



Evaluation Report



OIG-CA-08-011

INFORMATION TECHNOLOGY: BEP BEPMIS Disaster Recovery Exercise Was Successful

September 15, 2008

Office of
Inspector General
Department of the Treasury

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Abbreviations

BEP	Bureau of Engraving and Printing
BEPMIS	Bureau of Engraving and Printing Management Information System
DRE	Disaster Recovery Exercise
OIG	Office of Inspector General

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*The Department of the Treasury
Office of Inspector General*

September 15, 2008

Larry R. Felix, Director
Bureau of Engraving and Printing

Our overall objective for this evaluation was to determine if the Bureau of Engraving and Printing (BEP) could successfully demonstrate its Bureau of Engraving and Printing Management Information System (BEPMIS) disaster recovery capability. In addition, we followed up on findings from the previous disaster recovery exercise (DRE). To accomplish this objective, we observed the DRE held at BEP's disaster recovery site on April 3, 2008, and performed other evaluation procedures as necessary.

A more detailed description of our objectives, scope, and methodology is provided in appendix 1.

Results In Brief

BEP successfully demonstrated its BEPMIS disaster recovery capability in April 2008 by meeting the established primary exercise objectives of restoring the system at an alternate facility, using unencrypted tapes created for the exercise, and performing verification tests. In addition, we found that BEP had addressed the three findings in our prior report and implemented the corresponding recommendations.¹ However, BEP did not successfully demonstrate the secondary objective of the DRE. This objective was to successfully restore a second set of backup tapes created with encryption. Consequently, we have one recommendation relating to this issue.

¹ *Information Technology: The Bureau of Engraving and Printing's Disaster Recovery Capability Needs Improvement*, OIG-07-031 (Feb. 9, 2007).

Background

BEP's mission is to design and manufacture high-quality security documents that deter counterfeiting and meet customer requirements for quality, quantity, and performance. BEP security documents include Federal Reserve notes, identification cards, naturalization certificates, and other special security documents. To fulfill its responsibilities and mission, BEP relies on the availability of its mainframe, which is the bureau's primary computing resource for its enterprise system and production data.

Finding and Recommendation

Finding **BEP Successfully Demonstrated Disaster Recovery Capability for BEPMIS, but Restoration From Encrypted Media Failed**

BEP successfully demonstrated its disaster recovery capability for BEPMIS by restoring the system at an alternate facility and performing verification tests. The system was reconstituted from a set of unencrypted tapes. BEP users at multiple locations then logged into the system and tested the associated applications. In addition, BEP addressed the three findings identified in our prior report and implemented the corresponding recommendations. The implemented recommendations were as follows:

1. BEP should ensure that explicit test objectives and success criteria for each DRE be formally documented.
2. BEP should ensure that remote access to the mainframe has been established.
3. BEP should ensure that all DRE issues and lessons learned are documented and formally reported to appropriate BEP officials.

BEP implemented the first recommendation by creating a test plan specifically for the April 3, 2008, DRE that included the test objectives and success criteria for the mainframe test. We noted that this plan did not include the instructions for the specific test steps to be performed on the Consolidated Application System. However, the testers had their own instructions available to them

that were not included in the test plan. All test instructions should be included in future test plans.

BEP addressed the second recommendation by ensuring that remote access to the mainframe had been established. During the exercise, we observed that remote access was verified as operational by two different remote users who successfully connected to the mainframe to conduct their tests.

BEP implemented the third recommendation by submitting its after-action report in accordance with the requirements of Treasury Chief Information Officer memorandum "Testing of Contingency Plans" (TCIO-M-06-04). However, the after-action report could have been improved if BEP had included summaries of the results for each individual test. The report instead referenced the documents containing the results that resided only on BEP's internal network.

While the primary objective of reconstituting BEPMIS and performing verification testing was successful, the secondary objective of restoring BEPMIS from encrypted backup tapes used in the production environment failed. BEP was unable to restore an operational system from the encrypted tapes because the recovery system lacked the necessary software and because certain files were mistakenly placed in the encrypted libraries.

Recommendation

We recommend that BEP test the full recovery of BEPMIS using the encrypted media during the next scheduled DRE.

Management Response

Management concurred with our recommendation and plans to conduct a DRE using encrypted tapes in September 2008.

OIG Comment

The action planned by BEP satisfies the intent of the recommendation.

* * * * *

I would like to extend my appreciation to BEP for the cooperation and courtesies extended to my staff during the review. If you have any questions, please contact me at (202) 927-5171 or Gerald Steere, Information Technology Specialist, Office of Information Technology Audits, at (202) 927-6351. Major contributors to this report are listed in appendix 3.

/s/

Tram J. Dang
Director, Office of Information Technology Audits

Our overall objective for this evaluation was to determine if the Bureau of Engraving and Printing (BEP) could successfully demonstrate its disaster recovery capability for the Bureau of Engraving and Printing Management Information System.² We accomplished this objective by (1) observing the disaster recovery exercise held April 3, 2008; (2) interviewing appropriate information technology personnel; and (3) reviewing and analyzing BEP's pre- and post-exercise documentation.

As criteria to assess the results of the exercise, we used National Institute of Standards and Technology Special Publication 800-34, "Contingency Planning Guide for Information Technology Systems"; Office of Management and Budget Circular No. A-130, Appendix III, "Security of Federal Automated Information Resources"; Office of Management and Budget Memorandum M-07-16, "Safeguarding Against and Responding to the Breach of Personally Identifiable Information"; and Treasury Chief Information Officer Memorandum TCIO-M-06-04, "Testing of Contingency Plans." We performed our fieldwork at BEP's disaster recovery site on April 3, 2008.

We conducted our work in accordance with the President's Council on Integrity and Efficiency and Executive Council on Integrity and Efficiency's Quality Standards for Inspections.

² This evaluation was included in the Treasury OIG *Fiscal Year 2008 Annual Plan* (December 2007), p. 30.

Appendix 2
Management Comments



DEPARTMENT OF THE TREASURY
BUREAU OF ENGRAVING AND PRINTING
WASHINGTON, D.C. 20228

August 27, 2008

MEMORANDUM FOR TRAM J. DANG, DIRECTOR
OFFICE OF INFORMATION TECHNOLOGY AUDITS
OFFICE OF INSPECTOR GENERAL

FROM: Leonard R. Olijar
Chief Financial Officer

SUBJECT: Draft Report – Information Technology: BEP BEPMIS
Disaster Recovery Exercise Successful

Thank you for the opportunity to review the Office of Inspector's General's (OIG) draft report "Information Technology: BEP BEPMIS Disaster Recovery Exercise Successful". The Bureau of Engraving and Printing (BEP) offers the following comments on the draft report.

Recommendation #1:

We recommend that BEP test the full recovery of BEPMIS using the encrypted media during the next scheduled Disaster Recovery Exercise (DRE).

Comment:

BEP concurs with this recommendation and will test the full recovery of BEPMIS using the encrypted media during our next DRE on September 24, 2008.

Appendix 3
Major Contributors

Office of Information Technology Audits

Tram J. Dang, Director

Gerald J. Steere, Information Technology Specialist (Lead)

Abdirahman M. Salah, Information Technology Specialist

Michael S. Stein, Referencer

Appendix 4
Report Distribution

Department of the Treasury

Office of Accounting and Internal Control
Office of Strategic Planning and Performance Management
Office of the Chief Information Officer

Office of Management and Budget

Office of Inspector General Budget Examiner