

United States Government Accountability Office
Washington, DC 20548

May 9, 2013

The Honorable David A. Lebryk
Commissioner
Bureau of the Fiscal Service
U.S. Department of the Treasury

Subject: *Bureau of the Public Debt: Areas for Improvement in Information Systems Controls*

Dear Mr. Lebryk:

In connection with fulfilling our requirement to audit the consolidated 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)² for the fiscal years ended September 30, 2012 and 2011.³ As part of these audits, we performed a review of information systems controls over key BPD financial systems relevant to the Schedule of Federal Debt.

As we reported in connection with our audit of the Schedules of Federal Debt for the fiscal years ended September 30, 2012 and 2011, we concluded that BPD maintained, in all material respects, effective internal control over financial reporting relevant to the Schedule of Federal Debt as of September 30, 2012, that provided reasonable assurance that misstatements, losses, or noncompliance material in relation to the Schedule of Federal Debt would be prevented, or detected and corrected, on a timely basis. However, we identified information systems deficiencies affecting internal control over financial reporting which, while we do not consider them individually or collectively to be either material weaknesses or significant deficiencies, nevertheless warrant the attention and action of

¹31 U.S.C. § 331(e)(2). Federal debt and related activity and balances managed by BPD during fiscal years 2012 and 2011 were also significant to the consolidated financial statements of the Department of the Treasury (see 31 U.S.C. § 3515(b)).

²According to Department of the Treasury officials, on October 7, 2012, the Secretary of the Treasury (1) established the Bureau of the Fiscal Service as a bureau within the Department of the Treasury, (2) consolidated and redesignated BPD and the Financial Management Service as the Bureau of the Fiscal Service, and (3) transferred the duties of the BPD and Financial Management Service commissioners to the Commissioner of the Bureau of the Fiscal Service. We are addressing the report and new recommendations being made to the Commissioner of the Bureau of the Fiscal Service. Elsewhere in this report, we refer to BPD, which was responsible for managing the Schedules of Federal Debt when we performed our audit work in prior years.

³GAO, *Financial Audit: Bureau of the Public Debt's Fiscal Years 2012 and 2011 Schedules of Federal Debt*, GAO-13-114 (Washington, D.C.: Nov. 8, 2012).

management.⁴ Furthermore, in late fiscal year 2011, the Department of the Treasury (Treasury) began consolidating the data centers and related operations of Treasury's BPD and Financial Management Service (FMS). Given the significant role that certain information systems have in managing federal debt, it will be important that Treasury management assesses risks associated with the consolidation of the data centers and related operations and ensures that internal control over the information systems in these data centers is effectively designed and implemented.

This report presents the deficiencies we identified during our fiscal year 2012 testing of information systems controls over key BPD financial systems relevant to the Schedule of Federal Debt. This report also includes the results of our follow-up on the status of BPD's corrective actions to address information systems control-related deficiencies and associated recommendations contained in our prior years' reports and open as of September 30, 2011. In a separately issued Limited Official Use Only report, we communicated detailed information regarding our findings and related recommendations to the Commissioner of the Bureau of the Fiscal Service.

We also assessed information systems controls over key financial systems maintained and operated by the Federal Reserve Banks (FRB) on behalf of Treasury relevant to the Schedule of Federal Debt. We issued a separate report to the Board of Governors of the Federal Reserve System on the results of that assessment.

Results in Brief

During our fiscal year 2012 audit, we identified four new general information systems control deficiencies related to access controls and configuration management. In the Limited Official Use Only report, we made four recommendations to address these control deficiencies.

None of the control deficiencies we identified represented significant risks to BPD financial systems. The potential effect of these deficiencies on the Schedule of Federal Debt financial reporting was mitigated by BPD's physical security measures and a program of monitoring user and system activity, as well as compensating management and reconciliation controls designed to detect potential misstatements of the Schedule of Federal Debt.

In addition, during our follow-up on the status of BPD's corrective actions to address information systems control-related deficiencies and associated recommendations contained in our prior years' reports and open as of September 30, 2011, we determined that corrective action was complete for 7 of the 16 open recommendations and corrective action was in progress for each of the 9 remaining open recommendations related to access controls, configuration management, and segregation of duties.

The Commissioner of the Bureau of the Fiscal Service provided comments on the detailed findings and recommendations in the separately issued Limited Official Use Only report. In those comments, the Commissioner stated that, subsequent to September 30, 2012, one of the four new information systems control-related deficiencies, as well as the deficiencies associated with two of the nine remaining open recommendations contained in our prior

⁴A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness yet important enough to merit attention by those charged with governance. A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis.

years' reports, have been successfully remediated. Additionally, the Commissioner cited planned corrective actions to address the remaining open information systems control-related deficiencies.

Background

Treasury is authorized by Congress to borrow money backed by the full faith and credit of the United States to fund federal operations. Treasury is responsible for prescribing the debt instruments and otherwise limiting and restricting the amount and composition of the debt. Treasury is also responsible for issuing and redeeming debt instruments, paying interest to investors, and accounting for the resulting debt. In addition, Treasury maintains an investment program for federal government accounts, including trust funds, that have legislative authority to invest temporary cash reserves not needed for current benefits and expenses.

As of September 30, 2012 and 2011, federal debt managed by Treasury's BPD totaled about \$16.1 trillion and \$14.8 trillion, respectively, primarily for moneys borrowed to fund the federal government's operations. These balances consisted of approximately (1) \$11.3 trillion and \$10.1 trillion of debt held by the public as of September 30, 2012 and 2011, respectively, and (2) \$4.8 trillion and \$4.7 trillion of intragovernmental debt holdings as of September 30, 2012 and 2011, respectively. Total interest expense on federal debt managed by BPD for fiscal years 2012 and 2011 was about \$432 billion and \$454 billion, respectively.

Treasury relies on a number of interconnected financial systems and electronic data to process and track the money that it borrows and to account for the securities it issues. Many FRBs provide fiscal agent services on behalf of Treasury. Such services primarily consist of issuing, servicing, and redeeming Treasury securities held by the public and handling the related transfers of funds. FRBs use a number of key financial systems to process debt-related transactions. Detailed data initially processed at FRBs are summarized and then forwarded electronically to the appropriate Treasury data center for matching, verification, and posting to the general ledger.

General information systems controls are the structure, policies, and procedures that apply to an entity's overall computer operations. General information systems controls establish the environment in which the application systems and controls operate. They include five general control areas—security management, access controls, configuration management, segregation of duties, and contingency planning.⁵ An effective general information systems control environment (1) provides a framework and continuing cycle of activity for managing risk, developing security policies, assigning responsibilities, and monitoring the adequacy of the entity's computer-related controls (security management); (2) limits or detects access to computer resources such as data, programs, equipment, and facilities, thereby protecting them against unauthorized modification, loss, and disclosure (access controls); (3) prevents unauthorized changes to information system resources, such as software programs and hardware configurations, and provides reasonable assurance that systems are configured and operating securely and as intended (configuration management); (4) includes policies, procedures, and an organizational structure to manage who can control key aspects of computer-related operations (segregation of duties); and (5) protects critical and sensitive

⁵GAO, *Government Auditing Standards*, GAO-07-731G (Washington, D.C.: July 2007). The July 2007 revision of *Government Auditing Standards* has been superseded by the December 2011 revision, GAO, *Government Auditing Standards*, GAO-12-331G (Washington, D.C.: December 2011). However, the July 2007 revision is cited here because this version was effective for our audit of the Schedules of Federal Debt Managed by BPD for the fiscal years ended September 30, 2012 and 2011.

data, and provides for critical operations to continue without disruption or be promptly resumed when unexpected events occur (contingency planning).

Objectives, Scope, and Methodology

Our objectives were to evaluate information systems controls over key financial systems maintained and operated by, and on behalf of, Treasury that are relevant to the Schedule of Federal Debt, and to determine the status of BPD's corrective actions to address information systems control-related deficiencies and associated recommendations in our prior years' reports for which actions were not complete as of September 30, 2011. Our evaluation of information systems controls was conducted using the Federal Information System Controls Audit Manual.⁶

To evaluate information systems controls, we identified and reviewed BPD's information systems control policies and procedures, observed controls in operation, conducted tests of controls, and held discussions with officials at the appropriate Treasury data center to determine whether controls were adequately designed, implemented, and operating effectively.

The scope of our general information systems controls work for fiscal year 2012 included (1) following up on open recommendations from our prior years' reports and (2) using a risk-based approach to testing the five general control areas related to the systems in which the applications operate and other critical control points in the systems or networks that could have an impact on the effectiveness of the information systems controls at BPD in the current year. In addition, we assessed software and network security by reviewing vulnerability scans over key BPD financial systems relevant to the Schedule of Federal Debt.

We determined whether relevant application controls were appropriately designed and implemented, and then performed tests to determine whether the application controls were operating effectively. We reviewed six key BPD applications relevant to the Schedule of Federal Debt to determine whether the application controls were designed and operating effectively to provide reasonable assurance that

- all transactions that occurred were input into the system, accepted for processing, processed once and only once by the system, and properly included in output;
- transactions were properly recorded in the proper period, key data elements input for transactions were accurate, data elements were processed accurately by applications that produce reliable results, and output was accurate;
- all recorded transactions actually occurred, were related to the organization, and were properly approved in accordance with management's authorization, and output contained only valid data;
- application data and reports and other output were protected against unauthorized access; and
- application data and reports and other relevant business information were readily available to users when needed.

We also reviewed the application information systems control audit documentation from the work performed by the Treasury Office of Inspector General's contractor on two other key BPD applications. In addition, we performed additional procedures related to the segregation of duties between users of a key FMS application and users of a key BPD

⁶GAO, *Federal Information System Controls Audit Manual*, GAO-09-232G (Washington, D.C.: February 2009).

application. We performed these additional procedures in response to Treasury's ongoing initiative to consolidate the data centers and related operations of BPD and FMS.

Because FRBs are integral to the processing of federal debt transactions, we also evaluated information systems controls over key financial systems maintained and operated by FRBs on behalf of Treasury that are relevant to the Schedule of Federal Debt, and determined the status of FRBs' corrective actions to address information systems control-related deficiencies and associated recommendations contained in our prior years' reports for which actions were not complete as of September 30, 2011. This included using a risk-based approach to testing the five general control areas related to the systems in which the applications operate and other critical control points in the systems or networks that could have an impact on the effectiveness of the information systems controls at the relevant FRBs. We also evaluated the relevant application controls over four applications maintained and operated by FRBs.

The independent public accounting (IPA) firm of Cotton & Company LLP evaluated and tested certain BPD information systems controls, including the follow-up on the status of BPD's corrective actions during fiscal year 2012 to address open recommendations from our prior years' reports. We agreed on the scope of the audit work, monitored the IPA firm's progress, and reviewed the related audit documentation to determine whether the firm's findings were adequately supported.

During the course of our work, we communicated our findings to BPD management. We plan to follow up to determine the status of corrective actions taken for matters open as of September 30, 2012, during our audit of the fiscal year 2013 Schedule of Federal Debt.

We performed our work in accordance with U.S. generally accepted government auditing standards. We believe that our audit provided a reasonable basis for our conclusions in this report.

As noted above, we obtained agency comments on the detailed findings and recommendations in a draft of the separately issued Limited Official Use Only report. The Commissioner of the Bureau of the Fiscal Service's comments are summarized in the Agency Comments and Our Evaluation section of this report.

Assessment of BPD's Information Systems Controls

During our fiscal year 2012 testing, we identified opportunities to strengthen certain information systems controls that support key BPD financial systems relevant to the Schedule of Federal Debt. Specifically, we identified four new general information systems control deficiencies related to access controls and configuration management. We considered these deficiencies in determining that there was not a material weakness or significant deficiency in internal control over financial reporting relevant to the Schedule of Federal Debt.

Access controls are important because they limit access or detect inappropriate access to computer resources (data, equipment, and facilities), thereby protecting them from unauthorized modification, loss, and/or disclosure. Such controls include logical access controls and physical access controls. The new access control deficiencies we identified during fiscal year 2012 related to logical access controls. Effectively designed and implemented logical access controls require users to authenticate themselves through the use of passwords or other identifiers, and limit the files and other resources that authenticated users can access and the actions that they can execute based on a valid need that is determined by assigned official duties.

Configuration management is important because it involves the identification and management of security features for all hardware, software, and firmware components of an information system at a given point and systematically controls changes to that configuration during the system's life cycle. Effectively designed and implemented configuration management controls provide reasonable assurance that only authorized and fully tested changes are made to critical components at each system sublevel (i.e., network, operating systems, and infrastructure applications). In addition, effectively designed and implemented configuration management controls provide reasonable assurance that applications and changes to the applications go through a formal, documented systems development process that identifies all changes to the baseline configuration. To help ensure that changes to applications are necessary, work as intended, and do not result in the loss of data or program integrity, such changes should be documented, authorized, tested, and independently reviewed.

In a separately issued Limited Official Use Only report, we communicated to the Commissioner of the Bureau of the Fiscal Service detailed information regarding the four new general information systems control deficiencies and made four recommendations to address these control deficiencies.

In addition, our fiscal year 2012 follow-up on the status of actions taken by BPD to address previously identified, but unresolved, general information systems control deficiencies as of September 30, 2011, found that corrective action was complete for 7 of the 16 open recommendations and corrective action was in progress for each of the 9 remaining open recommendations related to access controls, configuration management, and segregation of duties.

None of the control deficiencies we identified represented significant risks to BPD financial systems. The potential effect of these deficiencies on the Schedule of Federal Debt financial reporting was mitigated by BPD's physical security measures and a program of monitoring user and system activity, as well as compensating management and reconciliation controls designed to detect potential misstatements of the Schedule of Federal Debt. Nevertheless, these deficiencies increase the risk of unauthorized access, loss, modification, or disclosure of sensitive data and programs and disruption of critical operations and, therefore, warrant the attention and action of management.

Agency Comments and Our Evaluation

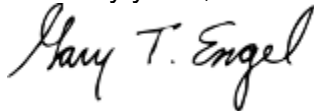
The Commissioner of the Bureau of the Fiscal Service provided comments on the detailed findings and recommendations in the separately issued Limited Official Use Only report. In those comments, the Commissioner stated that, subsequent to September 30, 2012, one of the four new information systems control-related deficiencies has been successfully remediated and that corrective actions to address the remaining three are expected to be complete by June 2013. Additionally, the Commissioner stated that, subsequent to September 30, 2012, the information systems control-related deficiencies associated with two of the nine remaining open recommendations from our prior years' reports have been successfully remediated. The Commissioner further stated that corrective actions to address the seven remaining open recommendations are expected to be complete by September 2013. We plan to follow up to determine the status of corrective actions taken to address the deficiencies open as of September 30, 2012, during our audit of the fiscal year 2013 Schedule of Federal Debt.

In the separately issued Limited Official Use Only report, we noted that the head of a federal agency is required by 31 U.S.C. § 720 to submit a written statement on actions taken on our recommendations to the Senate Committee on Homeland Security and Governmental Affairs and to the House Committee on Oversight and Government Reform not later than 60 days after the date of the Limited Official Use Only report. A written statement must also be sent to the Senate and House Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of that report. In the Limited Official Use Only report, we also requested a copy of your responses.

We are sending copies of this report to interested congressional committees, the Secretary of the Treasury, the Inspector General of the Department of the Treasury, and the Director of the Office of Management and Budget. In addition, this report is available at no charge on the GAO website at <http://www.gao.gov>.

If you have any questions regarding this report, please contact me at (202) 512-3406 or engelg@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff members who made major contributions to this report include Dianne D. Guensberg, David B. Hayes, Jeffrey L. Knott, and Dawn B. Simpson (Assistant Directors); Nicole M. Burkart; Dean D. Carpenter; Kristi C. Dorsey; and Seong Bin Park.

Sincerely yours,

A handwritten signature in black ink that reads "Gary T. Engel". The signature is written in a cursive style with a large, stylized "G" and "E".

Gary T. Engel
Director
Financial Management and Assurance

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