



OFFICE OF INSPECTOR GENERAL AUDIT REPORT

Report on Internal Control Related to the Audit of the Pension Benefit Guaranty Corporation's Fiscal Year 2017 and 2016 Financial Statements

**Report No. AUD-2018-6
November 17, 2017**

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Office of Inspector General
Pension Benefit Guaranty Corporation

November 17, 2017

TO: Tom Reeder
Director

Patricia Kelly
Chief Financial Officer

FROM: Robert A. Westbrooks
Inspector General

SUBJECT: Report on Internal Control Related to the Pension Benefit Guaranty Corporation's
Fiscal Years 2017 and 2016 Financial Statement Audit (AUD-2018-6/FA-17-119-3)

I am pleased to transmit the report prepared by CliftonLarsonAllen, LLP resulting from their audit of the PBGC Fiscal Year 2017 and 2016 Financial Statements. The purpose of this report is to provide more detailed discussions of the specifics underlying the unqualified opinion on internal control over financial reporting provided in the control deficiencies section of the combined Independent Auditor's Report dated November 15, 2017 (AUD-2018-4/FA-17-119- 1).

The attached management response to the report indicates management's agreement and commitment to addressing the recommendations contained in the report and to remediating the associated significant deficiencies. The Inspector General Act requires that audit recommendations be resolved within a maximum of 6 months from report issuance.

Please provide a corrective action plan and an estimated completion to the Office of Inspector General within 30 days.

November 17, 2017

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We would like to take this opportunity to express our appreciation for the overall cooperation provided during the performance of the audit.

cc: Tom Reeder
Alice Maroni
Ann Orr
Michael Rae
Judith Starr
Marty Boehm
Patricia Kelly
Cathleen Kronopolus
Karen Morris
Robert Scherer
Theodore Winter

Report on Internal Control Related to the
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Acronyms

ERISA	Employee Retirement Income Security Act of 1974
FY	Fiscal Year
IPVFB	Integrated Present Value of Future Benefit
OBA	Office of Benefit Administration
OIG	Office of Inspector General
OMB	Office of Management and Budget
PBGC	Pension Benefit Guaranty Corporation
PVFB	Present Value of Future Benefit

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Independent Auditors' Report

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Supplemental Report on Internal Control

To the Board of Directors, Management,
and the Inspector General of the
Pension Benefit Guaranty Corporation
Washington, DC

We have audited the financial statements of the Pension Benefit Guaranty Corporation (PBGC or the Corporation) as of and for the year ended September 30, 2017, and have examined management's assertion included in PBGC's Annual Report about the effectiveness of the internal control over financial reporting (including safeguarding assets) and PBGC's compliance with certain provisions of laws, regulations, contracts and grant agreements, and have issued our audit report thereon dated November 15, 2017 (see Office of Inspector General (OIG) report AUD 2018-04).

We conducted our audit and examination in accordance with auditing standards generally accepted in the United States of America; *Government Auditing Standards*, issued by the Comptroller General of the United States; attestation standards established by the American Institute of Certified Public Accountants; and Office of Management and Budget (OMB) Bulletin No. 17-03, *Audit Requirements for Federal Financial Statements*.

In our Independent Auditors' Report on PBGC's fiscal year (FY) 2017 financial statements, we identified certain deficiencies in internal control that we collectively consider to be significant deficiencies. The purpose of this report is to provide more detailed information on these deficiencies.

Summary

PBGC protects the pensions of nearly 40 million workers and retirees in nearly 24 thousand private defined benefit pension plans. Under Title IV of the Employee Retirement Income Security Act of 1974 (ERISA), PBGC insures, subject to statutory limits, pension benefits of participants in covered private defined benefit pension plans in the United States. The establishment of a robust internal control framework and the implementation of the appropriate internal control activities are essential to PBGC operations. OMB Circular A-123, *Management's Responsibility for Enterprise Risk Management and Internal Control*, requires agencies to integrate risk management and internal control functions. In FY 2017, the Corporation continues to evaluate whether its key internal controls are suitably designed across business processes to satisfy specific control objectives and mitigate the associated organization business risks.

PBGC strengthened its control environment by implementing management practices to mitigate control deficiencies reported in previous years. Further, management improved its current business processes to address specific financial reporting and information technology control deficiencies. However, management should continue to focus its efforts to resolve outstanding conditions.

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In our FY 2017 Independent Auditors' Report, we identified the following significant deficiencies:

1. Controls over the Present Value of Future Benefit (PVFB) Liability
2. Present Value of Nonrecoverable Future Financial Assistance
3. Access Controls and Configuration Management

The following provides an overview of the significant deficiencies identified in our report.

1. Controls over the Present Value of Future Benefit (PVFB) Liability

During FY 2017, the Office of Benefits Administration (OBA) continues to implement strategic internal initiatives to strengthen its risk-based corrective actions to mitigate control deficiencies over the PVFB liability. The PVFB liability represents the estimated liability for future benefits that PBGC is, or will be obligated to pay participants of covered Single-Employer and certain Multiemployer pension plans. These initiatives include performing trend analysis of known conditions that affect the PVFB estimated liability calculation and assessing its overall impact on the likelihood of a material misstatement. Further, OBA continues to refine its actuarial valuation tool used to calculate the PVFB liability. These refinements enhance the overall capability of the software tool and reduce the risk of reliance on imprecise assumptions. Although progress has been made to controls over the calculation of the PVFB liability, certain conditions remain that require management's concerted effort for improvement.

Calculation of the Present Value of Future Benefits Liability

Consistent with the previous year, we identified errors in the calculation of participant benefits and the related PVFB liability. Specifically, our testing of the PVFB liability reported at June 30 and September 30, continue to reveal:

- Errors caused by system limitations or programming flaws
- Data entry errors and inaccurate use of plan data provisions

Similar to the prior year test results, we continue to calculate an average error rate that exceeds more than 20% of samples tested. Using a statistically-based sampling technique, we identified approximately 14% of the samples tested in which the calculated liability for a plan participant was either overstated or understated. Our projection of our sample results suggests that \$74 billion liability is understated by approximately \$1.2 billion at September 30, 2017. Our projection also indicates the balance may be understated by as much as approximately \$2.5 billion and overstated by as much as approximately \$1.4 million. PBGC management performed an analysis of the errors that contributed to our projection and determined the overall impact did not exceed a \$540 million understatement of the PVFB liability. The resolution of these errors requires management continued focus to accurately calculate valuations for some participant's benefits and properly estimate and report related future liabilities.

Recommendations:

- Promptly correct the errors in its calculations identified by the auditors during the FY 2017 audit (**OIG Control #FS-17-01**)

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- Implement corrective action to address root cause of data entry and inaccurate use of plan data provisions. **(OIG Control # FS-16-03)**
- Continue to develop and/or implement improvements to the OBA systems (Spectrum and the IPVFB) to:
 1. Record and value separate benefit components payable under different annuity forms.
 2. Record and value anticipated future benefit amount changes.
 3. Record and value temporary joint and survivorship benefits. **(OIG Control # FS-13-02) (PBGC scheduled completion date: December 31, 2018)**

2. Present Value of Nonrecoverable Future Financial Assistance (PV NRFFA)

The PV NRFFA represents the estimated nonrecoverable payments PBGC will make to certain multiemployer plans that will not be able to meet their benefit obligations to plan participants. Further, the classification of the future multiemployer liability is determined based on the projected date of insolvency.

We continue to identify data inputs error in the calculation of the PV NRFFA. The lack of and implementation of a refined quality control review process contributed to the control deficiency found during testing at September 30.

The Multiemployer Working Group Procedures for 2016, Appendix D states that “PBGC will use the most recently available data.” In addition, “Actuarial Services and Technology Department (ASTD) will follow its existing controls for review and sign off on data entry and computations.”

We identified the errors in the samples examined for the large and medium plans. The calculated errors for the large and medium plans were approximately \$70 million at September 30.

Recommendations:

- Consider methods of calculating, reviewing, and documenting plan level adjustments to the IPVFB inputs in order to take individual plan conditions into account. **(OIG Control # FS-16-05)**
- Refine current quality control review procedures to effectively minimize data input errors. **(OIG Control # FS-16-06)**

3. Access Controls and Configuration Management

In FY 2017, PBGC focused on resolving its Entity-wide Security Management weaknesses and continued to implement technologies and processes to address long standing access controls and configuration management weaknesses. However, PBGC realizes it requires cycle time and institutional maturity to fully resolve some security weaknesses. Weaknesses in the PBGC IT environment continue to contribute to deficiencies in system configuration, segregation of duties and role-based access controls based on least privilege.

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In FY 2017, PBGC continued to implement various tools and processes to establish a more coherent environment for access controls and configuration management security controls. PBGC modified target dates of corrective action plan in FY 2016 to complete, many planned corrective action plans later than originally planned by one year or more. We continue to make the recommendations noted below to address the underlying access controls and configuration management weaknesses in PBGC's information system security controls. The controls not fully implemented include the following:

- Implementation of controls to remedy vulnerabilities identified in key databases and applications, such as weaknesses in configuration, roles, privileges, auditing, file permission, and operating system access.
- Development and implementation of processes and procedures for determining and documenting defined security configuration checklists for database applications.
- Removal and decommission of systems and databases that have reached their end of service life.
- Development and implementation of a plan of action to address known security weaknesses in accordance with PBGC's timeline for corrective actions.
- Full implementation of all security enhancements to PBGC websites to ensure compliance with the Office of Management and Budget (OMB) M-15-13, *A Policy to Require Secure Connections across Federal Websites and Web Services*.
- Modernization of systems and applications to ensure the cryptography implemented is FIPS 140-2, *Security Requirements for Cryptographic Modules*, compliant.
- Assessment of the technical feasibility of encrypting all moderate-impact information at rest and in transit and determine whether encryption would demonstrably affect PBGC's ability to carry out its mission, function, or operations.
- Development and implementation of an account management monitoring program that ensures that accounts are constantly maintained in accordance with PBGC account management standards and that reduces the dependency on recertification.
- Implementation of requirements for the disposition of dormant accounts for all PBGC systems.
- Full implementation of controls to remove separated users from systems and applications.

Access controls and configuration management controls are an integral part of an effective information security management program. Access controls limit or detect inappropriate access to systems, protecting the data from unauthorized modification, loss or disclosure. Agencies should have formal policies and procedures, and related control activities should be properly implemented and monitored. Configuration management ensures changes to systems are tested and approved and systems are configured securely in accordance with policy.

An information system is comprised of many components¹ that can be interconnected in a multitude of arrangements to meet a variety of business, mission, and information security needs. How these information system components are networked, configured, and managed is critical in providing adequate information security and supporting an organization's risk management process.

¹ Information system components include, for example, mainframes, workstations, servers (e.g., database, electronic mail, authentication, Web, proxy, file, domain name), network components (e.g., firewalls, routers, gateways, voice and data switches, wireless access points, network appliances, sensors), operating systems, middleware, and applications.

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Recommendations:

- Implement controls to remedy vulnerabilities identified in key databases and applications, such as weaknesses in configuration, roles, privileges, auditing, file permissions, and operating system access. **(OIG Control # FS-07-14) (PBGC revised completion date: June 30, 2018*)**
- Fully implement controls to plan, remove and decommission unsupported systems and databases. **(OIG Control # FS-16-07)**
- Develop and implement plan of action for addressing known security weaknesses. **(OIG Control # FS-16-08)**
- Create and implement plans to complete all OMB M-15-13 requirements. **(OIG Control Number FS-17-02)**
- Perform a risk based assessment and implement compensating controls for FIPS 140-2 non-compliance and non-encryption of data in moderate-impact systems. **(OIG Control Number FS-17-03)**
- Complete the assessment of the technical feasibility of encrypting all NIST FIPS Publication 199 moderate-impact information at rest and in transit and determine whether encryption would demonstrably affect PBGC's ability to carry out its mission, function, or operations. **(OIG Control Number FS-17-04)**
- OBA should document enhanced account management procedures to ensure a thorough review of accounts is performed during the annual account recertification and that necessary accounts are recertified, and implement compensating controls to verify inactive accounts are deactivated in accordance with PBGC policy. **(OIG Control Number FS-17-05)**

This report is intended for the information and use of the management and Inspector General of PBGC and is not intended to be and should not be used by anyone other than these specified parties.

CliftonLarsonAllen LLP

A handwritten signature in black ink that reads "CliftonLarsonAllen LLP". The signature is written in a cursive, flowing style.

Calverton, Maryland
November 15, 2017

**PENSION BENEFIT GUARANTY CORPORATION
SUPPLEMENTAL REPORT ON INTERNAL CONTROL
FISCAL YEAR 2017**

Status of Internal Control Report Recommendations:

Prior Year Internal Control Report Recommendations Closed During FY 2017	Date Closed	Original Report Number
FS-07-08	11-09-17	2008-2/FA-0034-2
FS-07-12	11-30-16	2008-2/FA-0034-2
FS 13-01	11-13-17	AUD-2014-3/FA-13-93-2
FS 14-06	11-13-17	AUD-2015-3/FA-14-101-3
FS-15-01	10-17-17	AUD-2016-3/FA-15-108-3
FS-15-02	11-07-17	AUD-2016-3/FA-15-108-3
FS-15-03	09-25-17	AUD-2016-3/FA-15-108-3
FS-16-01	10-17-17	AUD-2017-2/FA-16-110-1
FS-16-02	11-06-17	AUD-2017-2/FA-16-110-1
FS-16-04	10-17-17	AUD-2017-2/FA-16-110-1

**PENSION BENEFIT GUARANTY CORPORATION
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Open Recommendations as of September 30, 2017:

Recommendation		Report
Prior Years'		
FS-07-14*		2008-2/FA-0034-2
FS-13-02		AUD-2014-3/FA-13-93-2
FS-15-04**		AUD-2016-3/FA-15-108-3
FS-16-03		AUD-2017-2/FA-16-110-1
FS-16-05		AUD-2017-2/FA-16-110-1
FS-16-06		AUD-2017-2/FA-16-110-1
FS-16-07		AUD-2017-2/FA-16-110-1
FS-16-08		AUD-2017-2/FA-16-110-1
FY Ended September 30, 2017		

* The dates have been revised one or more times by management.

** The recommendation remains open and has been moved to the FISMA report.

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Pension Benefit Guaranty Corporation
1200 K Street, N.W., Washington, D.C. 20005-4026

Office of the Director

MEMORANDUM

November 17, 2017

To: Robert A. Westbrook
Inspector General

From: W. Thomas Reeder 
Director

Subject: Response to Draft FY 2017 Internal Control Report

Thank you for the opportunity to comment on the draft FY 2017 internal control report. We are in agreement with the findings in this year's report. We also agree with this year's recommendations, with the understanding that additional communications may be needed as we move forward.

We continue to establish detailed corrective action plans to address the areas needing additional work and are committed to reporting on our progress on each recommendation both within management and to your office.

cc:

Patricia Kelly
Cathleen Kronopolus
Alice Maroni
Karen Morris
Ann Orr
Michael Rae
Robert Scherer
Judith Starr
Martin O. Boehm
Theodore J. Winter

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Pension Benefit Guaranty Corporation's

Fiscal Year 2017 and 2016 Financial Statements

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Updated Management Response

Received on December 8, 2017



Pension Benefit Guaranty Corporation
1200 K Street, N.W., Washington, D.C. 20005-4026

Office of the Director

DEC 8 2017

MEMORANDUM

To: Robert A. Westbrook
Inspector General

From: W. Thomas Reeder

Subject: Supplemental Management Response to FY 2017 Internal Control Report

Thank you for incorporating our earlier response to the FY 2017 Internal Control Report that was published on November 17, 2017. We would like to provide additional information regarding our plans to address the five new recommendations included in that report. Please refer to the attachment to this memorandum.

As we work to address these recommendations, we will coordinate with your office, as needed, and will submit for your review evidence documenting any corrective actions taken.

Addressing OIG audit recommendations in a timely and effective manner helps improve PBGC's control environment and support compliance with OMB Circular A-50, *Audit Follow-up*, and the Government Accountability Office's *Standards for Internal Control in the Federal Government*.

Please contact Marty Boehm should you have any questions.

cc:

Patricia Kelly	Cathleen Kronopolus
Alice Maroni	Karen Morris
Ann Orr	Michael Rae
Robert Scherer	Judith Starr
Martin O. Boehm	Theodore J. Winter

OIG Recommendation No. FS-17-01: Promptly correct the errors in its calculations identified by the auditors during the FY 2017 audit.

PBGC Response: PBGC agrees with this recommendation. The following corrective actions will be taken in response to this recommendation:

We will correct all errors identified during the audit, except for the errors identified for the following samples:

Sample 6-33: For deferred participants in the US Airways plans with non-level future benefits, PBGC completed an approximation of the non-level future benefits for use in financial statement calculations. We will not make changes to these estimates solely for financial statement purposes since we have determined that this change would have a negligible impact on the overall IPV liabilities. IPVFB will precisely value this benefit type for future participants, and historical errors will self-correct once the participant goes into pay.

Sample 70: IPVFB can precisely value a pop-up benefit for a deferred vested participant with the use of supplemental data. When supplemental data is missing, IPVFB estimates the pop-up amount. We will not make changes to these estimates solely for financial statement purposes since we have determined that this change would have a negligible impact on the overall IPV liabilities. IPVFB will precisely value this benefit type for future participants, and historical errors will self-correct once the participant goes into pay. Please note that in the latest release of Spectrum, there was a field added for the pop-up amount for in-pay pop-up annuities. Consequently, we will fix this error for samples 6-70 and 9-30.

We will follow PBGC Policy 5.8-1 when addressing any changes to the monthly benefit amounts due to calculation errors, i.e., we will only correct the benefit if the change results in an increase of \$1.00 or more or a decrease of \$5.00 or more.

Target Completion Date: June 30, 2018

Recommendation No. FS-17-02: Create and implement plans to complete all OMB M-15-13 requirements.

PBGC Response: PBGC agrees with this recommendation. PBGC has implemented OMB M-15-13 requirements for PBGC websites and web services supporting Hypertext Transfer Protocol Secure (HTTPS) and HTTP Strict Transport Security (HSTS). The corporation is actively

working with vendors to provide software updates or other solutions enabling HSTS for non-compliant websites and web services. However, it should be noted PBGC cannot compel vendors of non-compliant websites and web services to provide software updates or other enabling solutions. Additionally, the corporation will review associated risks and make a risk acceptance determination for instances where no software updates or enabling solutions are available.

Target Completion Date: June 30, 2018

Recommendation No. FS-17-03: Perform a risk based assessment and implement compensating controls for FIPS 140-2 non-compliance and non-encryption of data in moderate-impact systems.

PBGC Response: PBGC agrees with this recommendation. PBGC has already enabled FIPS 140-2 encryption for the vast majority of its user environment and will continue its encryption efforts via our enterprise Windows 10 migration program. PBGC is also exploring opportunities to update or replace legacy software applications not supporting FIPS 140-2 encryption requirements as funding is secured and/or vendor updates are made available. Furthermore, PBGC also plans to further assess the feasibility, cost, and operational impact of encrypting data in moderate-impact systems as well as identify necessary compensating controls. PBGC will determine its implementation strategy following the completion of the encryption assessment based on available funding and resources.

Target Completion Date: June 30, 2018

Recommendation No. FS-17-04: Complete the assessment of the technical feasibility of encrypting all NIST FIPS Publication 199 moderate-impact information at rest and in transit and determine whether encryption would demonstrably affect PBGC's ability to carry out its mission, function, or operations.

PBGC Response: PBGC agrees with this recommendation. PBGC currently encrypts data at rest on laptops and mobile devices. In addition, PBGC employs alternative safeguards to prevent the transfer of PBGC data to unapproved devices and detect and quarantine possible malicious code that could be used to exfiltrate PBGC data. PBGC also plans to pursue encryption opportunities as targeted systems are migrated to new platforms and assess the cost and operational impact of encrypting all moderate information at rest and in transit.

Target Completion Date: June 30, 2018

Recommendation No. FS-17-05: OBA should document enhanced account management procedures to ensure a thorough review of accounts is performed during the annual account recertification and that necessary accounts are deactivated in accordance with PBGC policy.

PBGC Response: PBGC agrees with this recommendation. The following corrective actions will be taken in response to this recommendation:

1. OBA will review user accounts and eliminate unnecessary account creation.
2. OBA will identify and implement changes to existing account reports to better align to account deactivation requirements.
3. OBA will update account management/recertification procedures and the supporting application used to perform the annual account recertification process.
4. OBA will complete the FY2018 account recertification with the above improvements.

Target Completion Date: June 30, 2019