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United States General Accounting Office
Washington, DC 20548

March 14, 2003

Louise L. Roseman, Director
Division of Reserve Bank Operations
and Payment Systems
Board of Governors of the Federal
Reserve System

Subject: *Federal Reserve Banks: Areas for Improvement in Computer Controls*

Dear Ms. Roseman:

In connection with fulfilling our requirement to audit the financial statements of the U.S. government,¹ we audited and reported on the Schedules of Federal Debt Managed by the Bureau of the Public Debt (BPD) for the fiscal years ended September 30, 2002 and 2001.² As part of these audits, we performed a review of the general and application computer controls over key financial systems maintained and operated by the Federal Reserve Banks (FRBs) on behalf of the Department of the Treasury's BPD.

Many of the FRBs perform fiscal agent services on behalf of the U.S. government, including BPD. The debt-related services primarily consist of issuing, servicing, and redeeming Treasury securities and processing secondary market securities transfers. In fiscal year 2002, the FRBs issued about \$3.7 trillion in federal debt securities to the public, redeemed about \$3.5 trillion of debt held by the public, and processed about \$139 billion in interest payments on debt held by the public. FRB data centers maintain and operate key BPD financial applications and an array of financial and information systems to process and reconcile monies disbursed and collected on behalf of BPD.

We use a risk-based, rotation approach for testing general and application computer controls. Each significant data center and key application is subjected every three years to a full-scope review that includes testing in all the computer control areas defined in our *Federal Information System Controls Audit Manual*.³ Areas considered to be of higher risk are subject to more frequent review. We performed our work at certain FRBs from May 2002 through October 2002. Our work was performed in accordance with U.S. generally accepted government auditing

¹31 U.S.C. 331(e) (2000).

²U.S. General Accounting Office, *Financial Audit: Bureau of the Public Debt's Fiscal Years 2002 and 2001 Schedules of Federal Debt*, GAO-03-199 (Washington, D.C.: Nov. 1, 2002).

³U.S. General Accounting Office, *Federal Information System Controls Audit Manual*, GAO/AIMD-12.19.6 (Washington, D.C.: January 1999).

standards. We requested comments on a draft of this report from the Board of Governors of the Federal Reserve System. The comments are summarized later in this report and are reprinted in the enclosure.

As noted above, our review addressed both general and application computer controls. General computer controls are the structure, policies, and procedures that apply to an entity's overall computer operations. General computer controls establish the environment in which application systems and controls operate. An effective general control environment helps (1) ensure that an adequate entitywide program for security management is in place, (2) protect data, files, and programs from unauthorized access, modification, disclosure, and destruction, (3) limit and monitor access to programs and files that control computer hardware and secure applications, (4) prevent the introduction of unauthorized changes to systems and applications software, (5) prevent any one individual from controlling key aspects of computer-related operations, and (6) ensure the recovery of computer processing operations in case of a disaster or other unexpected interruption. An effective application control environment helps ensure that transactions performed by individual computer programs are valid, properly authorized, and completely and accurately processed and reported.

As we reported in connection with our audit of the Schedules of Federal Debt for the fiscal years ended September 30, 2002 and 2001,⁴ BPD maintained, in all material respects, effective internal control, including general and application computer controls, relevant to the Schedule of Federal Debt related to financial reporting and compliance with applicable laws and regulations as of September 30, 2002. BPD's internal control provided reasonable assurance that misstatements, losses, or noncompliance material in relation to the Schedule of Federal Debt for the fiscal year ended September 30, 2002, would be prevented or detected on a timely basis. We found matters involving computer controls that we do not consider to be reportable conditions.⁵

Our follow-up on the status of the FRBs' corrective actions to address unresolved vulnerabilities identified in prior years' audits found that the FRBs had taken corrective action for five of the nine open recommendations discussed in our prior report⁶ and were in the process of addressing the remaining four. The remaining four specific technical vulnerabilities relate to the areas of access controls at one data center and access controls, system software, and service continuity at another data center.

In a separately issued Limited Official Use Only report, we communicated detailed information to FRB managers regarding our findings and recommendations that address the four remaining vulnerabilities. None of our findings pose significant risks

⁴GAO-03-199.

⁵Reportable conditions are matters coming to our attention that, in our judgment, should be communicated because they represent significant deficiencies in the design or operation of internal control, which could adversely affect the organization's ability to meet the objectives of reliable financial reporting and compliance with applicable laws and regulations.

⁶U.S. General Accounting Office, *Federal Reserve Banks: Areas for Improvement in Computer Controls*, GAO-02-1018R (Washington, D.C.: Aug. 29, 2002).

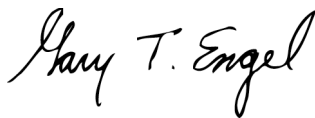
to the BPD financial systems. Nevertheless, they warrant FRB managers' action to further limit the risk of inappropriate disclosure and modification of sensitive data and programs, misuse of or damage to computer resources, and disruption of critical operations.

In commenting on a draft of this report, the Board of Governors of the Federal Reserve System stated that overall it found the review helpful and that the information in this report and the Limited Official Use Only report will assist the FRBs in their ongoing efforts to enhance the integrity of their automated systems and information security practices. The Board of Governors also stated that the four vulnerabilities remaining as of September 30, 2002, have been or will be corrected and pledged to monitor the status of uncorrected items.

We are sending copies of this report to the Chairmen and Ranking Minority Members of the Senate Committee on Governmental Affairs; the Subcommittee on Transportation, Treasury, and General Government, Senate Committee on Appropriations; the House Committee on Government Reform; and the Subcommittee on Transportation, Treasury, Postal Service, and General Government, House Committee on Appropriations. We are also sending copies of this report to the Chairman of the Board of Governors of the Federal Reserve System and the Director of the Office of Management and Budget. Copies will also be made available to others upon request. In addition, the report will be available at no charge on GAO's website at <http://www.gao.gov>.

If you have any questions regarding this report, please contact Louise DiBenedetto, Assistant Director, at (202) 512-6921. Other key contributors to this assignment were Gerald Barnes, Denise Fitzpatrick, Mickie Gray, David B. Hayes, and Ronald Parker.

Sincerely yours,



Gary T. Engel
Director
Financial Management and Assurance

Enclosure

Enclosure

Comments from the Board of Governors of the Federal Reserve System



BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

LOUISE L. ROSEMAN
DIRECTOR
DIVISION OF
RESERVE BANK OPERATIONS
AND PAYMENT SYSTEMS

January 24, 2003

Mr. Gary T. Engel
Director
Financial Management and Assurance
United States General Accounting Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Mr. Engel:

We appreciate the opportunity to comment on the General Accounting Office's draft report assessing the Federal Reserve Banks' information security associated with the applications that support their role as fiscal agents of the United States. The GAO's review was performed as part of the audit of the U.S. government's fiscal year 2002 financial statements.

Overall, we found the review and report helpful. The report provides information that will assist the Reserve Banks in their ongoing efforts to enhance the integrity of their automated systems and information security practices. The Federal Reserve shares lessons learned from this review and its internal reviews more broadly within the System to improve controls, processes and internal audit procedures.

We agree with GAO's assessment that the Reserve Banks have implemented effective controls over these applications. We also agree with the GAO's assessment that while the vulnerabilities identified in the report do not pose significant risks to the Treasury's financial systems, they still warrant management's attention. Of the four vulnerabilities in the report that require attention, we have corrected or will correct all of them. Federal Reserve Board staff will monitor the status of uncorrected items. Internal auditors at the Reserve Banks will confirm all corrective measures taken.

Sincerely,

A handwritten signature in cursive script, appearing to read "Louise L. Roseman".

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