to plan procedures, determine the adequacy of training, and identify revisions to training policies and procedures. Without periodic testing, there are no assurances that equipment and procedures are maintained in a constant state of readiness.

RRB policy provides that testing can be done at any of three levels:

- A Level 1 test checks the adequacy of a particular procedure or aspect of the plan, without actually performing the procedure. For example, a Level 1 test of off-site storage procedures would concentrate on the availability of the files and documentation needed for recovery.
- A Level 2 test checks the workability and adequacy of recovery and/or business resumption procedures by actually performing the procedure in-house. For example, a Level 2 test of off-site storage procedures would involve system restoration using in-house systems, recovery personnel, and off-site files and documentation.
- A Level 3 test checks on the workability and adequacy of recovery and/or business resumption procedures by actually performing the procedure at the backup site. It checks adequacy of the backup facility and management's ability to control and direct the recovery process outside the normal setting. For example, a Level 3 test on off-site storage procedures would involve system restoration and processing of contingency applications at the backup site.

RRB policy provides that each task force and committee of the recovery organization is required to test at least twice a year with one test at a Level 2 or higher. The scope of the testing can be focused on a specific aspect of the plan, several related aspects, or all aspects. Bureau/Office business resumption plans are to be tested at least twice a year, with the same level of testing and scope as for recovery organization testing.

Due to limited resources and testing time constraints, the RRB does not test the entire DRP, but primarily tests the Recovery Phase. The RRB contracts for two tests a year at a Chicago area offsite facility. These tests are allotted 24 hours each at the offsite facility. The RRB has prioritized recovery of the mainframe system and connectivity of the Local Area Network at an offsite facility as the areas to be tested on a semi-annual basis. Since 2002, the RRB has included some user applications in the testing.

A typical test involves verifying that the Mainframe Operating System (and all its components) and the Local Area Network execute properly on the offsite facility's system. The tests include successfully restoring all production databases. A user group selects production batch jobs to test. Testing also involves setting up a workstation/network environment. The user group has commented that a 24 hour test does not give them enough time to thoroughly test applications, and has suggested a two day annual test to replace the semi-annual test.

RRB's disaster testing ensures that major information technology functions would be operational in the event of a disaster and that benefit payments would be made to the current beneficiaries. However, testing offers no guarantee that other phases of the plan will be adequate to bring the RRB back to full operations. In a worse case scenario, in which both the RRB headquarters and the Chicago area offsite facilities are unusable, RRB benefit payments can be made by the Department of the Treasury (Treasury) based on Treasury's records of the RRB's previous benefit payments. However, new applications for benefits and any changes to benefits made since the last benefit payment cycle would not be correctly paid. The unprocessed work would cause delays in payments, improper payments, and create a backlog that the RRB's already strained resources would have to accommodate.

### Recommendation

We recommend that the Director of Administration, as Chairman of the Crisis Management Committee, ensure that other phases of the DRP are tested (Recommendation #2).

### Management's Response

Management concurs with the recommendation. Management will expand testing to include all phases of the contingency plans to verify the completeness and workability of the plan, to identify needed revisions to plan procedures, to determine the adequacy of training, and identify needed revisions to training policies and procedures. Target date for completion of a Level 1 test will be March 30, 2007.

The full text of management's response is included as an appendix to this report.

## RECALL ROSTERS

The RRB's DRP includes an appendix called the Emergency Management Organization (EMO) Recall Rosters. The purpose of these rosters is to have data for all personnel assigned to EMO positions in one place. This data includes contact information and the roles of critical employees that would be involved in disaster recovery. These rosters include 192 of the approximately 1,000 RRB employees. The last DRP test involved 19 people. Three of these people were not included on the recall rosters. We discussed this situation with RRB management, and they agreed everyone involved in testing should be included on the recall rosters.

The RRB sends an annual e-mail notice to each employee on the rosters asking them to confirm their contact information. However, there is no control to ensure that all critical employees are included on the Recall Rosters.

### Recommendation

We recommend that the Director of Administration establish procedures to ensure all critical employees are included on the Emergency Recall Rosters (Recommendation #3).

### Management's Response

Management concurs with the recommendation. The Executive Committee members have begun a review of the data in the Emergency Recall Roster to assess the accuracy of the information and that roster listing will be updated with any changes identified as a result of the examination. During the next annual updating cycle of the Emergency Recall Roster, procedures will call for a positive confirmation response of team membership by team leaders. Target date for completing the current review and update will be August 15, 2006.

The full text of management's response is included as an appendix to this report.

## TRAINING

The DRP describes overall training objectives that cover a wide range of outcomes from simple awareness of the major provisions of the plan to the ability to carry out specific procedures. These objectives require the trainees be able to:

- describe the recovery organization (teams and functions),
- explain the flow of recovery events and activities following a disaster,
- state one's own responsibilities in recovery activities, and
- perform assigned procedures.

The DRP calls for a training schedule with:

- initial training immediately upon assignment to a team,

- refresher training on an annual basis, and
- remedial training when determined necessary following a test/exercise.

Discussions with three employees on the recall rosters disclosed that they had not received any disaster training since the plan had been developed. Two individuals were not aware of their roles as specified by the recall roster. One person questioned if the role specified for her was appropriate.

### Recommendations

We recommend that the Director of Administration:

- revise future annual recall roster email notices to include the employee's membership on DRP teams and their role/duties and request that the employee review the information to ensure it is correct (Recommendation #4); and
- ensure that the DRP training plan is followed (Recommendation #5).

### Management's Response

Management concurs with the recommendations. During the next updating cycle of the Emergency Recall Roster, procedures will call for reviewing and verifying the accuracy of DRP team membership along with the contact information. Target date for completing the roster update will be February 28, 2007.

Management will develop procedures for DRP team leaders to annually meet with their respective team members to ensure that each participant understands their roles and duties in the event that the plans need to be executed. Target date for completing this will be March 30, 2007.

The full text of management's response is included as an appendix to this report.

### OTHER CONSIDERATIONS

The RRB's current DRP was finalized in 2003. Although this is recent, the 2005 Hurricane Katrina in New Orleans showed how vulnerable federal disaster plans could be. Issues that arose there should be addressed in updates to the RRB's DRP.

Directors of Federal Executive Boards across the country, and managers from seven Atlanta-area agencies met in March 2006 to discuss lessons learned from Katrina. The following is a summary of lessons learned:

- Agencies should change their entire paradigm to be less focused on information technology and more on business recovery and deployment of people.

- Federal managers say the most unexpected problem following Hurricane Katrina was the collapse of the region's telephone infrastructure. None of the three area codes in and around New Orleans worked. Not only could managers not contact employees, but employees could not contact their families, compounding the already stressful situation.
- Most agencies have call-in numbers for sharing emergency information, but those rely upon a functioning communications infrastructure. Experts recommend an out-of-town number for employees to call during emergencies. Making sure employees know where to call and where to get information and changing instructions is vital.
- Agencies need to maintain updated contact information on employees and develop alternate means of reaching workers before and after emergencies. Employees should provide agencies with the numbers of out-of-town relatives or other contacts.
- Another problem for managers after Katrina was the lack of a single database for tracking down where people had fled. Even though they may not be essential, we need to know where they are so we can bring them back to the federal work force if necessary.
- Agency emergency plans must also account for employees' families. Family emergency plans should be a key part of every agency's emergency plans, said FEMA. The San Francisco Federal Executive Board hosted a training session on family support planning in March, and family considerations are being incorporated into its July disaster-response exercise.
- Experts say agencies should prepare contracts and agreements for housing ahead of time. Most agencies now typically make arrangements only for alternate worksites, back-up computers and IT services.
- After Katrina, many agencies learned the value of teleworking. As a result, disaster recovery planners are trying to incorporate teleworking into their plans and exercises.
- In their planned July exercise, San Francisco agencies are going to simulate a pandemic, such as an avian flu outbreak. In the past, emergency plans were based on getting key personnel to an alternate work site. But if a pandemic broke out, the priority would be preserving public health. Because employees would be working from home and tending to their families, agencies need to be more proactive about setting up telework arrangements.

### Recommendation

We recommend that the Director of Administration address the above issues and consider how the RRB can update the DRP and disaster testing to better prepare for a disaster (Recommendation #6).

## Management's Response

Management concurs with the recommendation. Management will review the nine lessons from the Hurricane Katrina experience and plan further modifications taking into consideration how those recommendations may better prepare the RRB for a disaster. Target date for the revised BCP is December 1, 2006.

The full text of management's response is included as an appendix to this report.



UNITED STATES GOVERNMENT

## MEMORANDUM

August 10, 2006

TO : Henrietta B. Shaw  
Assistant Inspector General, Audit

FROM *for* Terri S. Morgan *Terri S. Morgan*  
Chief Information Officer

*Henry M. Valiulis*  
Henry M. Valiulis  
Director of Administration

SUBJECT : Draft Report – Evaluation of the Railroad Retirement Board’s  
Disaster Recovery Plan

Thank you for the opportunity to review and comment on your draft report entitled - Evaluation of the Railroad Retirement Board’s Disaster Recovery Plan. The Chief Information Officer and I recognize our roles in the RRB’s emergency management framework and have made significant strides toward ensuring the delivery of essential agency services in the event of an emergency. We have completed our review of the subject report and have the following comments.

**Recommendation 1** – We recommend that the Chief Information Officer (CIO) address the risk of denied access to the Chicago area disaster recovery site, and identify actions the RRB would need to take in the event this disaster recovery site is not available. The CIO should also address the use of the Philadelphia facility to include verifying and evaluating the adequacy of this secondary location and exploring housing issues.

**Management Response** – We concur with the recommendation. The BCP will be updated with additional documentation regarding the alternate SunGard back-up site describing the secondary Philadelphia facility and potential vicinity housing. The target date for the revised BCP is December 1, 2006.

**Recommendation 2** – We recommend that the Director of Administration, as Chairman of the Crisis Management Committee, ensure that other phases of the DRP are tested.

**Management Response** – We concur with the recommendation. Testing will be expanded to include all phases of the contingency plans to verify the completeness and workability of the plan, to identify needed revisions to plan procedures, to determine the adequacy of training, and identify needed revisions to training policies and procedures. Target date for completion of a Level 1 test will be March 30, 2007.

**Recommendation 3** – We recommend that the Director of Administration establish procedures to ensure all critical employees are included on the Emergency Recall Rosters.

**Management Response** – We concur with the recommendation. The Executive Committee members have begun a review of the data in the Emergency Recall Roster to assess the accuracy

of the information and that roster listing will be updated with any changes identified as a result of the examination. During the next annual updating cycle of the Emergency Recall Roster, procedures will call for a positive confirmation response of team membership by team leaders. Target date for completing the current review and update will be August 15, 2006.

**Recommendation 4** – We recommend that the Director of Administration revise future annual recall roster email notices to include the employee's membership on DRP teams and their role/duties and request that the employee review the information to ensure it is correct.

**Management Response** – We concur with this recommendation. During the next updating cycle of the Emergency Recall Roster, procedures will call for reviewing and verifying the accuracy of DRP team membership along with the contact information. Target date for completing the roster update will be February 28, 2007.

**Recommendation 5** – We recommend that the Director of Administration ensure that the DRP training plan is followed.

**Management Response** – We concur with this recommendation. We will develop procedures for DRP team leaders to annually meet with their respective team members to ensure that each participant understands their roles and duties in the event that the plans need to be executed. Target date for completing this will be March 30, 2007.

**Recommendation 6** – We recommend that the Director of Administration address the above issues and consider how the RRB can update the DRP and disaster testing to better prepare for a disaster.

**Management Response** – We concur with the recommendation. We will review the nine lessons from the Hurricane Katrina experience and plan further modifications taking into consideration how those recommendations may better prepare the RRB for a disaster. Target date for the revised BCP is December 1, 2006.

cc: Executive Committee  
Robert Piech, Chief Security Officer  
Linda Wimbourne, Management Analyst