Report on the VALIC Description of its Defined Contribution Plan Distribution System and on the Suitability of the Design and Operating Effectiveness of its Controls throughout the period October 1, 2015 to September 30, 2016

Prepared pursuant to statement on standards for attestation engagements (SSAE) No. 16

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I. Report of Independent Service Auditors

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REPORT OF INDEPENDENT SERVICE AUDITORS
To the Management of The Variable Annuity Life Insurance Company

Scope

We have examined The Variable Annuity Life Insurance Company and its subsidiaries, VALIC Retirement Services Company and VALIC Financial Advisors Inc.'s (collectively "VALIC") description of its Defined Contribution Plan Administration system for processing user entities' Annuity and Group Mutual Fund transactions throughout the period October 1, 2015 to September 30, 2016 (the "description") and the suitability of the design and operating effectiveness of VALIC's controls to achieve the related control objectives stated in the description. The description indicates that certain control objectives specified in the description can be achieved only if complementary user entity controls contemplated in the design of VALIC's controls are suitably designed and operating effectively, along with related controls at the service organization. We have not evaluated the suitability of the design or operating effectiveness of such complementary user entity controls.

Service organization's responsibilities

In Section II, VALIC has provided an assertion about the fairness of the presentation of the description and suitability of the design and operating effectiveness of the controls to achieve the related control objectives stated in the description. VALIC is responsible for preparing the description and for the assertion, including the completeness, accuracy, and method of presentation of the description and the assertion, providing the services covered by the description, specifying the control objectives and stating them in the description, identifying the risks that threaten the achievement of the control objectives, selecting the criteria, and designing, implementing, and documenting controls that are suitably designed and operating effectively to achieve the related control objectives stated in the description.

Service auditor's responsibilities

Our responsibility is to express an opinion on the fairness of the presentation of the description and on the suitability of the design and operating effectiveness of the controls to achieve the related control objectives stated in the description, based on our examination. We conducted our examination in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform our examination to obtain reasonable assurance about whether, in all material respects, the description is fairly presented and the controls were suitably designed and operating effectively to achieve the related control objectives stated in the description throughout the period October 1, 2015 to September 30, 2016.

An examination of a description of a service organization's system and the suitability of the design and operating effectiveness of the service organization's controls to achieve the related control objectives stated in the description involves performing procedures to obtain evidence about the fairness of the presentation of the description and the suitability of the design and operating effectiveness of those controls to achieve the related control objectives stated in the description. Our procedures included assessing the risks that the description is not fairly presented and that the controls were not suitably designed or operating effectively to achieve the related control objectives stated in the description. Our procedures also included testing the operating effectiveness of those controls that we consider necessary to provide reasonable assurance that the

PricewaterhouseCoopers LLP, 1000 Louisiana, Suite 5800, Houston, TX 77002
T: (713) 356 4000, F: (713) 356 4717, www.pwc.com/us

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related control objectives stated in the description were achieved. An examination engagement of this type also includes evaluating the overall presentation of the description and the suitability of the control objectives stated therein, and the suitability of the criteria specified by the service organization and described in management's assertion in Section II. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

Inherent limitations

Because of their nature, controls at a service organization may not prevent, or detect and correct, all errors or omissions in processing or reporting transactions for contract/plan administration, client record keeping, remittances, transfer of value and asset allocation, loans, benefit payments, client reporting, investment processing, asset valuation, and compliance and regulatory support. Also, the projection to the future of any evaluation of the fairness of the presentation of the description, or conclusions about the suitability of the design or operating effectiveness of the controls to achieve the related control objectives is subject to the risk that controls at a service organization may become inadequate or fail.

Other information provided by the service organization

The information included in Section V, "Other Information Provided by VALIC: Management's Response to Operating Effectiveness Exceptions" ("VALIC Management Responses"), is presented by management of VALIC to provide additional information and is not a part of VALIC's description of its Defined Contribution Plan Administration system for processing user entities Annuity and Group Mutual Fund transactions made available to user entities during the period October 1, 2015 to September 30, 2016. Information about VALIC's Management Responses has not been subjected to the procedures applied in the examination of the description of the Defined Contribution Plan Administration system and of the suitability of the design and operating effectiveness of controls to achieve the related control objectives stated in the description of the Defined Contribution Plan Administration system and accordingly, we express no opinion on it.

Opinion

In our opinion, in all material respects, based on the criteria described in VALIC's assertion in Section II,

a. the description fairly presents the Defined Contribution Plan Administration system that was designed and implemented throughout the period October 1, 2015 to September 30, 2016.

b. the controls related to the control objectives of VALIC stated in the description were suitably designed to provide reasonable assurance that the control objectives would be achieved if the controls operated effectively throughout the period October 1, 2015 to September 30, 2016 and user entities applied the complementary user entity controls contemplated in the design of VALIC's controls throughout the period October 1, 2015 to September 30, 2016

c. the controls of VALIC tested, which referred to in the scope section of this report, if operating effectively, were those necessary to provide reasonable assurance that the control objectives stated in the description were achieved, operated effectively throughout the period October 1, 2015 to September 30, 2016.

Description of tests of controls

The specific controls tested and the nature, timing, and results of those tests are listed in Section IV.

Intended users and purpose

This report, including the description of tests of controls and results thereof in Section IV, is intended solely for the information and use of VALIC, user entities of VALIC's Defined Contribution Plan Administration system during some or all of the period October 1, 2015 to September 30, 2016, and the independent auditors of such user entities, who have a sufficient understanding to consider it, along with other information including information about controls implemented by user entities themselves, when assessing the risks of material misstatements of user entities' financial statements. This report is not intended to be and should not be used by anyone other than these specified parties. If report recipients are not user entities that have contracted for services with VALIC for the period specified above or their independent auditors (herein referred to as a "non-specified user") and have obtained this report, or have access to it, use of this report is the non-specified user's sole responsibility and at the non-specified user's sole and exclusive risk. Non-specified users may not rely on this report and do not acquire any rights against PricewaterhouseCoopers LLP as a result of such access. Further, PricewaterhouseCoopers LLP does not assume any duties or obligations to any non-specified user who obtains this report and/or has access to it.

PricewaterhouseCoopers LLP

December 16, 2016

II.   The Variable Annuity Life Insurance Company (VALIC) and its subsidiaries, VALIC Retirement Services Company (VRSCO) and VALIC Financial Advisors, Inc. (VFA) assertion

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The VALIC Assertion

We have prepared the description of The Variable Annuity Life Insurance Company and its subsidiaries', VALIC Retirement Services Company and VALIC Financial Advisors, Inc.'s (collectively "VALIC") Defined Contribution Plan Administration system for processing user entity Annuity and Mutual Fund transactions (the "description") for user entities of the system during some or all of the period October 1, 2015 to September 30, 2016, and their user auditors who have a sufficient understanding to consider it, along with other information, including information about controls implemented by user entities of the system themselves, when assessing the risks of material misstatement of user entities' financial statements. We confirm, to the best of our knowledge and belief, that:

a. the description fairly presents the VALIC Defined Contribution Plan Administration system made available to user entities of the system during some or all of the period October 1, 2015 to September 30, 2016 for processing their transactions. The description indicates that certain control objectives specified in the description can be achieved only if complementary user entity controls contemplated in the design of VALIC's controls are suitably designed and operating effectively, along with related controls at VALIC. The criteria we used in making this assertion were that the description:

    i. presents how the system made available to user entities of the system was designed and implemented to process relevant transactions, including, if applicable:

        (1) the types of services provided, including, as appropriate, the classes of transactions processed.

        (2) the procedures, within both automated and manual systems, by which services are provided, including as appropriate, procedures by which transactions are initiated, authorized, recorded, processed, corrected as necessary, and transferred to the reports and other information prepared for user entities of the system.

        (3) the related accounting records, supporting information, and specific accounts that are used to initiate, authorize, record, process, and report transactions; this includes the correction of incorrect information and how information is transferred to the reports presented to user entities of the system.

        (4) how the system captures and addresses significant events and conditions, other than transactions.

        (5) the process used to prepare reports or other information provided to user entities of the system.

        (6) specified control objectives and controls designed to achieve those objectives including, as applicable, complementary user entity controls contemplated in the design of the service organization's controls.

        (7) other aspects of our control environment, risk assessment process, information and communication systems (including the related business processes), control activities, and monitoring controls that are relevant to processing and reporting transactions of user entities of the system.

    ii. does not omit or distort information relevant to the scope of the VALIC Defined Contribution Plan Administration system, while acknowledging that the description is prepared to meet the common needs of a broad range of user entities of the system and the independent auditors of those user entities, and may not, therefore, include every aspect of the VALIC Defined Contribution Plan Administration system that each individual user entity of the system and its auditor may consider important in its own particular environment.

b. the description includes relevant details of changes to the service organization's system during the period covered by the description.

c. the controls related to the control objectives stated in the description, which together with the complementary user entity controls referred to above, if operating effectively, were suitably designed and operated effectively throughout the period October 1, 2015 to September 30, 2016 to achieve those control objectives. The criteria we used in making this assertion were that:

i. the risks that threaten the achievement of the control objectives stated in the description have been identified by the service organization;

ii. the controls identified in the description would, if operating as described, provide reasonable assurance that those risks would not prevent the control objectives stated in the description from being achieved; and

iii. the controls were consistently applied as designed, including whether manual controls were applied by individuals who have the appropriate competence and authority.

III. Description of the VALIC Defined Contribution Plan Administration System

Overview of operations and services provided

Overview of the Organization

The Variable Annuity Life Insurance Company (VALIC) is an indirect wholly-owned subsidiary of the American International Group, Inc. (AIG). VALIC Retirement Services Company (VRSCO) is a transfer agent registered with the U.S. Securities and Exchange Commission (SEC) and a wholly-owned subsidiary of VALIC. The Operations Division of VALIC supports the VALIC Defined Contribution Plan processing and is made up of six business units: VALIC Contact Center, VALIC Client Contribution Services, VALIC Institutional Services, VALIC Client Transaction Services, VALIC Advisors, and VALIC Operations Support. Note that VALIC agents are registered representatives of VALIC Financial Advisors, Inc. (VFA), an SEC-registered broker/dealer and investment adviser and a wholly-owned subsidiary of VALIC.

Unless otherwise specified and for the purposes of this report, VALIC and its subsidiaries are collectively referred to as VALIC, or the Company.

Figure 1 below illustrates the relationship of VALIC in the corporate structure and the Operations Division, which supports the VALIC Defined Contribution Plan Administration.
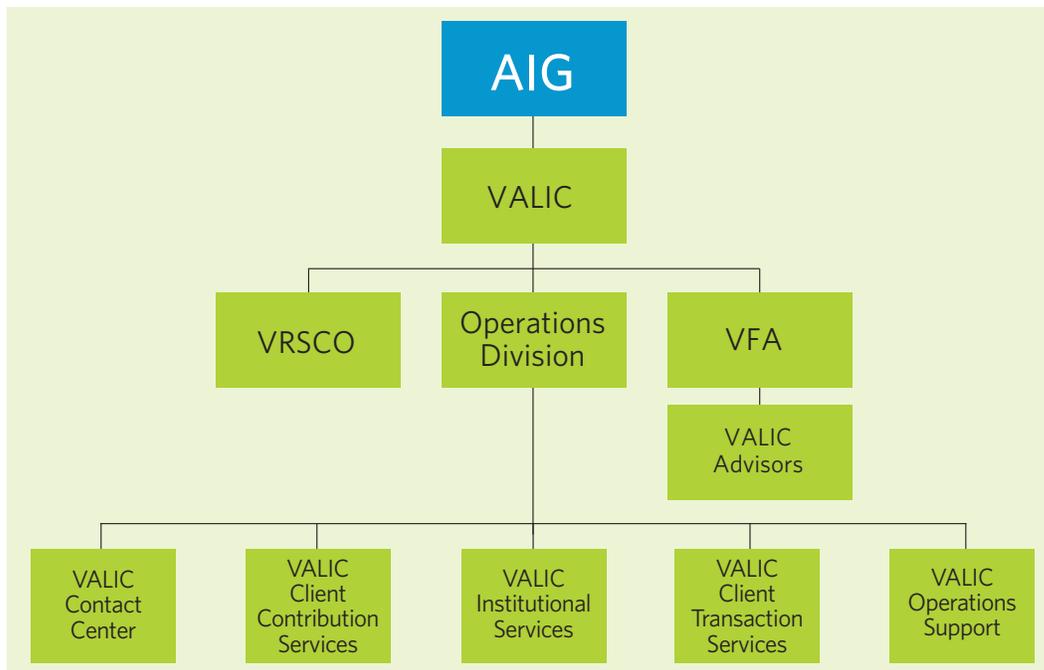

Figure 1: VALIC Organizational Chart

III. Description of the VALIC Defined Contribution Plan Administration System

Descriptions of the VALIC business units that support the VALIC Defined Contribution Plan processing are below:

Business Units	Responsibilities
Contact Center	Provides phone and participant transaction services.
Client Contribution Services	Processes payroll deductions.
Institutional Services	Provides full service group plan administrative services, and also includes the VALIC Custodial Manager, responsible for oversight of the role of VALIC as an IRS-approved non-bank custodian for a portion of the Defined Contribution Plan mutual fund custodial accounts. (Custodial functions generally are incorporated into many of the functions described below.)
Client Transaction Services	Processes financial and non-financial transactions.
Advisors	Assists plan sponsors and participants by planning and coordinating completion of the appropriate paperwork for account setup.
Operations Support	Responsible for mail handling, document management, contract issue, transaction confirms, account statements and interest rate table maintenance.
AIG Shared Services (AIGSS)	AIGSS located in Manila, Philippines, a subsidiary of American General Life Insurance Company, an AIG subsidiary, processes distributions (one form of benefit payments), payroll contributions for VALIC variable annuities and Document Management image/indexing with oversight from the management at the VALIC Amarillo, TX service center.
AIG Federal Savings Bank (AIG FSB)	AIG FSB, an AIG subsidiary and VALIC affiliate, is a federally chartered savings bank. AIG FSB serves as the trustee or custodian for the benefit of retirement plan participants in employer-sponsored tax-qualified (e.g., 403(b), 401(k)) and nonqualified (e.g., 457(f)) plans, pursuant to an agreement with VRSCO, as well as custodial or trust agreements with individual plan sponsors. In its role as a nondiscretionary, directed trustee or custodian, AIG FSB is responsible for receiving, safeguarding and distributing retirement plan assets.
Testing Shared Services Utility (TSSU)	Provides quality assurance services (QA testing) for VALIC application development and support. TSSU engages other global delivery partners to provide QA testing support across AIG.

The following functions within VALIC provide ancillary support to the VALIC business units noted above:

Business Units	Responsibilities
Actuary	Provides actuarial services and reserve calculations for financial support.
Accounting Operations	Responsible for supporting and recording incoming/outgoing cash via wire transfer, lockbox banks, disbursement processing, bank reconciliation, and participant tax reporting.
Legal	Provides legal counsel in support of the operations including monitoring state and federal legislative and regulatory activity, compliance with federal securities laws and regulations (including the FINRA), and state insurance laws and regulations.

III. Description of the VALIC Defined Contribution Plan Administration System

Business Units	Responsibilities
Information Technology	Serves as a liaison between business units and technology service providers and performs business application development, quality assurance (QA) testing, implementation, security and maintenance activities for all internally based technology platforms.
Financial Reporting	Responsible for the preparation of financial statements and disclosures, monitoring and verification of compliance with federal securities laws, analysis of the financial activity and remitting taxes withheld to appropriate authorities required for the separate accounts.
Variable Product Accounting and Reporting (VPA)	Responsible for the collection, reconciliation and communication of processed trade activity to the appropriate fund companies. This accounting group initiates and verifies the settlement of those trades and also the reconciliation of outstanding shares between the fund companies and the record keeping system.
Chief Technology Office (CTO)	Provides operating system and server support for mainframe and distributed systems for AIG Life and Retirement companies which includes VALIC. CTO supports facilities management; security access administration, batch processing and daily operations tasks and support. CTO is also responsible for business continuity which includes back-up and restore of all mainframe and distributed applications for VALIC .

Third-Party Services used by VALIC

VALIC uses third-party service vendors to achieve operating efficiency and obtain specific market expertise. That includes technology services, lockbox, wire transfer, EFT, printing and mailing. (This report and related control environment descriptions do not address the controls and related control objectives of these Third-Party Service vendors.)

The VALIC principal third-party service vendors are described below:

Lockbox	Vendors include JPMorgan Chase Bank via hardcopy checks, e-Remit, Automated Clearing House (ACH) Debit, Northern Trust Company (NTC) and Bank of America (BoA).
Wire Transfer and Electronic Fund Transfer (EFT)	The Bank of New York Mellon (BoNY).
Confirmations and Account Statement Printing and Mailing	Vendors include Fiserv for participant account statements and HOV Services for financial and non-financial confirmations.
Application Support/ Development and DBA Services	Mphasis provides application database admin support for all of the VALIC mainframe applications which are using IMS/DB2 database. Mphasis provides application support/development database services, database recovery management, disaster recovery management and database reports.
SunGard – Relius Government Forms	Web based portal utilized to generate required governmental reporting of Form 5500 and related schedules including Form 8955-SSA for ERISA plans.
SunGard Corbel Plan Documents	Web based portal utilized to generate written documents for various plan types that set forth the terms of the plan.
Actuarial Systems Corporation (ASC)	Software utilized to perform required non-discrimination testing for ERISA plans.

Description of Processing Environment

Applications Used by VALIC

Figure 2 below illustrates how VALIC utilizes a variety of computing resources and applications used to respond to customer servicing demands, support business processes, and meet management information needs.


* Retirement Manager is a VRSCO application and managed by VRSCO.
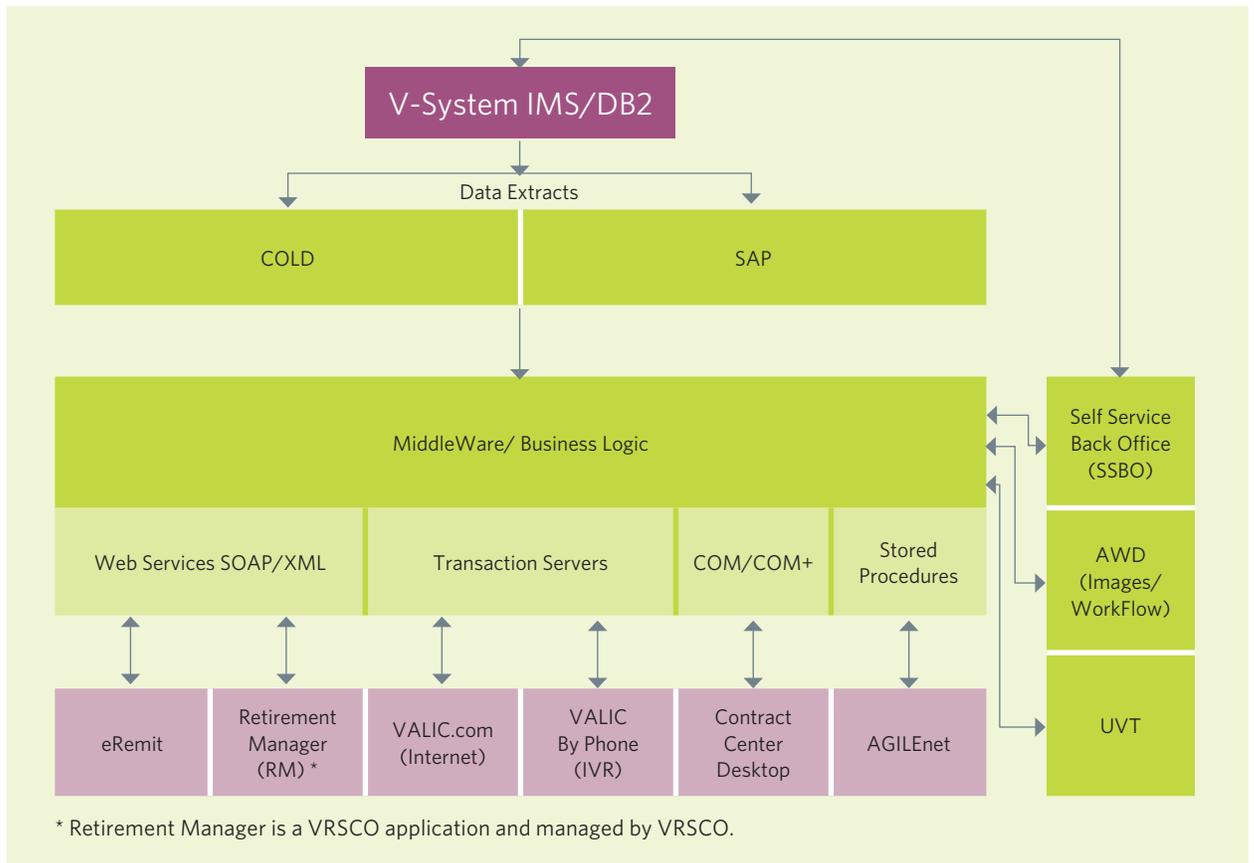
Figure 2: VALIC Applications Overview

III. Description of the VALIC Defined Contribution Plan Administration System

Application	Purpose
AGILEnet	An intranet application providing VALIC advisors and home/regional office personnel an easy-to-use interface to view and maintain plan sponsor and participant data. Reports can be generated that provide detailed participant information by group and by account, depending on the criteria the user specifies. Also acts as a portal to many additional intranet applications serving many business needs.
VALIC by Phone	An interactive voice response (IVR) application that supports participant phone requests for account balance inquiries, transfers between investment options and changes to future asset allocations. The IVR solution uses the Avaya Experience Portal.
VALIC.com	An Internet-based application providing participant and plan sponsor self-service. The participant application handles plan enrollment, account inquiry and history, requests for forms, transfer of value transactions, asset allocation changes, loan modeling, allocation modeling and address and PIN changes. The plan sponsor application provides the administrator access to plan reports.
AWD	Automated Workflow Distributor application used for routing and tracking scanned documents, transactions, and client calls.
COLD	Computer Output to Laser Disc stores copies of confirmation statements and reports. It allows VALIC team members to view and print record keeping system reports on their local workstation. The system holds account confirmation statements for participants to access through VALIC.com and record keeping system reports for process support.
e-Remit®	An Internet-based application that provides plan sponsors the ability to send retirement plan remittances and allocation instructions to VALIC.
Retirement Manager	An Internet-based application that provides plan sponsors of VRSCO the ability to utilize common remitter and compliance services across multiple plan investment providers with one application. The common remitter application provides for participant level vendor allocations, secure vendor access and automated outbound files and funding. The compliance features for the application are plan sponsor requested and may include 403(b) and 457(b) IRC limit monitoring, loan and hardship reporting, plan reports, plan eligibility, participant access and online deferral.
UVT	UVT is the acronym for the software application written by Princeton Financial Systems and stands for the Unit Value Trade system. This is a stand-alone application which is used to calculate daily unit values and to collect, aggregate and post to the general ledger mutual fund and/or separate account trade and investment specific data.
V-System	Proprietary mainframe record keeping system used for transaction processing and administering the VALIC annuity contracts and group mutual fund product for participants and plan sponsors.
SAP	The SAP application is used for general ledger and financial reporting activities including check printing.

Overview of control environment

Control Environment

The control environment of VALIC consists of a combination of oversight and monitoring control activities, in addition to control activities incorporated within operational and administrative functions. The control environment reflects the overall attitude, awareness, and actions of VALIC management and employees concerning the importance of controls and its emphasis in the organization. Further, the organizational structure of VALIC provides a foundation for planning, directing, and controlling its operations. VALIC is committed to maintaining an organizational structure that supports an effective control environment, including the proper segregation of job responsibilities and assignment of job functions commensurate with skill.

To address business ethics, VALIC has stated its intent to achieve a high level of legal and ethical standards in the conduct of its business activities in its corporate policy. Human Resources distributes a copy of the AIG Code of Conduct annually to all officers and employees. All employees are required to acknowledge receipt of the Code of Conduct in writing. Accompanying the Code of Conduct for officers is a questionnaire requiring signed disclosure by the officer concerning their knowledge of any business or ethical conflicts. The distribution of the Code of Conduct and the monitoring of any business ethics issues are managed by Corporate Legal Compliance. Corporate Legal Counsel provides VALIC with legal analysis, as required, manages relationships with outside counsel, and has a primary role in ensuring the adequacy, from a legal standpoint, of plan sponsors' and participants' contractual documentation and contracts with vendors.

Human Resources maintains policies and procedures covering critical aspects of employment services including hiring, training, performance, appraisals, and termination. Personnel policies are documented in an electronic format accessible on each employee's desktop computer via the intranet. Hiring practices are designed to help make sure that new employees are qualified for their job responsibilities. Education and experience standards are established for each position. Department management and a human resources representative interview candidates for employment with VALIC. Offers of employment are contingent upon a background check, which is performed before a new hire begins employment. These background investigations (performed through a third party) include a social security number trace and criminal history check and verification of previous employment, highest education, and credit history. Supervisors formally appraise employees' performance on an annual basis, although performance of employees can be reviewed more frequently. VALIC offers in-house training programs for employee development, client service enhancement, diversity, and industry-specific technical topics. In addition, VALIC utilizes computer-based and onsite one-on-one training to teach employees the technical and empirical aspects of their jobs.

Risk Assessment Process

To help create a foundation for risk management at VALIC, the corporate Operational Risk Management (ORM) Department has implemented a comprehensive, global Risk and Control Self-Assessment (RCSA) process. The RCSA process supports the identification, analysis, and reporting of key risks, controls and issues across VALIC, and facilitates the sharing of operational risk management best practices. The success of the RCSA process requires strong partnerships with Internal Audit, Compliance, Legal, Sarbanes-Oxley (SOX) Compliance, other corporate and risk management groups, and the businesses. In addition, the RCSA process will incorporate the SOX program controls and related control assessments as appropriate. The SOX 404 program controls are outside the scope of this report.

VALIC maintains insurance coverage against various risks, including errors and omissions, general liability, and other insurance, as required by law. VALIC maintains coverage at levels that its management considers reasonable, given its size and scope.

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Information and Communication

Information and communication systems support the identification, capture, and exchange of information in a form and time frame that enable people to carry out their responsibilities. The information system consists of the procedures, whether automated or manual, and records established to initiate, record, process, and report entity transactions (as well as events and conditions) and to maintain accountability for the related assets, liabilities, and equity. The quality of system-generated information affects management's ability to make appropriate decisions in controlling the entity's activities and to prepare reliable financial reports. A high-level description of the information system is provided in Overview of Operations and Services Provided – Description of Processing Environment.

Communication involves providing an understanding of individual roles and responsibilities pertaining to internal control over financial reporting. Communication systems exist from the entity level to the department level. Multiple communication paths exist to help verify whether processes function as designed and issues are identified and resolved in a timely manner. These include voice mail, email, and regularly scheduled meetings and teleconferences. A description of certain entity-level communication systems was provided above, under Control Environment.

Specific aspects of the information and communication systems are provided in the General Computer Controls description below.

Control Activities

Control activities are the policies and procedures that help verify that management directives are carried out. They help verify that necessary actions are taken to address risks to achievement of the entity's objectives. Control activities, whether automated or manual, have various objectives and are applied at various organizational and functional levels. Specific control activities are provided in the Control Environment description above and in Section IV. VALIC Control objectives, controls, and PricewaterhouseCoopers LLP's tests of operating effectiveness and results of tests below.

Monitoring

The management of VALIC monitors internal control performance as part of their activities. VALIC has implemented a series of "key indicator" management reports that measure the results of various processes involved in providing transaction processing to clients. Key indicator reports include weekly and/or monthly reports that identify:

> Analysis of gross contributions year-to-date. This report compares actual versus plan and prior-year contributions, capital transfers-in, and changes in unprocessed contributions from fixed and variable products.

> Total contributions received, applied, and unapplied contributions.

> Total surrenders and withdrawals, excluding systematic and minimum distribution withdrawals as a percentage of deferred reserves. This report compares surrenders and withdrawals from current quarter to prior year's corresponding quarter. Quarter-to-date and year-to-date history is also included.

> Transaction activity and trends of benefit payments, correspondence and other financial transactions compared to previous month/year transaction activity.

> Earnings from operations year-to-date, which is provided on a monthly basis and includes participant surrender charges and participant administration fees. This report compares actual to plan and prior year.

The operations of VALIC are subject to a program of audit coverage performed by Internal Audit. The department provides assurance to the VALIC Audit Committee as to the effectiveness of operating policies, plans, and procedures. The functions and responsibilities of Internal Audit include assessing:

(1) the adequacy of operational and systems controls for timely processing of all transactions,

(2) the reliability and integrity of financial and management information,

(3) the effectiveness of the controls to safeguard Company assets, and

(4) fraud prevention and detection.

Formal reports of audit findings are prepared and submitted to Executive Management after each audit. Internal Audit reports any significant deficiencies or material weaknesses identified during audits to the VALIC Audit Committee on a quarterly basis.

The operations of VALIC are also subject to a program of annual monitoring with regard to SOX Compliance of internal controls performed by the SOX Compliance Team. The team provides assurance to senior management and the VALIC Audit Committee as to the operating effectiveness of key controls deemed to have a significant financial impact. The testing is completed around operational controls and Information Technology for financially significant systems. Deficiencies identified during testing are reported to senior management and the VALIC Audit Committee.

The insurance department of the state of domicile primarily regulates the activities of life insurance companies. The Texas Department of Insurance (the Department) periodically examines the operations of VALIC, as well as its statutory financial statements, to determine compliance with the Department's rules and regulations.

In addition, VALIC is subject to regulation and supervision by the insurance departments of the other states in which it is licensed and the SEC. As such, VALIC is required to file periodic financial statements with the insurance departments of such states and the SEC and is subject to periodic examinations. VALIC is also required to have an annual audit of its statutory basis and generally accepted accounting principles (GAAP) basis financial statements performed by an independent public accountant.

The variable products administered by VALIC are subject to regulatory oversight by the SEC. As a part of this regulatory oversight for SEC-registered products, VALIC is required to file its GAAP basis financial statements with the SEC.

Description of transaction processing

Note: Parenthetical references are included in the narrative as a cross-reference to the applicable control activities included in Section IV of this report.

Contract/Plan Administration

The annuity (plan sponsor and participant, where applicable to a plan) and group mutual fund lines of business covered under this report provide for investment and participant account record keeping, including contribution allocations to and disbursements from participant accounts. VALIC products offer investment choices that include fixed interest, variable annuity contracts, mutual funds offered through selling agreements, and a self-directed brokerage account from Charles Schwab. Many of the VALIC plan sponsors with defined contribution plans are covered under the Employee Retirement Income Security Act of 1974 (ERISA). VALIC also services plan sponsors who can claim exemption from ERISA requirements (e.g., churches, governmental entities, etc.).

Plan Setup

When a plan sponsor contracts with VALIC for retirement plan services, several documents are required for VALIC to establish the plan and open it for participants' investment into the available products. These documents generally describe the products and services offered by VALIC and/or the responsibilities among the parties. Special circumstances exist where the requirement of one or more of the above documents is waived for business reasons. These waivers are rare and noted in either the underwriting section of the Case Development database and/or documented in the plan master file.

VALIC is responsible for confirming that new plans are accurately established on the appropriate record keeping system and are supported by appropriate legal and administrative documents from the plan sponsor. The plan sponsor annuity and plan sponsor mutual fund plan setups are reviewed to ensure standard plan documentation is completed by the plan sponsor prior to the first payroll contribution processing date. Missing documentation for the plan setup request is gathered through contact with the VALIC advisor or plan sponsor. Annuity and group mutual fund plan setup requests are completed by the plan's first payroll contribution processing date. The record keeping system assigns the record keeping system identification number as VALIC sets up the new plan, and loads the product in the record keeping system in accordance with the information received from the plan sponsor. An independent quality review is performed for new plan setups to ensure the plan documentation and data input agree **(1.1)**. VALIC contacts plan sponsor's HR or Payroll Department or the third-party administrator (TPA) that is used by the plan sponsor to begin the payroll contribution processing. The plan sponsor receives a copy of the associated contracts (which may include product contracts and a service contract) from VALIC.

New participant accounts are established on the record keeping system from the information that is included in the application or enrollment form for annuity or mutual fund business. Applications for enrollments are reviewed for in good order processing prior to establishing new participant accounts on the record keeping systems **(1.2)**. An independent quality review is performed on a minimum of 10% of enrollments **(1.3)**. Management monitors the status of new accounts on an ongoing basis via AWD's processing queues and reports. Monthly production reports are reviewed to analyze average time outstanding for account setups for adherence to established processing standards. An individual contract or contract certificates are then issued for each participant in an individual annuity or allocated (applying state insurance definitions) group.

Group Product Selection

A new plan sponsor plan cannot be established on the record keeping system until the products that will be offered within the plan are defined. For the majority of new plan setups, products are already defined on the record keeping system so the process of loading the product to the new plan is a selection of the products from the applicable product table. For a small percentage of new plan setups, the product has not been previously offered and it must be added to the record keeping system before the new plan can be set up. Update access to the record keeping system product code and vehicle tables is restricted. Product table modifications are made only when authorized by the VALIC Underwriting Committee. An independent quality review is performed for plan sponsor-initiated variable mutual fund adds, changes, and/or deletes to ensure the plan amendment/agreement or other plan sponsor documentation and data input agrees **(1.4)**. New fund request forms are reviewed and set up in the record keeping system and UVT. Reconciliation is performed and then reviewed by management **(1.5)**.

Fixed Interest Rates

VALIC is responsible for maintaining the fixed interest rates for the plan sponsor's annuity line of business. The interest rates are communicated to the business unit responsible for maintaining the tables by Actuarial. Interest rates are input into non-production record keeping system tables (staging area) by a team member with appropriate security access. An independent review is performed for accuracy. Once reviewed and approved, our Information Technology department then moves the interest rate tables into production. System access to the interest rate tables is restricted to authorized team members. The Interest Crediting Committee reviews and approves the interest crediting rates monthly **(10.6)**.

Contract Updates

For the annuity line of business, plan sponsors periodically renegotiate their VALIC product or service contracts. After receiving approval from the VALIC Underwriting Committee and authorization from the plan sponsor, except for contracts between the participant and VALIC, existing/new accounts are systematically updated in the record keeping system to reflect the new negotiated product. In the case of a non-systematic upgrade, the new negotiated product is added to existing/new accounts as the advisor meets individually with participants to complete the appropriate paperwork. Authorization is not required by the plan sponsor for contracts between the participants and VALIC unless the new negotiated product will be a plan sponsor product.

Plan Amendments

VALIC is responsible for entering plan amendment changes into the record keeping system. The plan sponsor requests plan document amendments to change the plan administration parameters. VALIC sends the plan sponsor any necessary amendments for the plan document. After confirming that the requested changes are legal, feasible, and accurate, updates are made to the record keeping system. The plan sponsor may elect to send a Summary Plan Description (SPD) describing the change to the plan participants.

Charges

VALIC may assess charges to plan sponsors /participants for services such as account maintenance charges, separate account charges, administrative fees, short term trading fees and/or transaction fees, such as loan initiation fees. These fees are mutually agreed-upon fees found in the applicable legal documents for each plan.

The record keeping system calculates charges, based on the parameters in the plan sponsor's agreement or contract. The charge reimburses VALIC for administrative expenses associated with providing plan sponsor services and participant record keeping. Applicable charges that are deducted from participant accounts are summarized in account statements that are sent to the participants. If the plan sponsor has agreed to pay the charges, rather than deduct them from participant accounts, the charges are sent in the form of an invoice to the plan sponsor.

The record keeping system as reflected in the appropriate legal documentation agreed upon by the plan sponsor calculates fees assessed on certain transactions such as loans.

For the annuity line of business, separate account charges are also calculated based on the parameters in the plan sponsor's group annuity contract. Separate account charges include the total of a mortality and expense (M&E) fee and an administration fee. These charges are factored into the unit value calculation. The resultant unit value is applied to units held to determine account balances for plans and participants who have invested in variable investment options.

Participant Record Keeping

The methods for participants to initiate transactions with VALIC are illustrated below.
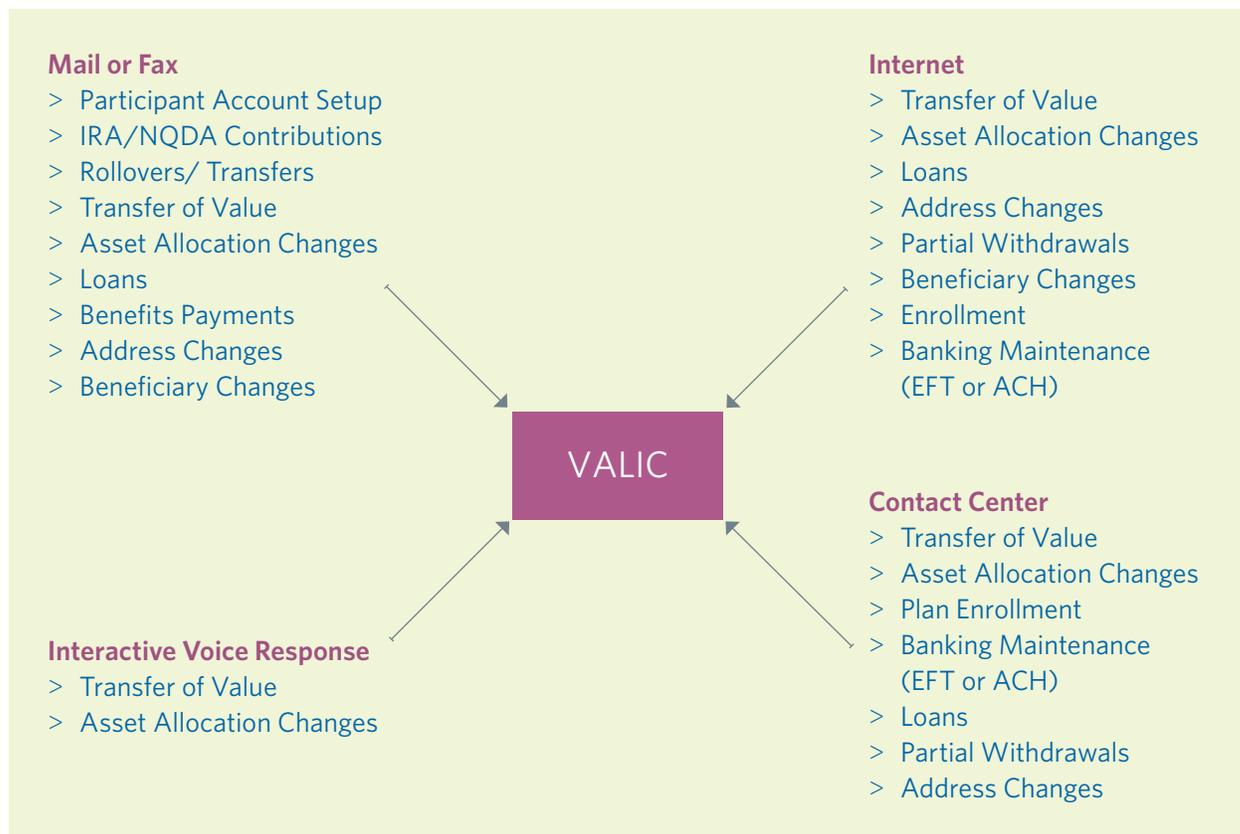
Mail or Fax
> Participant Account Setup
> IRA/NQDA Contributions
> Rollovers/ Transfers
> Transfer of Value
> Asset Allocation Changes
> Loans
> Benefits Payments
> Address Changes
> Beneficiary Changes

Internet
> Transfer of Value
> Asset Allocation Changes
> Loans
> Address Changes
> Partial Withdrawals
> Beneficiary Changes
> Enrollment
> Banking Maintenance (EFT or ACH)

VALIC

Interactive Voice Response
> Transfer of Value
> Asset Allocation Changes

Contact Center
> Transfer of Value
> Asset Allocation Changes
> Plan Enrollment
> Banking Maintenance (EFT or ACH)
> Loans
> Partial Withdrawals
> Address Changes

Incoming participant callers to the Contact Center are verified before providing any participant or account specific information to the caller or performing any transactions for the caller **(2.5, 4.4, 5.7, 6.5)**. The following information must be verified before releasing any information: participant name, Social Security (SSN) or account number and date of birth. Effective September 1, 2016, the Contact Center adopted Computer Telephony Integration (CTI) technology that provides callers the option of self-identifying.

If the caller opts to key in their SSN, the CTI technology will present the information to the CSR in a screen pop providing the CSR with the name matching the SSN input by the caller. CSRs validate this name with that of caller and if it matches, CSRs then ask for their date of birth. Once the date of birth is confirmed, CSRs deem the caller authenticated and proceed with the call.

If, however, the caller indicates the name is incorrect, the CSR will revert to authenticating the caller by asking the caller their name, SSN or account number and date of birth.

* Please Note: Callers can bypass the CTI option. If bypassed, callers will be authenticated by CSR asking for caller's name, SSN or account number and date of birth.

VALIC Document Management ensures transaction requests are imaged into AWD. The incoming mail and imaging area is located in a secured room. Only authorized individuals have access to this room via the security card reader system. A quality control review is performed to ensure that a bar coded splitter sheet is placed between each document that identifies the work type before scanning. An index file of the scanned documents is routed to AWD for processing. The job that routes the image file to AWD is monitored for processing **(2.8, 3.15, 4.6, 5.8, 6.6)**. Complaints are monitored by management and the Consumer Affairs Department **(2.4, 3.16, 4.7, 5.9, 6.7)**. VALIC manages participant record keeping with a systematic workflow methodology utilizing AWD. Within this process, participant requests are imaged to route the work to the respective business unit, which manages each transaction type from initiation of processing through quality review to record retention by using AWD. Management reviews reports from AWD to balance workloads and maintain overall operational standards.

All transaction instructions must be in good order prior to processing. This requires that all paperwork and processing instructions contain the necessary information to initiate the transaction. The VALIC advisors assist participants and plan sponsors by coordinating completion of the appropriate paperwork. Transactions are input into the record keeping system based upon complete instructions. Transactions that error in the record keeping system are researched and resolved.

Account Changes

Non-monetary data changes are reviewed to confirm they are in good order prior to processing **(2.1)**. A confirmation letter is generated to the participant upon completion of the transaction. Confirmation letters are stored and tested on a sample basis for completion and notification to the participant. For any confirmation letters that are not stored, VALIC performs a daily reconciliation of confirmation counts between the transaction data VALIC sends to the third-party vendor and the number of letters the third-party vendor mails. **(2.2, 2.3, 8.5, 8.6)**

Through May 6, 2016, a report was generated for nonmonetary participant updates resulting from an internal rollover request which was reviewed and approved by new business management **(2.6)**. Beginning May 9, 2016 and upon implementing a new client data change tool, updates follow the same process as all other non-monetary data changes.

Plan Sponsor Remittance Instructions

Plan sponsors send retirement plan contributions and payroll deducted loan payments on behalf of their participants. Additionally, if specific conditions are met, the plan sponsors may request a transfer/rollover of assets directly from another retirement plan provider.

Electronic Instructions

Web-based services enable plan sponsors to transmit contributions, loan payments and processing instructions over the Internet. These systems use encryption technology to secure information. Some of these systems also allow the plan sponsors to customize the access of their users. In some instances, smaller plan sponsors elect to update a remittance online to submit their processing instructions. Other plan sponsors elect to create a file directly from their payroll system to be submitted to VALIC via the Internet.

While all electronic instructions are sent via the website, payments may be remitted as follows:

Debit Automated Clearing House (ACH)	A debit from the plan sponsors' pre-designated bank account and credit directly to the VALIC or the VRSCO bank account on the same business day if approved prior to the close of the New York Stock Exchange, typically 3 p.m. CST. Debit ACH is authorized by the plan sponsors or by VALIC or VRSCO as per the plan sponsors' request; all requests are transmitted via the Federal Reserve's ACH network. Debit ACH is the preferred method for remittances by VALIC or VRSCO.
Credit Automated Clearing House (ACH)	A plan sponsor-initiated transfer of funds from their bank account to credit the VALIC or the VRSCO bank account. The transaction is transmitted via the Federal Reserve's ACH network and is settled on the date identified by the plan sponsor. Each remittance should be for only one plan sponsor and must have the plan sponsor name and plan identifier assigned by VALIC or VRSCO included in the remittance.
Wire Transfer	The same-day transfer of funds from a plan sponsor's bank account to the VALIC or VRSCO's bank account over the Federal Reserve Communications System (Fedwire). Plan sponsors are required to include the plan sponsor name and plan identifier assigned by VALIC or VRSCO in the wire descriptive text.
Checks	Checks are sent to a specific VALIC or VRSCO lockbox at JP Morgan Chase, or Bank of America, third party providers.

Paper Instructions

With proper authorization, certain smaller plan sponsors may elect to remit instructions via paper. These instructions are sent with a check directly to the VALIC lockbox. To facilitate good order processing, the remittance must balance to the processing instructions. The paper processing instructions are reviewed to identify the required information and are manually entered into the record keeping system.

Contribution Processing

Remittances are set up systematically on the record keeping system daily by a file transmission received from JP Morgan Chase Bank, based on the cash receipts from each lockbox **(3.2)**. Remittances are set up on the record keeping system by Accounting Operations for cash receipts received from The Bank of New York Mellon (BoNY) on a daily basis **(3.3)**.

Remittances and instructions are received daily and monitored to ensure they are invested effective the business day of receipt if received in good order prior to the close of the New York Stock Exchange **(3.1)**. Good order means that all required information and/or documentation has been supplied (including vendor allocations for each participant) and that the funds are properly authorized and balance to the remittance file. If the remittances are not in good order, the plan sponsor will be notified. Remittances will not be posted to participant accounts until good order is achieved. Record keeping system prevents remittances that do not balance with their instructions from processing in the record keeping system **(3.5)**. Inventories of outstanding remittances are monitored and signed off by management weekly using the Outstanding Remittance Tracking, outstanding deposits, and outstanding money in header record keeping system reports **(3.4)**.

Common Remitter

When selecting the web-based common remitter service, VRSCO is responsible for processing payroll remittances to all participating plan sponsor's vendors. Plan sponsors transmit files through a secured upload facility or through an encrypted FTP and remit funds payable to VRSCO. Upon receipt of the funds, the funding will be updated so that the remittances can be automatically or manually matched to the remittance files for processing. For common remitter, the total amount of the remittance file is matched to the amount of funding. Approval is required prior to the release of remittances for processing. Remittances are systematically designed to only process with matching amounts in funding and remittance file. The funding is matched automatically if there is one instructions file per deposit. The funding is matched manually if there is more than one deposit for an instructions file.

If the funding does not match the remittance file, an exception report of unmatched items is generated. The exception report is reviewed and the plan sponsor notified within one business day to either manually reconcile the exceptions or return the funds as requested by the plan sponsor. All the auto-match and manual-match items are automatically sent to the approval queue. The approval queue is monitored five times a day (8:30 a.m., 10:00 a.m., 11:00 a.m., 12:15 p.m., 1:15 p.m.) and, if no issues found, they are approved to release the remittances. The funds will automatically allocate among the plan sponsor's vendors based on the participant directed vendor allocations stored in the remittance processing module. At the same time, an email is systematically sent to each vendor informing them that their remittance report is ready for download or FTP pickup.

Provided that VRSCO receives good order remittance files and a matching wire transfer by 10 a.m. CST, VRSCO will forward funds to the participating vendors as follows:

> For those vendors that accept electronic funds transfers, wires will be initiated the same business day.

> For those vendors not able to accept electronic funds transfers and as agreed to by VRSCO, VRSCO will manually produce and mail checks within two business days.

In good order instructions and funds received after 10 a.m. CST will be processed by VRSCO the following business day. If a file and funds are received in good order prior to 1:15 p.m. CST in the approval queue, the funds will be processed; however, there is no guarantee that wires will be sent to the vendor the same day. Policies and procedures are maintained to ensure processing of items. Management reviews a report daily to ensure Common Remitter remittances are processed **(3.14)**.

The wire reports generated by the remittance processing module of Retirement Manager are reviewed and approved. The Common Remitter team member uploads the wire instructions to the Open Link Extension (OLE) system and then reviews the system status report to ensure the success of wire file uploads. Treasury then releases the wires.   If the vendor is paid by check, the remittance processing module of Retirement Manager can automatically feed the check payments into SAP and the check writer system.

Loan Payments

Participants remit their loan payments to VALIC per the loan agreement, which outlines the method of payment. In general, the product offering and, therefore, type of loan determines the means of payment. An independent quality review is performed to ensure accuracy in applying the loan payment to the participant's account. If all payments were allocated correctly, the payment is approved for processing. If an error is found, the quality review will flag the payment and correct the allocation **(3.9)**. Automated controls within AWD require an independent quality review **(3.11)**.

For group mutual funds, loan payments can be debited from the participant's personal account through ACH or participant loan payments can be made through payroll deduction in agreement with the plan sponsor.

The payment method of loans under group annuity contracts allows for payments to be debited from the participant's personal account through ACH, through payroll deduction in agreement with the plan sponsor or through the use of loan payment coupons with a quarterly payment schedule. Participants send their annuity contract loan payments to a VALIC lockbox at Bank of America. Automated controls within the loan repayment application require the payment amount to equal the amount allocated to the account. If the amounts do not match or a loan does not exist, the system will not allow the payment to be allocated or the payment's batch to be processed **(3.8)**. The bank deposits checks that are in good order into the VALIC bank account. The bank sends live checks that are not in good order to VALIC. Each check is logged into a spreadsheet and researched to obtain information necessary to process payments.

Once resolved, Accounting Operations sets up deposit at the lockbox **(3.7)**. Automated controls within the loan payment application prevent duplicate annuity lockbox transmittals and will not allow the transmittal of the lockbox payment transactions to the record keeping system unless payments have been allocated, reviewed, approved, and the bank deposit and lockbox amounts match **(3.10)**.

As annuity loan payments are made, the amount of escrow is reduced and the payment is applied to the fixed account from which the loans were taken. Automated controls within the loan repayment application require the payment amount to equal the amount allocated to the account. If the amounts do not match or a loan does not exist, the system will not allow the payment to be allocated or the payment's batch to be processed **(3.8)**. An error report is generated from the record keeping system for any payment that does not apply to a loan. The exceptions are researched, corrected and processed upon resolution **(3.12)**.

As mutual fund loan payments are made, principal and interest will be credited to the account. If a participant takes a full distribution, the loan balance is offset and becomes a taxable event. If a participant dies, the loan is deemed distributed and a tax form is issued to the estate of the participant.

Loans may be repaid in full at any time. If the loan is repaid in full before the end of the loan term, loan interest due is prorated. IRS regulations require that payments be made at least quarterly. If payment is postmarked more than 30 days after the payment due date for the mutual fund product or received and applied to the account more than 90 days after the payment due date for the annuity product and mutual fund product, the loan is considered in default and the remaining amount will be immediately due. The loan will be immediately defaulted and reported on Form 1099R as a taxable distribution for federal tax purposes.

Bank-rejected checks or individual ACHs for loan payments are reversed out of the record keeping system from each participant's affected account **(3.13)**. For plan sponsor ACH rejects, the plan sponsor is contacted to resubmit the ACH. Quarterly reconciliations are performed and reviewed/approved by management to ensure that all bank balances are reported accurately. Separate general ledger accounts are established for each bank account. Cash account reconciliations are prepared and completed according to the AIG corporate account reconciliation policy **(3.6)**.

Plan Administrator (Plan Sponsor) Directed Transfers

Plan sponsors may elect to transfer existing plan assets in addition to current remittances as plan sponsor directed transfers. The transfer of existing assets requires significant planning prior to transfer. This often includes coordination amongst the VALIC Advisor, Institutional Services, and other operations business units. VALIC follows the appropriate Internal Revenue Code, Department of Labor (DOL), and Plan Document provisions with regard to the transfer. In certain circumstances, VALIC may engage the plan sponsor in the participant notification process. Processing instructions are provided in electronic format by the plan sponsor or other third party and must balance to the assets transferred for the transfer to be executed.

One-Time or Recurring Individual Contribution

Checks with paper backup are sent to the VALIC lockbox bank. In addition, Wire Transfers and Credit ACHs are accepted at the VALIC concentration bank. Checks are periodically received directly at VALIC; however once received, the checks are forwarded to the appropriate bank lockbox. In addition, participants with individual flexible premium contracts may request VALIC to automatically withdraw money from their individual checking accounts.

Participant-Directed Capital Transfers

A participant may decide to move assets from another investment provider (vendor) to VALIC. The term "transfer" is used to describe rollovers within an existing plan or the transfer of assets to a new plan. Internal Revenue Code and Plan Documents determine if the participant can move all or a portion of their assets to a qualified plan. Assets may be received via check or wire.

Transfer of Value and Asset Allocation Changes

Participants may execute trades such as transfers of value between funds or change investment options for future contributions. When a participant requests a change through the available service channels, the request is verified and the governing asset allocation mix is updated on the record keeping system. A transaction statement is sent to the participant to confirm the change. An independent quality review is performed on manually entered Transfer of Value (TOV) and Asset Allocation changes **(5.1)**.

Participants are authenticated within the VALIC Online application using a unique User ID and passwords that are in accordance with AIG policy **(2.7, 4.5, 5.2, 6.4)**. Automated controls within the VALIC Online application perform the following:

> Automated controls within the VALIC.com application prevent invalid and incomplete TOV transactions from being set up. Edits prevent depleting more than 100% on "From" funds and only available "To" funds display. The sum of percentages allocated to "To" funds must equal 100% **(5.3)**.

> Automated controls within the VALIC.com application prevent invalid and incomplete Asset Allocation transactions from being set up. Only available funds are displayed and allocations must equal 100% **(5.4)**.

After an Asset Allocation or TOV transaction is successfully processed, VALIC uses a third-party vendor to send transaction confirmations to participants. A transaction confirmation is sent to the participant by a third-party vendor upon completion of Asset Allocations or TOV transactions. VALIC performs a daily reconciliation of transaction confirmation counts sent from VALIC to the third-party vendor and transaction confirmation counts received from the third-party vendor **(5.5, 8.7)**. If the participant's account records are not successfully updated in the record keeping system during the nightly cycle, an error report is reviewed and corrections made and the request processed **(5.6)**.

Loans

VALIC determines the availability and administration of loans for all lines of business based on regulatory guidance from the investment arrangement, the Internal Revenue Service, the associated Plan Document, and ERISA requirements, when applicable. For ERISA loan requests, an acknowledged ERISA Loan Form Disclosure Statement is required with all applicable loan documentation prior to processing loan requests **(4.2)**. In addition, for annuity contracts and accounts, interest rate parameters are promulgated by product specific rules.

When a participant requests a loan through the available service channels for either the group mutual fund or annuity products, VALIC verifies the availability of the loan and, if all paperwork is in good order, enters the information into its record keeping system. VALIC.com and AGILEnet validate participant eligibility to request a loan and the amount allowed **(4.1).** Documentation and approvals included with the loan request are validated by comparing information on the loan request documentation to data contained in the record keeping system. An independent quality review is performed for completeness and accuracy before setting up the loan. If the loan information is correct, the loan is approved for setup. If an error is identified, the request is returned with instructions for correction **(4.3)**. A check and correspondence describing the loan parameters is sent to the participant.

Benefit Payments

Benefit payments may occur as a result of participant retirement, death, disability, termination of employment, in-service withdrawal, or hardship depending on the individual plan parameters. Participant requests are processed in accordance with regulatory requirements, withdrawal restrictions as determined by the plan document, ERISA and spousal consent requirements, and applicable product provisions. If in good order the transaction is processed with a disbursement available on the following business day. If the request is not in good order, it is pended to obtain the needed information.

Benefit payments include full and partial one-time withdrawals, periodic payments, also referred to as systematic withdrawals; death claim settlements or rollovers/transfers to another financial institution. Participant and plan documentation is reviewed for completeness of required documents, accuracy against participant information in the record keeping systems, and that proper signatures were obtained prior to completion of benefit payment processing **(6.1)**. An independent quality review is performed to ensure accuracy and completeness **(6.2)**. Benefit payments failing to process in the record keeping system are recorded on an error report. This report is reviewed daily and appropriate corrections are made **(6.3)**.

Paper Checks

SAP is a fully integrated financial system that is utilized to disburse checks processed through the core systems of VALIC, as well as those entered manually into SAP for policy/group disbursements. The types of checks created are defined below:

> Automated checks – Checks created directly from the record keeping system transactions without the intervention of business personnel.

> Automated manual (on-demand) checks – Checks that process through an automated workflow, referred to as Transaction Account Processing System (TAPS) with business personnel intervention but without accounting personnel intervention.

> Non-automated on-demand checks – Checks that are not processed through an automated workflow and require business and accounting personnel intervention.

After each core system completes its cycle, transactions are transmitted to SAP for further processing. All (automated and non-automated) SAP distributions are screened for OFAC Compliance through the AIG Watch List database (Acuity) and potential matches are reviewed by Compliance, before checks are released.

SAP segregates checks according to entity and core system. SAP further segregates transactions based on special handling codes used to allow special processes to occur in the disbursement jobs. Once the SAP nightly cycle completes, the check output is transmitted to a VALIC server where Accounting releases the checks for printing.

The check writer printers are located in a secured room in Accounting. Only appropriate individuals have access to this room via the security card reader system **(7.1)**. The door to the secured room automatically locks when closed. Accounting is responsible for printing all checks, comparing printed check to source document for all policy (non-automated) manuals, vendor payments, as well as ensuring that the instructions for special handling codes are followed. Checks are picked up by Mail Services for mailing.

Before entering non-automated check requests in SAP, approvals are validated against the On-Demand Disbursement Authorization table to confirm requests are within the appropriate authorization levels **(7.2)**. Once request is entered into SAP and check is printed, Accounting compares the payee, address, amount, document number and issuing company to the TAPS check request to ensure data was entered correctly **(7.3)**. If Accounting notes an error, he/she notifies the Accounts Payable Unit to take appropriate action.

Checks are then mailed out and the supporting documentation is submitted to Document Management for scanning into AWD.

The Accounting Specialist role in the check writer room is limited to the printing and mail preparation of checks. They cannot enter disbursement transactions for check issuance.

Non-automated on-demand checks and wire transfer requests are approved and quality reviewed through TAPS prior to issue **(7.7)**. Automated manual check requests are automatically sent to SAP for processing subsequent to a TAPS request from the requestor. The request in the TAPS database is noted as SAP Export with respective batch number **(7.6)**.

Death claim disbursements are approved based on limits defined in business procedures. Evidence of approval is retained **(7.9)**.

All surrenders and withdrawals are approved based on limits defined in business policies. Evidence of approval is retained **(7.10)**.

Electronic Fund Transfers (EFT)

EFT annuity disbursements are executed systematically through the record keeping system, which is interfaced to SAP and then transmitted to the bank for processing. Accounting performs daily reconciliation of EFT totals processed in SAP to the transmission file received from the bank. Any discrepancies are investigated and resolved **(7.8)**. In addition, monthly reconciliations are performed and approved by management to ensure the bank's EFT transactions are tracked and recorded in the SAP ledger. Any discrepancies are investigated and resolved **(7.11)**.

General Ledger Interface

Group Annuity Product

Once the record keeping system batch cycle completes, transactions are transmitted directly to SAP for both systematic and manual disbursements. Each transaction is systematically journalized, which updates SAP and the appropriate general ledger accounts. The systematic transactions are validated within SAP general ledger mapping tables. Finance performs a daily balancing of record keeping system general ledger entries in SAP. Any unbalanced general ledger entries are corrected **(7.4)**. Finance compares the record keeping system balance totals to the general ledger balances on a monthly basis **(7.5)**. Suspense reports are generated daily, monthly, and quarterly for each general ledger account. Each user department is responsible for researching and clearing suspense items. Since each transaction is coded with a User ID, the person who entered the transaction has to back out and re-enter the correct amounts so that the item is deleted from suspense and recorded in the correct accounts. If the User ID is no longer valid, then the manager of the business unit that processed the transaction will research and resolve the outstanding item.

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Group Mutual Fund Product

After transactions are processed through the record keeping system, a series of reconciliation and reporting procedures are performed by Variable Product Accounting (VPA). This includes daily bank account reconciliation of all investment related transactions and daily NSCC settlement. In addition, Accounting Operations handles all cash management functions for the group mutual fund product which includes the following:

> Coordination of resolution with VALIC Operations of any open items on the record keeping system and bank account reconciliation.

> Receipt and resolution of insufficient remittance/payment checks.

> Monitoring and clearing of disbursement errors.

> Production of manual checks.

As a management oversight, AIG Federal Savings Bank personnel review monthly bank statements and open items.

Client Reporting

VALIC uses a third-party vendor to prepare and mail quarterly account statements to participants. A reconciliation is performed of the number of participants sent to the vendor with the number of participants processed. Additionally, the vendor sends VALIC electronic copies of the quarterly account statements which are maintained in COLD **(8.3)**. VALIC audits a sample of quarterly account statements prior to authorizing the release of statements for mailing or online viewing **(8.4), (10.5)**.

A number of plan reports are available to plan sponsors on VALIC.com or by mail. Reports are generally at the plan level, for a monthly, quarterly, or annual period, to assist the plan sponsor in administering their retirement plans. Annual regulatory reporting is also provided as required by state/federal regulations via mail, overnight delivery service, or VALIC.com.

A report scheduler is utilized to systematically generate reports and track deliverables validating a timely delivery. The Group Manager database is used to track plan report due dates to verify that the reports are generated **(8.1)**. A systematic process is used to confirm that reports are provided in balance. Plan reports are reconciled and corrected, if necessary, prior to making them available to the plan sponsors **(8.2)**.

Asset Management

Asset management represents the process and systems used in recording and monitoring of the investments underlying the retirement plan accounts. For both the group mutual fund and the annuity products, asset management is administered by VPA.

Plan sponsors select the investment vehicles amongst which participants may allocate their funds. Within an annuity contract, VALIC offers investment choices from fixed investment accounts to variable accounts or combination (fixed and variable) contracts. Within the group mutual fund platform VALIC typically offers a combination of mutual funds and one or more fixed annuity or stable value options as permitted for the respective plan.

For both the annuity and group mutual fund products the available investment alternatives may also include a self-directed brokerage account established with Charles Schwab (Schwab PCRA). Within an annuity contract, the plan sponsor or other fiduciary may restrict the availability of one or more of the underlying investment options to the participant. Within the group mutual fund platform, the plan fiduciary may select from a wide array of investment options with which VALIC has, or can obtain, appropriate agreements. With the Schwab PCRA, participants generally may select from among mutual funds not already available under the plan.

The asset purchases and/or redemptions are made resulting from contributions/payments, disbursements, or other changes. During nightly processing, the net cash received or disbursed from each variable account is calculated. The result of this nightly processing from the record keeping systems will determine the amount of retirement plan receipts to invest in the variable accounts. Management reviews and authorizes the daily investment transactions sent to each respective fund manager. The daily investment transactions are the result of the previous day's annuity and group mutual fund remittances/payments, withdrawals, surrenders, loan activity, charges, and TOV transactions captured from a record keeping system daily report. Verification of the correct processing by the respective fund manager is made by reconciling the shares outstanding in the UVT System to the mutual fund reported shares outstanding via the NSCC Position Report, DST Vision, fax, email or by telephone. Reconciliations are independently reviewed and approved **(9.1)**. Once verified, discrepancies are resolved with the fund manager on a daily basis.

For the annuity products, a unit value is calculated by the UVT system. For the group mutual funds, UVT receives a daily net asset value (NAV) from each mutual fund which is sent to the record keeping system. A reconciliation occurs for annuity and group mutual funds investment holdings recorded in the trading applications (UVT) to the record keeping system on a daily basis **(9.2)**.

Cash movement is reconciled on a daily basis by comparing the expected cash movement from the trade tickets to the actual cash movement reported by Treasury (OLE Reports) **(9.3)**.

The daily transfer agent activity is processed, reviewed, and reconciled in the VPA Transfer Agent Instance of UVT. Wires are generated based on the trade activity received which are sent to State Street Bank for net redemption trades and to AIG Treasury for net purchases. Share balance confirmations are sent from the Transfer Agent Instance of UVT to each of the entities offering VALIC funds. The transfer agent process reconciles the share balance, NAV, and dividends **(9.4)**.

All day wire activity for the trades is extracted from UVT to create the Remote Wire Upload which is reviewed and approved to initiate the cash movement for the daily trade activity. The daily purchase or redemption of the trading activity including total outstanding share balances is derived from the daily wire activity and sent electronically to the fund companies to ensure that UVT and the fund companies remain in balance **(9.7)**.

Income Collection and Asset Valuation

Income collection and asset valuation focuses on the calculation and recording of interest and dividend income earned on assets that have been invested. For group annuity products, variable funds are valued daily utilizing the unit value method of accounting.

The record keeping system automatically allocates participant transactions to the investment vehicles in accordance with participant instructions and adjusts the number of units or shares held for variable or mutual fund investments, or the value of the fixed account, as appropriate.

For the annuity product, unit values are calculated to reflect changes in investment values and earnings, as provided by fund managers, less applicable daily contract charges. Changes in unit values as a result of market- valued net investment performance are applied to participant account balances to determine investment value change. Validation of asset valuation is performed by reconciling the calculated change in reported NAV to the actual reported change in NAV and the percentage change in unit value from the NAVs of the underlying investment vehicles to help prevent or detect errors in the unit value calculations **(10.1)**. Validation of asset valuation is performed for group mutual funds by comparing the share values received from the NSCC to share values received by the vendor VMS **(10.2)**. The completion of daily reconciliation for annuities is recorded on the Unit Value Report Review Checklist and on the Unit Value Reasonableness Test. The completion of the daily reconciliation for group mutual funds is recorded on the Share Value Pricing Review Checklist. An independent review of the reconciliations is required **(9.5, 10.3)**.

III. Description of the VALIC Defined Contribution Plan Administration System

For group mutual funds on the record keeping system, share values are collected from the NSCC, reconciled to confirmations received by VMS or from the fund companies directly and then uploaded to the UVT System.

Dividend payment schedules are monitored to confirm recording of distributions by fund managers **(9.6, 10.4)**. As part of the nightly unit value calculation and share value collection processes, reported dividend and capital gain information is entered on ex-date into the UVT System. Daily, a staff accountant reconciles the shares outstanding in the record keeping system to the UVT System and then to the mutual fund reported shares outstanding via the NSCC Position Report, DST Vision, fax, email or by telephone. Reconciliations are independently reviewed and approved **(9.1)**. Discrepancies are resolved with the fund manager on a daily basis.

In support of the group mutual fund product, pricing information is received for each mutual fund through various sources. These include direct files received from the NSCC, from the third-party vendor VMS and also confirmed by fax and email from the fund companies. The share values, periodic dividend, daily accrual dividend and short and long term capital gain rates are uploaded directly into the record keeping system.

For the annuity fixed interest investment options, interest is calculated by the record keeping system based on the parameters in the plan sponsor's contract. The VALIC portfolio interest crediting policy is designed to minimize earnings fluctuations in a changing interest rate environment. The VALIC interest crediting methodology consists of:

> Setting new interest rates monthly for the new deposits in that quarter. This rate is credited for the remainder of the first calendar year, with the intent of crediting the same rate for one additional calendar year.

> Setting a general "pool" rate at the beginning of the year for older deposits exceeding two calendar years.

> All deposits and transfers to Fixed Account Plus with effective dates during a month will receive the monthly declared rate until that rate is changed and VALIC declares a new interest rate at the beginning of each month. VALIC guarantees that all deposits and interest in accounts during that month will earn that month's interest rate for a specified period.

Access controls prevent unauthorized individuals from accessing or changing the monthly interest rates for the fixed accounts.

The values of the annuity fixed account are maintained by the record keeping system. Transactions affecting fixed reserves are recorded on the record keeping system and in the VALIC general ledger. Account values are reviewed monthly for reasonableness by Finance. A roll-forward is performed on the total fixed account values on a monthly basis **(10.5)**. Account values from the record keeping system are reconciled to the VALIC general ledger on a monthly basis. The interest credited is reviewed monthly for reasonableness and compared to an expected interest calculation. If discrepancies in the interest credited exist, both Finance and Actuary research them in order to resolve the problem and any reporting adjustments are made as necessary. The Interest Crediting Committee reviews and approves the interest crediting rates monthly **(10.6)**.

Compliance and Regulatory Support

A retirement plan's qualification for tax-exempt status is dependent upon its continued compliance with rules and regulations set forth by the DOL, the Department of Treasury, the Internal Revenue Service, and other applicable federal legislation. VALIC offers the service of assisting with the preparation of required regulatory reports and performing the required nondiscrimination testing. Such services are addressed in the Plan Administration Services Contract (PASC) and the Service Provider Agreements (SPA) that are submitted to VALIC as part of the new business submission paperwork. For most plans, VALIC provides a standard set of plan services including participant-level accounts and recordkeeping, and additional plan services are available to be selected by the plan sponsor. Required regulatory reporting and plan testing are then performed by VALIC based on the services selected and the information received from the plan sponsor. The services that VALIC provides have been categorized below into compliance testing and regulatory reporting – Form 5500.

Plan Document Services

VALIC provides plan document services to select clients who elect to utilize one of VALIC's various retirement plan documents. Services consists of plan document design, drafting and on-going maintenance through the use of amendments or restating the plan document.

Compliance Testing

VALIC performs compliance testing for the plan sponsor in accordance with the PASC or SPA. VALIC does not perform any analysis of the data supplied by the plan sponsor; it relies exclusively upon information furnished by the plan sponsor. Compliance testing may include nondiscrimination testing to confirm compliance with Internal Revenue Code (IRC) 401(k); 401(m); 402(g); 410(b)(1)(A) and (B) minimum coverage; 415 annual additions; and 416 top-heavy. Additional specialized testing services such as 401(a) (4) and average benefits testing may be required and are performed by VALIC if requested by the plan sponsor.

The process is initiated once the plan sponsor's year-end census information is received. The census information is submitted in an electronic spreadsheet format via encrypted email on a secure Internet site. The data is then uploaded into Actuarial Systems Corporation (ASC) compliance testing software for testing. A data inconsistency report is run and forwarded to the plan sponsor for review and correction. Once data inconsistencies are resolved, compliance testing begins. Throughout the various stages of compliance testing, an independent quality review is performed. The results are documented in the Compliance Testing database. In the event a test fails, corrective measures are discussed with the plan sponsor to resolve.

The Plan Manager database is used to track plan sponsor census information mailed and received dates; along with testing milestones throughout the process and to validate regulatory deadlines. The Plan Manager database is also used to confirm test results are provided to the plan sponsor within regulatory deadlines.

Regulatory Reporting – Form 5500

VALIC prepares the Form 5500 for the plan sponsor in accordance with the PASC or SPA. Financial and non-financial data is extracted from the record keeping system and electronically imported or manually entered into the SunGard Relius Government Forms web based portal, which is used to generate Form 5500, along with the related schedules and attachments. Form 5500 information, including due dates is tracked in the Plan Manager database. The Form 5500 prepared by VALIC is subject to an independent quality review.

Managers monitor 5500 deadlines through the Plan Manager database for completion and due dates and provide reports to their management. If a completed Form 5500 cannot be electronically filed by the plan's filing deadline, VALIC will prepare Form 5558 to extend the filing deadline with the IRS. Each Form 5500 is electronically delivered to the plan sponsor for review, signature, and electronic filing. SunGard Relius Government Forms software web based portal provides email notifications to the plan sponsor when the Form 5500 has been electronically filed.

Retirement Manager

Retirement Manager Implementation

A quality review is completed to validate that Retirement Manager is set up according to the information provided by the employer regarding the plan and the approved vendors **(11.1)**.

Retirement Manager Limit Calculations

Retirement Manager will monitor plan limits and provide individual limit reporting for participants that are expected to exceed or have exceeded their individual limits.

If a participant has already contributed more than their annual contribution limit, then this participant is reported to the plan sponsor on the Exceeds Report.

A Retirement Manager Contribution Limit Enforcement module is available for selected plan sponsors with an IRC 403(b), 401(k), 401(a)/403(a), 414(h) and 457(b) plan types. Retirement Manager proactively reduces or stops deferral amounts for participants to prevent excess contributions **(11.2)**.

A Retirement Manager Hardship Withdrawal Enforcement module is available for selected plan sponsors with IRC 403(b) plan type. Retirement Manager suspends elective contributions for a period of six months or more if designated by the plan **(11.3)**.

With regard to Contribution Limits and Hardship Withdrawal Enforcement modules, funds are released to the vendor or returned to the plan sponsor as instructed **(11.4)**.

Retirement Manager Disbursement Reporting

For plan sponsors that elect plan disbursement reporting with 403(b) and 457(b) plan types, Retirement Manager provides for either a vendor or a plan sponsor to send a file containing transactional data for loans, hardship withdrawals or unforeseen emergency, in-service exchanges, severance of employment, and age-based in-service distributions at the plan level. These files will be primarily transmitted to Retirement Manager from vendors on a monthly basis.

Retirement Manager Inbound SPARK File Process Controls

The industry standard data file for sharing and aggregating plan disbursement information is called the SPARK file.

A monthly audit of inbound SPARK files is performed to determine if any of the expected plan data is not received. If any of the data is not received for active vendor plans on Retirement Manager, contact is made with the vendor or plan sponsor regarding the delay **(11.5)**.

There are five separate disbursement reports available for the plan sponsor reflecting the data received in the file. These reports consolidate the transactional data from various vendors which enables the plan sponsor to track and monitor loan, hardship withdrawal or unforeseen emergency, in-service exchange, severance of employment, and age-based distributions across vendors for individual participants. Retirement Manager aggregates disbursement information from plan vendors due to loan, hardship withdrawal or unforeseen emergency, in-service exchange, severance of employment, and age-based distributions and provides the plan sponsor or vendors with consolidated disbursement reporting across vendors **(11.6)**.

A Retirement Manager Disbursement Eligibility module is available for plan sponsors using aggregated disbursement information for 403(b) and 457(b) plans in Retirement Manager. Once activated Retirement Manager calculates loan, hardship withdrawal or unforeseen emergency, in-service exchange, severance of employment, and age-based distribution eligibility based on 403(b), 457(b), or specific plan restrictions. The resulting certificate is used by the participant to request final approval from the designated vendor based on individual contract restrictions **(11.7)**.

In cases where a 403(b) or 457(b) plan has multiple campus locations governed by the same plan document, Retirement Manager can perform compliance services for disbursement requests and provide disbursement reporting based on plan data under all campus locations **(11.8)**.

Retirement Manager Security Access Controls

Retirement Manager restricts the data at the plan sponsor, vendor, and participant level. Plan sponsors can only access data belonging to their plans and cannot see any other plan information. Vendors can only view data for participants that have enrolled with their company. Participants can only view their own personal data **(11.9)**.

Retirement Manager Outbound SPARK File Process Controls

A monthly review is completed of all outbound SPARK files generated to external third parties to ensure that the plan information is provided **(11.10)**. A review of confirmations produced by the system is used to validate successful file completion for each service provider. This review also includes an internal approval process by management.

General computer controls

Note: Parenthetical references are included in the narrative as a cross-reference to the applicable control procedures included in Section IV of this report.

Applications and Systems Development and Maintenance

Mainframe Application – Change Management

VALIC Information Technology and Mphasis application support team provides computer-programming support for the V-System application to support plan administration. As noted above, certain IT functions for V-System are supported by CTO, a subsidiary of AIG. Programs and other components of mainframe applications reside in mainframe protected datasets or libraries. There are development libraries, quality assurance testing libraries, production stage and production libraries. There is also a separate set of libraries used for emergency moves. Programmers can only modify items in the development libraries.

Production libraries, quality assurance (QA) testing libraries, and production stage libraries can be viewed but not directly edited. They are updated only by the change management procedures, which are production batch jobs. The change management jobs move changed programs and other components of mainframe applications from the development libraries through quality assurance testing libraries to the production libraries. Access to load program changes into the production environment is restricted to an electronic scheduler for mainframe moves. Access to migrate changes to the production environment is limited to authorized VALIC migration personnel separate from development function **(12.4)**. VALIC migration personnel authorize program changes in the electronic scheduler for mainframe changes **(12.3)**. PanAPT, a change control product from Computer Associates International, Inc., is used to control the libraries and the movement of components between them. The PanAPT library levels are development, systems test, stage test, production stage, and production. PanAPT is maintained by CTO, a subsidiary of AIG.

Mainframe Application — Standard Change Management Process

The mainframe programmer checks out the programs that he/she needs to modify. This process copies the programs from the production to the development library for maintenance. The checkout is accomplished by creating a move request with the appropriate line items in PanAPT. Access to migrate changes to the production environment is limited to authorized VALIC migration personnel separate from development function **(13.1)**.

The programmer completes the code modifications in the development environment. Upon completion of unit testing, the programmer verifies and closes the move request within PanAPT. The verification process requires that any concurrent development issues be resolved. The programmer then requests, via the Change Management Notification and Approvals (CMNA) system, that the application manager approve the request to move the program to a QA environment.

After the application manager has approved the move to QA within CMNA, a QA coordinator approves the move within the PanAPT system and CMNA. Approval of the move request within PanAPT releases move request to the next level. The PanAPT change management jobs are scheduled to run several times per day. When running, the jobs scan for move requests that have been approved. If the move request has been approved to move to the next level, then the request is moved accordingly in this case, to the QA or system test environment. The PanAPT change management jobs can also be requested to be executed adhoc via change requests.

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Quality assurance testing takes place in the system test environment. Mainframe and distributed application program changes are tested prior to loading into the production environment and testing approvals are documented **(12.1)**. VALIC uses the CMNA system for documentation of approvals.

Testing must be reviewed and signed off by the appropriate business units before a change can be approved for production. Appropriate VALIC user management must approve all mainframe and distributed application program changes before being placed into production **(12.2)**.

Once test results have been reviewed, the QA coordinator, the application manager, and the appropriate user approve the move to production in the CMNA system. Once approved, the master scheduler approves the final moves to production stage and to production within PanAPT and CMNA. Moves from production stage to production scheduled and normally execute each Sunday evening, but may be scheduled at other times on request. VALIC change management staff and the development programmer verify whether the move to production was successful by examining the libraries and job run history.

Mainframe Application — Corrections

If a correction is required to a program being tested in the system test environment, the programmer will initiate a new move request to check the program out from the system test environment, make the necessary changes in the development environment, test, and then close the move request for migration back to system test environment. These move requests follow the normal move process with an early stop at the system test stage. The approval process is identical to that for normal moves up to those stages. An early stop move may also be made to the stage testing or production stage environments if necessary.

Mainframe Application — Emergency Change Management Process

The emergency change management process is similar to the standard process described above with the exception that approvals can be obtained after the change has been implemented into production. The programmer creates an emergency move request in PanAPT, which checks the members out into a separate emergency library, so that any normal development changes will not be overlaid. Testing is performed in the development environment. Mainframe and distributed application program changes are tested prior to loading into the production environment and testing approvals are documented **(12.1)**. The migration from development bypasses the QA testing levels and moves straight to production stage. The move request is approved within PanAPT and CMNA, by the QA coordinator (for migration to production stage) and the master scheduler (for migration to production), upon notification from the programmer and application manager and review of evidence of test results and user signoff. Mainframe and distributed application emergency moves and production fixes are approved by application managers **(12.5)**. Emergency moves, for batch jobs, are not regularly scheduled. They are completed upon separate request.

Distributed Applications — Change Management

There are four distributed application environments residing on separate servers: development, acceptance test, production staging, and production. Microsoft Corporation's Team Foundation Server (TFS) is used for change management and to protect source code. TFS saves backup versions of the source code and change history.

TFS promotes modules between environments. A team lead promotes changes from the developer's code branch to the main test branch. An authorized non-developer staff member of the appropriate Business Solutions Development department further promotes from the Main branch to QA environment and then to Production Staging. A separate authorized non-developer staff member of the appropriate Group Retirement Application Support department makes the physical move of executables from the staging server to production.

Distributed Applications — Standard Change Management Process

The programmer checks out the programs that require modification from a project-specific branch in TFS, which copies the source code from TFS to the programmer's PC. The programmer then completes the code modifications, unit tests, and checks the files back in. The Team Lead merges those changes up to the Main library for developer integration testing in the development environment.

Once integration testing is complete, the programmer notifies the authorized non-developers that the change is ready to be moved to acceptance test (via the CMNA system).

Quality assurance testing takes place in the acceptance test environment. Mainframe and distributed application program changes are tested prior to loading into the production environment and testing approvals are documented **(12.1)**.

Once test results have been reviewed, the application manager, the QA coordinator, and the appropriate user approve the move to production in the CMNA system. Appropriate VALIC user management must approve all mainframe and distributed application program changes before being placed into production **(12.2)**. Move requests are approved in a change control system.

The acceptance test, production staging, and production servers are protected by user IDs and passwords. Access to migrate changes to the production environment is limited to authorized VALIC migration personnel separate from development function **(13.1)**.

Distributed Applications — Emergency Change Management Process

The emergency change management process is similar to the standard change management process with the exception that approvals can be obtained after the change has been implemented into production. User acceptance testing, as applicable, is performed in the development environment for emergency moves. Mainframe and distributed application program changes are tested prior to loading into the production environment and testing approvals are documented **(12.1)**. Mainframe and distributed application emergency moves and production fixes are approved by application managers **(12.5)**. However, the components being moved still migrate physically through the acceptance test environment.

Distributed Applications — Operating Systems Change Management

Changes to operating systems (Windows and Unix) generally consist of patches or fixes. A change request ticket is opened in the Service Now system where supporting evidence is maintained. Service Now system is a ticketing system used for managing operating system changes. A change ticket is created for each change and documentation for testing and approvals are maintained in the Service Now system. Infrastructure changes performed by CTO are tested and approved **(12.9, 14.6)**. Once the change has been approved it is implemented into production.

Emergency changes to operating systems follow the same process with the exception that approvals can be obtained after the change has been implemented into production.

The distributed applications are maintained in the Fort Worth, TX data center. The related servers are managed per CTO standards as described elsewhere. UVT is a third-party application managed as described for Distributed Applications, except that code is not stored in TFS and there is only a test and production environment. AWD applications are managed as a shared service by Life and Retirement for use by all L&R companies. Requests for application changes are submitted to the Shared Services Unit (SSU) and not managed by Group Retirement. VALIC by Phone is managed as a shared environment by AIG Global Services. Request for application changes are submitted to CTO.

The Service Now tool is used to track CTO operating system changes. Change tickets are created in Service Now tool and require approval by a CTO manager.

Development and test environments are available to test changes. Changes are tested by the AIG business unit (if applicable) and migrated into production by a CTO assignee from the assignment group designated in the change ticket. Infrastructure changes performed by CTO are tested and approved **(12.9, 14.6)**.

SAP — Standard Change Management Process

The SAP Solutions Center Change Management Process governs the approval and migration of all SAP related change requests. All SAP change requests are logged and are then submitted to an appropriate technical resource. The technical resource then creates a request to create Correction Documents in Solution Manager to Change Management (henceforth referred to as CM team) team. The CM team approves the change request in Solution Manager and creates the required corresponding correction document. Once the correction document has been assigned to the team lead, the team lead creates transports against these correction documents and assigns the transport/task to the resource working on this change. Development of SAP changes is completed by developers and configurators within the development environment, unit tested, and then moved to the Quality Assurance (QA) environment for completing system integration and user acceptance testing. Once QA testing has been approved, and validated in the QA environment by the QA Manager, changes are approved before moving to the production environment. SAP developer access to the production environment is appropriately controlled and restricted **(12.6, 13.2)**. Test plans and test results are documented and signed off by authorized employees for SAP changes **(12.7)**. All required approvals for SAP changes (including business and technology) are obtained and documented prior to migration of the change into the production environment **(12.8)**.

Changes to UNIX (SAP operating system) generally consist of patches or fixes. A change request ticket is opened in the Service Now system where supporting evidence is maintained. Changes to SAP's operating system are tested and approved prior to loading into the production environment **(12.9, 14.6)**. Testing of the change is performed on an as needed basis. Once the change has been approved it is implemented into production.

SAP — Emergency Move Process

The emergency move process is the same as the standard move process but is performed in an expedited manner with required approvals being allowed to occur after an emergency change has already been moved to production. The components being moved to production for emergency changes still migrate physically through the development and quality assurance environments and require the same documentation and sign-offs required for normal changes. AIG (ADM) standards provide seven days' time after production implementation to complete any missing documentation.

Database Administration

V-System

The Mainframe DBA services team performs database administration for V-System. CTO owns the database administration software (IMS, DB2, and all related utilities) and is responsible for obtaining it from the vendor and installing it. At the request of VALIC, CTO will acquire new releases of the software and perform configuration and initial testing. Once initial validation is complete, CTO installs the database administration software and/or utilities in a test environment and then VALIC completes the testing. Application DBA support is provided by MphasiS DBAs. They work with application development teams on projects to design and develop new data structures, support IMS and DB2 DBA process, as well as monitor and optimize the database access and performance.

Distributed Applications

Distributed applications are supported by Oracle databases with the exception that the UVT application is supported by SQL database. Extracts from the mainframe V-System databases and from other VALIC systems are run each night, and the extract files are downloaded to the LAN. Hardware, operating system configuration and storage are provided by AIG Global Services. VALIC DBA provides storage requirements and layout to be configured. AIG Global Services acquires and installs the database administration software. VALIC DBA configures the database administration software for the application.

The VALIC DBA group designs, implements, monitors and tunes the physical databases, resolves technical problems, and supports technical and operational staff in the use of the databases. VALIC managers perform annual reviews of Oracle and SQL database user access by reviewing current user profiles/privileges. A list of corrections is prepared and forwarded to the security administrator for processing **(13.17)**. Database user access requests are initiated and approved via the use of a Lotus Notes database. New user access requests to the Oracle and SQL database are initiated and approved by appropriate VALIC management **(13.9)**. The DBA also works with the system development staff on projects to design and develop new data structures, queries, and processes and to optimize application programs accessing the databases.

The DBA manager is responsible for monitoring database activity. Oracle and SQL database activity is monitored daily to detect inappropriate activity within the database **(13.3)**.

Access is granted to appropriate personnel based on job responsibilities and must be approved by a manager **(13.11)**.   Access to domains is approved in a Privileged Access Request (PAR) form and submitted via Service Now to the Security team or submitted via a Service Now request to CTO for R1-Core servers. Users with privileged access to the operating system are reviewed on an annual basis for appropriateness. Exceptions are researched and resolved **(13.16)**.

SAP

The SAP application is supported by Oracle Databases which are administered by the SAP Basis team. The SAP DBA acquires, installs, and configures the database administration software.

The SAP Basis group designs, implements, monitors and tunes the physical databases, resolves technical problems, and supports technical and operational staff in the use of the databases. The SAP Basis group also works with the SAP system development staff on projects to design and develop new data structures, queries and processes, and to optimize application programs accessing the databases.

Access to Data Files and Programs

User Access Administration — Mainframe V-System

CTO provides VALIC with the ability to administer user identification codes on a remote basis under the guidance and direction of CTO Systems Support. Access to the mainframe resources is controlled through the use of IBM's Resource Access Control Facility (RACF). The RACF configuration and installation settings and control reside with CTO. Information Security assigns user ID codes as requested and authorized by VALIC management through a ticketing system forms process. VALIC uses Service Now as the ticketing systems for tracking and approval of requests. VALIC managers perform annual reviews of VALIC user access to the mainframe application by reviewing current user profiles/privileges. A list of corrections is prepared and forwarded to the security administrator for processing **(13.15)**.

New access requests of VALIC employees for the mainframe and distributed applications is documented and approved by appropriate VALIC management **(13.8)**. Mainframe RACF codes are assigned to users based upon the authorization reference to existing profiles or users' rights. VALIC security administrator personnel delete or disable access of terminated employees in the mainframe and distributed applications upon notification **(13.13)**.

VALIC users are required to use a password for mainframe application access, have a password that must be a minimum of eight characters long and include letters and at least one embedded number, change their password every 90 days and have their user ID code revoked after three failed logon attempts **(13.4)**. Contractor accounts are automatically disabled every 90 days whether in use or not unless a management-approved request is received to extend the account another 90 days **(13.7)**.

User Access Administration — Distributed Applications

VALIC access to desktop and distributed applications resources is controlled by the network operating system under service level agreements with CTO. All access to computing resources flows through the network layer. There are three levels of access for development and technical personnel, client service personnel, and all others. Information Security personnel assign user ID codes as requested and authorized by VALIC management through a ticketing system forms process.

The manager or supervisor of a new employee completes an access request in the ticketing system. New access requests of VALIC employees for the mainframe and distributed applications is documented and approved by appropriate VALIC management **(13.8)**. Logical access to programs and data to distributed applications is limited to authorized individuals. VALIC managers perform annual reviews of VALIC user access to the distributed applications by reviewing current user profiles/privileges. A list of corrections is prepared and forwarded to the security administrator for processing **(13.15)**. VALIC security administrator personnel delete or disable access of terminated employees in the mainframe and distributed applications upon notification **(13.13)**.

Operating System passwords are required, must meet current policy and standards which include a minimum of eight characters in length and must be changed every 90 days **(13.5)**.

Access is granted to appropriate personnel, based on job responsibilities, and is approved by a manager **(13.11)** Privileged Access to RS domains is approved in a Privileged Access Request (PAR) form and submitted via Service-Now to the Security team or submitted via a Service-Now request to CTO for RI-Core servers. SailPoint is an automated third-party recertification tool used to recertify Unix and Windows server users. Users with privileged access to the operating system are reviewed on an annual basis for appropriateness. Exceptions are researched and resolved **(13.16)**. Upon termination, access to the network domain is revoked timely **(13.12)**. Network domain accounts that have been inactive for more than 90 days are flagged and disabled on a monthly basis **(13.6)**.

Unix ID terminations are performed through a two-step process. The first step is an automated process where the names of the users and the servers they have access to are extracted and a set of scripts is run against HR data to delete access automatically. Users with privileged access to the operating system and database level are reviewed on an annual basis for appropriateness. Recertification items (including modification or deletion of access) that require further review are addressed by management in a timely manner **(13.16)**.

User Access Administration – SAP

SAP application access is controlled through internal SAP Security and administered by the SAP Solutions Center. Each user has a unique user ID and password that must be entered to access SAP. Passwords must be a minimum of eight characters in length, user IDs will be locked if an incorrect password is entered five times, and must be changed every 90 days. Requests to add or change access to SAP must be documented and approved by an appropriate authority **(13.10)**. User access rights in security roles within SAP are disabled when notified that a user has been terminated **(13.14)**. User access to SAP is reviewed annually and recertified by an appropriate authority to confirm that the access is aligned with the user's current job functions. Changes to user access discovered during the recertification are acted upon by an appropriate authority **(13.18)**.

SAP resides on Unix operating system. Unix passwords are required, must include a minimum of eight characters in length and expire within 90 days.

Upon termination, access to the network domain is revoked timely. **(13.12)**.

Program Execution Controls

Job Scheduling for V-System

VALIC uses CTO for control of production processing and job scheduling. Production processing is routine and is under the control of Computer Associates' CA-7 automated submission scheduling system and restart management system. CA-7 is utilized to run and monitor production batch processing for mainframe jobs.

Nightly processing begins for V-System as soon as the unit value uploads are complete. The majority of production batch jobs run overnight, with limited production batch processing during the day.

CTO operators monitor the status of nightly processing. In the event of a mainframe production abend, the ticketing system pages VALIC personnel until the issue is resolved. Automated escalation procedures are in place to make sure there is timely resolution of production issues. Incidents are properly reported, logged, and resolved **(14.2)**.

Only CTO has access to the production job scheduler (CA-7). VALIC application programmers work with CTO personnel to schedule the production jobs. In order to request a temporary override to a production job or job schedule, the VALIC application programmer must fill out an authorized request form in the ticketing system tool and obtain appropriate approval from VALIC Management **(14.1)**.

Job Scheduling for Distributed Applications

Production processing is routine and controlled from the Back Office System server utilizing the Windows NT Event Manager for automated scheduling/submission of batch jobs to generate reports, system monitoring, personal identification number (PIN), and forms requests. The Group Retirement Application Support Department is responsible for supporting production processing for the distributed applications.

For distributed applications, there are two jobs monitoring applications. In the event of a production problem, the job monitoring software pages VALIC Information Technology personnel until the problem is resolved. Two daily reports are sent to Application Managers via emails that describe the status of key production jobs. The appropriate Application Manager will follow the job to resolution. Incidents are properly reported, logged, and resolved **(14.3)**. In order to request a temporary override to a production job or job schedule, the VALIC application programmer must fill out an authorized request form in the ticketing system tool and obtain appropriate approval from VALIC Management **(14.1)**.

For Unix, the AutoSys job scheduling software logs the successful and unsuccessful jobs using completion codes that identify whether a job ran to completion. In the event of a production failure, on-call lists retained by the Global Command Center operations staff are used to contact the appropriate business unit staff for instructions on resolution. Distributed systems applications job processing abends at Fort Worth data center are identified, researched and resolved. The Production Batch Operations support Group on-call programmer is notified of any failed jobs and is responsible for providing restoration instructions. Production Batch failures are recorded automatically via incident tickets. In addition, technician updates are recorded within the incident ticket of action taken to resolve the incident **(14.5)**. Job overrides, or changes to the scheduler follow the normal change management process.

Job Scheduling for SAP

Batch processing in SAP includes daily load of data from various applications into SAP. SAP Daily Balancing Reports that include batch loads into SAP are produced and reviewed daily. Any unbalanced general ledger entries are corrected **(14.4)**.

Backup of Programs and Data Files

Backup of V-System

Backup of V-System is performed by CTO. CTO backs up the entire mainframe system using a DASD replication process. The entire mainframe system is backed up instantaneously for disaster recovery purposes. This includes V-System databases and files. IMS and DB2 databases are also backed up on a daily/weekly/monthly basis depending on the system requirement. In addition to these backups, critical V-System data files are backed up daily as part of the regularly scheduled cycle.

Monitoring procedures are in place to provide for the resolution of failed mainframe backup jobs. The on-call programmer is notified of any failed jobs and is responsible for providing restoration instructions. Production Batch failures are recorded automatically via incident tickets. Technician updates are recoded within the incident ticket of action taken to resolve the incident **(15.1)**.

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Backup of Distributed Applications

At the Fort Worth data center a full volume backup is performed weekly, with a five-week retention cycle. Daily full backup tapes for break-fix are written to virtual tapes and replicated in Fort Worth.

Distributed applications backups are monitored to ensure completeness of processing. Errors are monitored on a daily basis by Data Protection Advisor (DPA) and failure alerts are logged to CA. The failed alerts are reviewed and remediated by the GCC Open Systems Team. Any failures that are unable to be remediated with standard troubleshooting or job restarts are then logged as a Service Now Incident. The resolution documentation for each incident is logged within the Service Now ticket **(15.2)**.

Backup of SAP Data

Critical data is replicated to the Fort Worth facility on a daily basis. VALIC relies on CTO for the replication process and for performing backups of all servers. SAP backups are monitored to ensure completeness of processing. Errors are monitored, logged, resolved and documentation of the resolution is maintained **(15.2)**.

Physical Access

Fort Worth and Livingston Data Centers

AIG Safety and Security Department in Livingston and Ft. Worth provides 24x7x365 physical protection for data center facilities. Data Center facilities are secured via closed fences surrounding the entire site with a rolling gate present at the entrance and exits. There are security guards stationed at every entrance to the Data Centers including the guardhouses, which are set up outside the entrance gate for the purpose of monitoring and authorizing all individuals who enter the premises. Access Control System (ProWatch) is the security system used for maintaining and tracking access card data. Monitoring alarms are attached to ProWatch and are displayed at the control room on the first floor. Currently, there are designated monitoring points throughout the complex, and security personnel must acknowledge critical alarms and follow provided instructions. ProWatch consists of the following types of equipment: Card Readers, Door Alarms, Motion Sensors, Digital Video Surveillance and PIN Readers.

Each data center facility has physical access controls, continuous monitoring, redundant connectivity, cooling, power and a viable disaster recovery solution. Onsite generators with dedicated fuel tanks and UPS systems are in place. TS is the primary service provider for technology hardware and hosting services.

Entrance to the data centers and to the raised floor areas which house the computing facilities is protected by electronic access control (i.e., access badges and card readers) and monitored by security video. The data centers are further protected by door alarms and PIN readers. Employees must use their access badges in order to enter and exit the premises. Security personnel process all visitors prior to entering and upon leaving the data centers. Card keys are required to access the computer rooms. Highly sensitive and secure rooms, such as raised floor rooms and hardware rooms are also protected by PIN readers. Quarterly recertification of physical access is only attached to secure and sensitive areas. Such as ATAC LAB, IT SECURITY LAB, HR OFFICE, AIGGS Global Command Office, Building MGMT Office, Mail Rooms, Freight Loading Docks, Mechanical Infrastructure Rooms, Raised Floor, Server Rooms, Data Center, Cable Rooms, Staging Rooms, Network Storage Rooms, Telephone Data Area, Test Lab Rooms and Data Center Storage Areas **(16.3)**.

Personnel access to the data centers must be initially approved by a manager and CTO Operations prior to granting access **(16.1)**. Access to the data centers is removed for terminated employees and contractors **(16.2)**. Access badges automatically expire after 90 days for consultants, one year for long-term consultants, and five years for employees. Personnel with access to the data centers are reviewed on a quarterly basis for appropriateness. Any identified corrections are forwarded to security for processing.

Control objectives and related controls

The VALIC control objectives and related controls are included in Section IV of this report, (VALIC Control Objectives, Controls, and PricewaterhouseCoopers LLP's tests of operating effectiveness and results of tests), to eliminate the redundancy that would result from listing them in this section and repeating them in Section IV. Although the control objectives and related controls are included in Section IV, they are an integral part of the VALIC description of controls.

Complementary User Entity Controls

The processing of transactions performed by VALIC, for participants and controls at VALIC, cover only a portion of the overall internal control environment. It is not feasible for the control objectives relating to the processing of transactions to be solely achieved by VALIC. Therefore, each participant's internal control must be evaluated in conjunction with the controls of VALIC and testing summarized in Section IV of this report (VALIC Control Objectives, Controls, and PricewaterhouseCoopers LLP's tests of operating effectiveness and results of tests). This section highlights those internal control responsibilities VALIC believes should be present at each participant and has considered in developing its controls reported on herein. Each participant must evaluate its own internal control to determine if the following controls are in place. Furthermore, this list does not purport to be and is not a complete listing of the controls that provide a basis for the assertions underlying the financial statements of participants.

Contract/Plan Administration and Client Record Keeping (Control Objectives 1, 2, 3, 4, 5, 6, and 7)
Each retirement plan is responsible for establishing controls to confirm that the following information sent to VALIC is complete, properly authorized, and in accordance with its plan's requirements and criteria and provided in a timely manner:

> Information for initial setup of plan and participant accounts

> Requests to modify participant information

> Written procedures for administering Policy Loans (if applicable) and Qualified Domestic Relations Orders

> Remittances and detailed allocation instructions to VALIC

> Benefit payment and loan requests

> Compliance information

> Operational information

The plan sponsor is responsible for reconciling total contributions (deposits) made by plan sponsors to total contributions recorded in the plan statement.

Certain transactions will automatically generate a confirmation that is generally sent to the plan participant. Certain participants elect to have confirmations mailed directly to the plan sponsor for those confirmations; the plan sponsor is responsible for the timely distribution of these confirmations to the participants for their review and for communicating any discrepancies noted to VALIC on a timely basis.

Each plan sponsor is responsible for notifying VALIC of any changes to organizational structure or requested changes to the plan.

Client Reporting (Control Objective 8)

On a quarterly basis, participant level statements for defined contribution plans are mailed directly to the participants or bulk mailed to the plan sponsor. Also, on a quarterly and/or annual basis, plan level reports are distributed to the plan sponsor for review. The plan sponsor is responsible for:

> Distributing bulk mailed statements to the participants for their review

> Reviewing the plan level reports for completeness and accuracy

> Communicating any discrepancies noted to VALIC on a timely basis

Upon request by the plan sponsor, monthly, quarterly, or annual reports detailing processing completed for the period are sent to plan sponsor for review. The plan sponsor is responsible for comparing this information to its records and notifying VALIC of any discrepancies on a timely basis.

Compliance and Regulatory Support (Control Objective 11)

Plan sponsors are responsible for providing current, complete and accurate information to VALIC. This includes, but is not limited to, the following:

> Compliance data such as year-end census information

> Employer, plan and vendor information for setup in Retirement Manager

> Inbound SPARK file

Plan sponsors are responsible for reviewing reports (such as data inconsistency reports and aggregation reports) provided by VALIC and notifying VALIC of any discrepancies or corrections on a timely basis.

Plan sponsors are responsible for reviewing and filing appropriate forms such as Form 5500.

Backup of Programs and Data Files (Control Objective 16)

The participant data processing department has the responsibility to recover critical application software and data. The participant has the responsibility to validate procedures and policies are in place to support the recovery and operation of critical applications.

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IV. VALIC control objectives and controls, and PricewaterhouseCoopers LLP's tests of operating effectiveness and results of tests

Purpose and objectives of the independent auditor's examination

The control objectives and related control activities to achieve such objectives are specified by VALIC. The nature, timing and extent of testing performed to determine whether the VALIC control activities were suitably designed and operating to achieve the control objectives are determined by PricewaterhouseCoopers LLP. The control objectives, control activities, description of the tests performed and test results are included in this section of the report.

Tests of the operating effectiveness of the VALIC controls included those considered necessary to evaluate whether internal controls were in place and the extent of compliance with those controls. Tests provide reasonable, but not absolute, assurance that the specified control objectives were achieved during the period from October 1, 2015 through September 30, 2016. In selecting particular tests of the operating effectiveness of controls, the following were considered: (a) the nature of the items being tested; (b) the types and competence of available evidential matter; (c) the nature of the control objectives to be achieved; (d) the assessed level of control risk and (e) the expected efficiency and effectiveness of the test.

Tests performed on the operational effectiveness of controls are described below. Additionally, observation, inspection, and independent query procedures were performed as it relates to system generated reports, queries, and listings to assess the completeness and accuracy (reliability) of the information utilized in the performance of our testing of the control activities.

References in the Control Objectives and Control Activities to Plan Administrator or Group can also be referred to as the plan sponsor; client as participant.

Tests of operating effectiveness

This section presents the following information provided by VALIC:

    (1) The control objectives specified by the management of VALIC.

    (2) The controls established and specified by VALIC to achieve the specified control objectives.

Also, included in this section are the "Tests of Operating Effectiveness" and "Results of Tests" provided by the service auditor, PricewaterhouseCoopers LLP.

Following are control objectives for which PricewaterhouseCoopers LLP used the work of the Financial Controls Unit (FCU) team.

> **Control Objective 3** — Controls provide reasonable assurance that remittances are credited to participant accounts accurately, completely, and in accordance with instructions received from plan sponsors or participants.

> **Control Objective 4** — Controls provide reasonable assurance that loans are properly authorized and processed accurately, completely, and in accordance with instructions received from plan sponsors or participants and in compliance with plan provisions.

> **Control Objective 6** — Controls provide reasonable assurance that benefit payments are properly authorized and processed accurately, completely, and in accordance with instructions received from plan sponsors or participants and in compliance with plan provisions.

> **Control Objective 7** — Controls provide reasonable assurance that the processing of payments are properly authorized and processed accurately.

> **Control Objective 8** — Controls provide reasonable assurance that transaction confirmations, participant account statements, and plan reports are accurate, complete, and are delivered to participants without intervention.

> **Control Objective 10** — Controls provide reasonable assurance that transactions and participant account balances are valued, based on market prices obtained from authorized pricing sources.

Transaction processing controls

Contract/Plan Administration

Control Objective 1 - Controls provide reasonable assurance that plan parameters are set up in the system accurately, completely and in accordance with the plan document for new plans.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
1.1 An independent quality review is performed for new plan setups to ensure the plan documentation and data input agree.	Inspected a sample of Mutual Fund and Annuity new plan setups for supporting documentation to determine whether the Mutual Fund/Annuity setup was quality reviewed by an independent team member.	No exceptions noted.
1.2 Applications for enrollments are reviewed for in good order processing prior to establishing new participant accounts on the record keeping systems.	Inspected a sample of new annuity and mutual fund accounts to determine whether data elements were received and able to be processed prior to establishing new participant accounts in V- System.	No exceptions noted.
1.3 An independent quality review is performed on a minimum of 10% of enrollments to verify good order and accuracy.	Inspected a sample and compared annuity and mutual fund plans set up to determine whether Account Set-up team performs a quality review of 10% or more of new accounts.	No exceptions noted.
1.4 An independent quality review is performed for plan sponsor-initiated variable mutual fund adds, changes, and/or deletes to ensure the plan amendment/ agreement or other plan sponsor documentation and data input agrees.	Inspected a sample of group amendment requests initiated by plan sponsors for variable mutual fund additions, changes and/or deletions to determine whether quality review checklists were prepared and approved. If any discrepancies were noted in the quality review checklist, determined whether the discrepancies were followed up and resolved.	No exceptions noted.
1.5 New fund requests are reviewed and set up in the record keeping system and UVT reconciliation is performed then and subsequently reviewed by management.	Inspected a sample of new fund setups to determine whether VPA team performed a reconciliation of information input to the fund request from the Implementation Team and a review was performed by management.	No exceptions noted.
	Reperformed a sample of VPA's reconciliation for the new fund setups to determine whether fund was set up accurately in V- System and UVT.	No exceptions noted.

Record Keeping - Changes to Non-Monetary Data

Control Objective 2 - Controls provide reasonable assurance that modifications to non-monetary participant data are properly authorized and are completely and accurately recorded.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
2.1 Non-monetary data changes are reviewed to confirm they are in "good order" prior to processing.	Inspected a sample of non-monetary data changes to determine whether each request was in "good order" prior to processing.	No exceptions noted.
2.2 A confirmation letter is sent to the participant by a third-party vendor upon completion of non-monetary changes processed through AGILEnet and VALIC.com. VALIC performs a daily reconciliation of confirmation counts sent from VALIC to the third-party vendor and confirmation counts received from the third-party vendor.	Inspected a sample of non-monetary beneficiary and data maintenance changes to determine whether VALIC or the third-party vendor sent a letter to participants notifying them that a change was made to their account.	No exceptions noted.
	Reperformed a sample of daily reconciliations to determine whether confirmation counts VALIC sent to the third-party vendor agreed to the confirmation counts VALIC received from them.	No exceptions noted.
2.3 A confirmation letter is manually generated and sent by VALIC to the participant upon completion of non-monetary changes processed through the record keeping system and AWD.	Inspected a sample of non-monetary beneficiary and data maintenance changes processed manually to determine whether confirmation letters were sent to participants and were stored in AWD.	No exceptions noted.
2.4 Complaints are monitored by management and the Consumer Affairs Department.	Inspected a sample of monthly complaint reports to determine whether customer complaints are monitored by VALIC Management and the Compliance Department.	No exceptions noted.
2.5 Incoming participant callers to the Contact Center are verified before providing any participant or account specific information to the caller or performing any transactions for the caller.	Inspected a sample of incoming participant calls to confirm that prior to the release of confidential participant or account information, the VALIC team member verifies the following: participant's name, Social Security number or VALIC account number, and date of birth.	No exceptions noted.

Control Objective 2 - Controls provide reasonable assurance that modifications to non-monetary participant data are properly authorized and are completely and accurately recorded.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
2.6 A report is generated for non-monetary participant updates resulting from an internal rollover request which is reviewed and approved by new business management.	Inspected a sample of New Business-SOX (NB-SOX) reports to determine whether non-monetary participant updates were reviewed and approved by management. For NB-SOX reports that contained corrections noted on the review, inspected supporting documentation to determine whether the update was investigated and resolved in a timely manner.	No exceptions noted.
2.7 Participants are authenticated within the VALIC.com application using a unique User ID and passwords that are in accordance with AIG Policy.	Observed a Business Analyst log in to VALIC.com participant account to determine whether a unique User ID and password were required. Observed password parameter requirements when resetting a password to determine whether they are in accordance with AIG Policy.	No exceptions noted. No exceptions noted.
2.8 An index file of the scanned documents is routed to AWD for processing. The job that routes the image file to AWD is monitored for processing.	Observed evidence of the Windows service used to transfer the index file of the scanned documents to AWD. Observed the configuration to monitor for errors to determine whether notifications are sent to the appropriate individuals in the event of a process failure.	No exceptions noted. No exceptions noted.

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Record Keeping - Remittances

Control Objective 3 - Controls provide reasonable assurance that remittances are credited to participant accounts accurately, completely, and in accordance with instructions received from plan sponsors or participants.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
3.1 Remittances and instructions are received daily and monitored to ensure they are invested effective the business day of receipt if received in good order prior to the close of the New York Stock Exchange.	Observed V-System online screens to determine whether deposits and bill instructions were matched once processed in the nightly cycle. Observed a remittance payment received in good order to determine whether it was processed on the same day.	No exceptions noted. No exceptions noted.
3.2 Remittances are set up systematically on the record keeping system daily by an MICR transmission received from JP Morgan Chase Bank, based on the cash receipts from each lockbox.	Observed a systematic deposit header setup to determine whether the deposit header matched to the cash receipts from the lockbox and was automatically set up within V-System.	No exceptions noted.
3.3 Remittances are set up manually by Accounting Operations based on cash receipts received in The Bank of New York Mellon (BoNY) bank accounts on a daily basis.	Test performed by the FCU team: Inspected a sample of deposit headers and compared the BoNY information to the V-System header data to determine whether the deposits were established accurately in the V-System.	No exceptions noted.
3.4 Inventories of outstanding remittances are monitored and signed off by management weekly using the Outstanding Remittance Tracking, outstanding deposits, and outstanding money in header record keeping system reports.	Test performed by the FCU team: Inspected a sample of the 124 and 141 reports to determine whether each was reviewed on a weekly basis by management. For any discrepancies noted, inspected whether issues were investigated and resolved.	No exceptions noted.
3.5 The record keeping system prevents remittances that do not balance with their instructions from processing in the record keeping system.	Observed V-System to determine whether it prevented remittances deposits that did not balance with their instructions from processing.	No exceptions noted.

Control Objective 3 - Controls provide reasonable assurance that remittances are credited to participant accounts accurately, completely, and in accordance with instructions received from plan sponsors or participants.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
3.6 Quarterly reconciliations are performed and reviewed/approved by management to ensure that all bank balances are reported accurately. Separate general ledger accounts are established for each bank account. Cash account reconciliations are prepared and completed according to the AIG corporate account reconciliation policy.	Test performed by the FCU team: Inspected a sample of bank reconciliations and supporting documentation to determine whether the reconciliations were completed and reviewed by a manager in accordance with policy. For unreconciled differences, inspected evidence to determine they were identified, researched and resolved. For each account selected: • Determined whether a reconciliation existed for the account. • Traced the bank balance per the reconciliation to the bank statement of the account. • Determined whether there were separate G/L accounts for each bank account. • Determined whether the reconciliation agreed to the G/L. • Determined whether the supporting documentation referenced the reconciliation adequately.	No exceptions noted.
3.7 Deposits are reviewed to confirm amounts are correct. Batch Balancing is reviewed for completeness and if not, resolved between the bank and team prior to processing in the participant account.	Inspected a sample of checks not in good order sent to VALIC to determine whether the checks were researched and appropriately accounted for within the system. For checks that were resolved, inspected evidence to determine whether the check was deposited in the VALIC bank account. Inspected evidence to determine whether VALIC sent a letter to the client notifying them of the issue.	No exceptions noted.

Control Objective 3 - Controls provide reasonable assurance that remittances are credited to participant accounts accurately, completely, and in accordance with instructions received from plan sponsors or participants.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
3.8 Automated controls within the loan repayment application require the payment amount to equal the amount allocated to the account. If the amounts do not match or a loan does not exist, the system will not allow the payment to be allocated or the payment's batch to be processed.	Observed allocation of payment in loan repayment application to determine whether the application prevents a Loan CSP from allocating a payment to an account without a loan.	No exceptions noted.
3.9 An independent quality review is performed to ensure the accuracy in applying the loan payment to the participant's account. If all payments were allocated correctly, the payment is approved for processing. If an error is found, the quality review will flag the payment and correct the allocation.	Test performed by the FCU team: Inspected a sample of loan payments to determine whether a quality review was performed and errors, if any, were corrected. Determined once all payments were allocated correctly, the payment was approved for processing.	No exceptions noted. No exceptions noted.
3.10 Automated controls within the loan repayment application prevent duplicate annuity lockbox transmittals and will not allow the transmittal of the lockbox payment transactions to the record keeping system unless payments have been allocated, reviewed/approved, and the bank deposit and lockbox amounts match.	Observed a Customer Service representative resubmit a lockbox payment transaction to determine whether the system prevented duplicate transmittals. Observed a lockbox payment transaction to determine whether the system prevented transmittal of the lockbox payment transactions unless payments have been allocated, reviewed/approved, and the bank deposit and lockbox amounts match.	No exceptions noted. No exceptions noted.
3.11 Automated controls within AWD require an independent quality review.	Observed a loan remittance transaction to determine whether AWD prevented a Loan CSP from quality reviewing his/her own transaction.	No exceptions noted.

Control Objective 3 - Controls provide reasonable assurance that remittances are credited to participant accounts accurately, completely, and in accordance with instructions received from plan sponsors or participants.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
3.12 An error report is generated from the record keeping system daily for any payment that does not apply to a loan. The exceptions are researched, corrected and processed upon resolution.	Inspected a sample of error reports and corresponding AWD Work History to determine whether errors were reviewed and resolved by the Loan CSP.	No exceptions noted.
3.13 Bank-rejected checks or individual ACHs for loan payments are reversed out of the record keeping system by the Loan CSPs from each participant's affected account.	Inspected a sample of returned checks and rejected ACHs to determine whether they were reversed from the participant's account. For NSF voided checks, inspected evidence to determine whether letter was sent to participant requesting replacement funds and replacement funds were received and applied to appropriate accounts.	No exceptions noted.
3.14 Management reviews a report daily to ensure Common Remitter remittances are processed.	Inspected Daily System Reconciliation policy and procedure to determine whether it is maintained.	No exceptions noted.
	Inspected a sample of reconciliations of unprocessed remittances to determine whether they were completed by an Analyst and reviewed by a Team Manager. If discrepancies were identified, inspected the reconciliation for evidence that the team members identified, researched and resolved the discrepancy.	No exceptions noted.
3.15 An index file of the scanned documents is routed to AWD for processing. The job that routes the image file to AWD is monitored for processing.	Observed evidence of the Windows service used to transfer the index file of the scanned documents to AWD.	No exceptions noted.
	Observed the configuration to monitor for errors to determine whether notifications are sent to the appropriate individuals in the event of a process failure.	No exceptions noted.
3.16 Complaints are monitored by management and the Consumer Affairs Department.	Inspected a sample of monthly complaint reports to determine whether customer complaints are monitored by VALIC Management and the Compliance Department.	No exceptions noted.

Record Keeping - Loans

Control Objective 4 - Controls provide reasonable assurance that loans are properly authorized and processed accurately, completely, and in accordance with instructions received from plan sponsors or participants and in compliance with the plan document.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
4.1 VALIC.com and AGILEnet validate participant eligibility to request a loan and the amount allowed.	Observed a loan request transaction for a participant with zero balance to determine whether the system prevented a loan request as the participant was not eligible.	No exceptions noted.
	Observed a loan request transaction to determine whether the system prevented a loan request when the loan request amount was greater than the maximum eligible amount.	No exceptions noted.
	Observed a loan request transaction to determine whether the system prevented a loan request when the participant has a defaulted loan.	No exceptions noted.
4.2 For ERISA loan requests, an acknowleged ERISA Loan Form Disclosure Statement is required with all applicable loan documentation prior to processing loan requests.	Inspected a sample of ERISA loan request documentation to determine whether a completed and signed ERISA Loan Form Disclosure Statement or BEP Setup Confirmation was included with applicable loan documentation prior to processing loan requests.	No exceptions noted.
4.3 Documentation and approvals included with the loan request are validated by comparing information on the loan request documentation to data contained on the record keeping system. An independent quality review is performed for completeness and accuracy in setting up the loan. If the loan information is correct, the loan is approved for set up. If an error is identified, request is returned with instructions for correction.	Test performed by the FCU team: Inspected a sample of loan setups to determine whether the quality reviewer checked the participant information (name, Social Security number, account number and amount) to ensure the information was accurately added to the record keeping system.	No exceptions noted.
	Inspected a sample of loan setups to determine whether a quality review was performed and errors, if any, were corrected.	No exceptions noted.

Control Objective 4 - Controls provide reasonable assurance that loans are properly authorized and processed accurately, completely, and in accordance with instructions received from plan sponsors or participants and in compliance with the plan document.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
4.4 Incoming participant callers to the Contact Center are verified before providing any participant or account specific information to the caller or performing any transactions for the caller.	Inspected a sample of incoming participant calls to confirm that prior to the release of confidential participant or account information, the VALIC team member verifies the following: participant's name, Social Security number or VALIC account number, and date of birth.	No exceptions noted.
4.5 Participants are authenticated within the VALIC.com application using a unique User ID and passwords that are in accordance with AIG Policy.	Observed a Business Analyst log in to VALIC.com participant account to determine whether a unique User ID and a password are required.	No exceptions noted.
	Observed password parameter requirements when resetting a password to determine whether they are in accordance with AIG Policy.	No exceptions noted.
4.6 An index file of the scanned documents is routed to AWD for processing. The job that routes the image file to AWD is monitored for processing.	Observed evidence of the Windows service used to transfer the index file of the scanned documents to AWD.	No exceptions noted.
	Observed the configuration to monitor for errors to determine whether notifications are sent to the appropriate individuals in the event of a process failure.	No exceptions noted.
4.7 Complaints are monitored by management and the Consumer Affairs Department.	Inspected a sample of monthly complaint reports to determine whether customer complaints are monitored by VALIC Management and the Compliance Department.	No exceptions noted.

Record Keeping - TOV/Asset Allocation Changes

Control Objective 5 - Controls provide reasonable assurance that Transfer of Value and Asset Allocation changes are properly authorized and processed accurately, completely, and in accordance with instructions received from plan sponsors or participants and in compliance with the plan document.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
5.1 An independent quality review is performed on manually entered Transfer of Value (TOV) and Asset Allocation changes.	Inspected the AWD workflow for a sample of TOV and Asset Allocation change (AAC) requests to determine whether a quality review was performed.	No exceptions noted.
	Inspected evidence from within AGILEnet and AWD to determine that a sample of TOV and Asset Allocation changes were not processed unless the quality review was completed and the status changed in AWD from "Processed" to "Passed."	No exceptions noted.
5.2 Participants are authenticated within the VALIC.com application using a unique User ID and passwords that are in accordance with AIG Policy.	Observed a Business Analyst log in to VALIC.com participant account to determine whether a unique User ID and a password are required.	No exceptions noted.
	Observed password parameter requirements when resetting a password to determine whether they are in accordance with AIG Policy.	No exceptions noted.
5.3 Automated controls within the VALIC.com application prevent invalid and incomplete TOV transactions from being set up. Edits prevent depleting more than 100% on "From" funds and only available "To" funds display. The sum of percentages allocated to "To" funds must equal 100%.	Observed VALIC Online to determine whether an error message is displayed and transactions are prevented from processing when the "Transfer From" amount is greater than the available transfer amount for each fund chosen.	No exceptions noted.

Control Objective 5 - Controls provide reasonable assurance that Transfer of Value and Asset Allocation changes are properly authorized and processed accurately, completely, and in accordance with instructions received from plan sponsors or participants and in compliance with the plan document.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
5.4 Automated controls within the VALIC.com application prevent invalid and incomplete Asset Allocation transactions from being set up. Only available funds are displayed and allocations must equal 100%.	Observed Business Analyst log into VALIC.com to determine whether transactions are prevented from processing when the maximum allowed active vehicle was exceeded.	No exceptions noted.
	Observed Business Analyst log into VALIC.com to determine whether transactions are prevented from processing when Future Contribution Allocation Amounts did not equal 100%.	No exceptions noted.
5.5 A transaction confirmation is sent to the participant by a third-party vendor upon completion of Asset Allocations or TOV transactions. VALIC performs a daily reconciliation of transaction confirmation counts sent from VALIC to the third-party vendor and transaction confirmation counts received from the third-party vendor.	Inspected a sample of Asset Allocations and TOV changes to determine whether VALIC Participant Reporting performed a daily reconciliation between confirmation counts VALIC sent to the third-party vendor and the counts VALIC received from them, and any discrepancies were investigated and resolved.	No exceptions noted.
	Reperformed a sample of daily reconciliations to determine whether confirmation counts VALIC sent to the third-party vendor agreed to the confirmation counts VALIC received from them.	No exceptions noted.
	Inspected a sample of third-party invoices to determine whether VALIC utilizes the third-party vendor to send TOV and Asset Allocation change confirmations.	No exceptions noted.

Control Objective 5 - Controls provide reasonable assurance that Transfer of Value and Asset Allocation changes are properly authorized and processed accurately, completely, and in accordance with instructions received from plan sponsors or participants and in compliance with the plan document.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
5.6 If the participants' account records are not successfully updated in the record keeping system during the nightly cycle, an error report is reviewed and corrections made and the request processed.	Inspected a sample of AWD cumulative error reports to determine whether they were generated and reviewed by the CSP VALIC team members on a daily basis. For items not processed in the nightly cycle, inspected evidence to determine that they were investigated and resolved.	No exceptions noted.
5.7 Incoming participant callers to the Contact Center are verified before providing any participant or account specific information to the caller or performing any transactions for the caller.	Inspected a sample of incoming participant calls to confirm that prior to the release of confidential participant or account information, the VALIC team member verifies the following: participant's name, Social Security number or VALIC account number, and date of birth.	No exceptions noted.
5.8 An index file of the scanned documents is routed to AWD for processing. The job that routes the image file to AWD is monitored for processing.	Observed evidence of the Windows service used to transfer the index file of the scanned documents to AWD. Observed the configuration to monitor for errors to determine whether notifications are sent to the appropriate individuals in the event of a process failure.	No exceptions noted. No exceptions noted.
5.9 Complaints are monitored by management and the Consumer Affairs Department.	Inspected a sample of monthly complaint reports to determine whether customer complaints are monitored by VALIC Management and the Compliance Department.	No exceptions noted.

Record Keeping - Benefit Payments

Control Objective 6 - Controls provide reasonable assurance that benefit payments are properly authorized and processed accurately, completely, and in accordance with instructions received from plan sponsors or participants and in compliance with the plan document.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
6.1 Participant and plan documentation is reviewed for completeness of required documents, accuracy against participant information in the record keeping systems, and that proper signatures were obtained prior to completion of benefit payments processing.	Test performed by the FCU team: **Surrenders and Withdrawals:** Inspected a sample of surrenders and withdrawals to determine whether a quality review was performed by a CDP. **Death Claims:** Inspected a sample of original certificates of death or affidavit for lost certificate if the original is unavailable to determine whether a quality review was performed by a CSP. **Systematic Withdrawals:** Inspected a sample of Systematic Withdrawal or Minimum Distribution Election Forms to determine whether a quality review was performed by a CSP.	No exceptions noted. No exceptions noted. No exceptions noted.
6.2 Upon completion of the participant's request, an independent quality review is performed to ensure accuracy and completeness.	Test performed by the FCU team: **Surrenders and Withdrawals:** Inspected a sample of surrenders and withdrawals to determine whether a quality review was performed by an individual other than the processor. **Death Claims:** Inspected a sample of original certificates of death or affidavit for lost certificate if the original is unavailable to determine whether a quality review was performed by an individual other than the processor. **Systematic Withdrawals:** Inspected a sample of systematic withdrawal or Minimum Distribution Election Form to determine whether a quality review was performed by an individual other than the processor prior to payment.	No exceptions noted. No exceptions noted. No exceptions noted.
6.3 Benefit payments failing to process in the record keeping system are recorded on an error report. This report is reviewed daily and appropriate corrections are made.	Inspected a sample of AWD cumulative error reports to determine whether they were generated and reviewed on a daily basis. For items not processed in the nightly cycle, inspected evidence to determine that they were investigated and resolved.	No exceptions noted.

Control Objective 6 - Controls provide reasonable assurance that benefit payments are properly authorized and processed accurately, completely, and in accordance with instructions received from plan sponsors or participants and in compliance with the plan document.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
6.4 Participants are authenticated within the VALIC.com application using a unique User ID and passwords that are in accordance with AIG Policy.	Observed a Business Analyst log in to VALIC.com participant account to determine whether a unique User ID and a password were required. Observed password parameter requirements when resetting a password to determine whether they are in accordance with AIG Policy.	No exceptions noted. No exceptions noted.
6.5 Incoming participant callers to the Contact Center are verified before providing any participant or account specific information to the caller or performing any transactions for the caller.	Inspected a sample of incoming participant calls to confirm that prior to the release of confidential participant or account information, the VALIC team member verifies the following: participant's name, Social Security number or VALIC account number, and date of birth.	No exceptions noted.
6.6 An index file of the scanned documents is routed to AWD for processing. The job that routes the image file to AWD is monitored for processing.	Observed evidence of the Windows service used to transfer the index file of the scanned documents to AWD. Observed the configuration to monitor for errors to determine whether notifications are sent to the appropriate individuals in the event of a process failure.	No exceptions noted. No exceptions noted.
6.7 Complaints are monitored by management and the Consumer Affairs Department.	Inspected a sample of monthly complaint reports to determine whether customer complaints are monitored by VALIC Management and the Compliance Department.	No exceptions noted.

Record Keeping - Check and EFT Payments

Control Objective 7 - Controls provide reasonable assurance that the processing of check and EFT payments are properly authorized and processed accurately.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
7.1 The check writer printers are located in a secured room in Accounting. Only appropriate individuals have access to this room via the security card reader system.	Observed whether the check writer printer was secured in a room with card reader restricted access and whether only cards programmed with access to the room allowed entry. Inspected the card reader access report from Security to determine whether physical access to the check writer room was appropriate.	No exceptions noted. No exceptions noted.
7.2 Before non-automated on-demand policy check requests are entered, Accounting submits requests to Compliance for OFAC review and reviews the approved requests and verifies approval limits against the On-Demand Disbursement Authorizations table to confirm requests are within the appropriate authorization levels.	Test performed by the FCU team: Inspected a sample of non-automated on-demand check requests to determine whether the appropriate approvals were obtained based on the business policy.	No exceptions noted.
7.3 Accounting compares the payee, address, amount, document number and issuing company on the non-automated on-demand check to the TAPS check request to ensure data was entered correctly.	Test performed by the FCU team: Inspected a sample of non-automated on-demand checks to determine whether evidence of an Accounting's review of the manual check to the TAPS request exists to ensure data was entered correctly.	No exceptions noted.

Control Objective 7 - Controls provide reasonable assurance that the processing of check and EFT payments are properly authorized and processed accurately.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
7.4 Finance performs a daily balancing of administrative system general ledger entries in SAP. Any unbalanced general ledger entries are corrected.	Test performed by the FCU team: Inspected a sample of SAP daily and monthly balancing reports to determine whether reports were reviewed for out of balance entries, and any out of balance entries identified were resolved.	No exceptions noted.
7.5 Finance compares the record keeping system balance totals to the general ledger balances on a monthly basis.	Inspected a sample of reconciliations to determine whether monthly reconciliations were performed by Financial Reporting and any significant variances were investigated and resolved.	No exceptions noted.
	Reperformed a sample of reconciliations to determine whether V-System balanced with SAP.	No exceptions noted.
7.6 Automated manual checks have appropriate approvals based on appropriate business policies. The requests are automatically sent to SAP for processing subsequent to the Transaction Account Processing System (TAPS) request from the requestor. The request in the TAPS database is noted as SAP Export with respective batch number.	Test performed by the FCU team: Inspected a sample of requests in the TAPS database to determine whether each request had a respective SAP Export batch number.	No exceptions noted.
	Inspected a sample of automated on-demand check requests to determine whether checks had appropriate approvals based on appropriate business policies.	No exceptions noted.
7.7 Non-automated on-demand checks and wire transfer requests are approved and quality reviewed through TAPS prior to issue.	Test performed by the FCU team: Inspected a sample of manual check requests to determine whether return of premium was approved in the Transaction Accounting Processing System (TAPS) prior to payment and in accordance with business policy.	No exceptions noted.
	Inspected a sample of the SAP report of all return premium checks over $500 to determine whether management reviewed the report the following business day in accordance with business policy.	No exceptions noted.
	Inspected a sample of the report monitoring returns of premiums issued to OPT payees for amounts over $200 to determine whether management reviewed the following business day in accordance with business policy.	No exceptions noted.

Control Objective 7 - Controls provide reasonable assurance that the processing of check and EFT payments are properly authorized and processed accurately.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
7.8 Accounting performs daily reconciliation of EFT annuity disbursement totals processed in SAP to the transmission file received from the bank. Any discrepancies are investigated and resolved.	Inspected a sample of SAP ledgers and transmission files received from BoNY to determine whether they were reconciled by a member of the Accounting Department and that any discrepancies were followed up and resolved.	Exception Noted. The daily manual EFT reconciliation was not performed for the period 11/21/2015 - 7/24/2016. Refer to Section V for management's response.
7.9 Death claim disbursements are approved based on limits defined in business policies. Evidence of approval is retained.	Test performed by the FCU team: Inspected a sample of death claim disbursements to determine whether appropriate approval was obtained per business policy and documented in AWD.	No exceptions noted.
7.10 All surrenders and withdrawals are approved based on limits defined in business policies. Evidence of approval is retained.	Test performed by the FCU team: Inspected a sample of surrenders and withdrawals greater than $200,000 to determine whether appropriate approval was obtained per business policy and documented in AWD.	No exceptions noted.
7.11 Monthly reconciliations are performed and approved by management to ensure the bank's EFT transactions are tracked and recorded in the SAP ledger. Any discrepancies are investigated and resolved.	Inspected a sample of BoNY EFT transactions and the SAP ledger to determine whether they were reconciled by a member of the Accounting Department and that any discrepancies were investigated and resolved.	No exceptions noted.

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Participant Reporting

Control Objective 8 - Controls provide reasonable assurance that transaction confirmations, participant account statements, and plan reports are accurate, complete, and are delivered to participants without intervention.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
8.1 The Group Manager database is used to track plan reports due dates to verify that the reports are generated.	Inspected a sample of group plan reports to determine whether management reviewed the database to track all standard report due dates and monitor whether reports were generated.	No exceptions noted.
8.2 Plan reports are reconciled and corrected, if necessary prior to making them available to the plan sponsors.	Inspected a sample of daily error reports to determine whether the reports were reviewed and errors, if any, were reconciled and corrected on a daily basis.	No exceptions noted.
8.3 VALIC uses a third-party vendor to prepare and mail quarterly account statements to participants. A reconciliation is performed of the number of Social Security numbers sent to the vendor with the number of Social Security numbers processed. Additionally, the vendor sends VALIC electronic copies of the quarterly account statements which are maintained in COLD.	Test performed by the FCU team: Inspected a sample of quarterly account statements processed to determine whether VALIC Client Reporting performed a reconciliation between Social Security number counts VALIC sent to the vendor and the Social Security number counts VALIC received from the vendor and investigated and resolved any discrepancies. Inspected a sample of quarterly account statements to determine whether copies sent by the vendor were maintained in COLD.	No exceptions noted. No exceptions noted.

Control Objective 8 - Controls provide reasonable assurance that transaction confirmations, participant account statements, and plan reports are accurate, complete, and are delivered to participants without intervention.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
8.4 VALIC audits a sample of quarterly account statements prior to authorizing the release of statements for mailing or online viewing.	Inspected a sample of quarterly account statements to determine whether VALIC audited the statements prior to authorizing the release of statements for mailing or online viewing.	No exceptions noted.
	Inspected a sample of audits that identified discrepancies in the pre-production account statements to determine whether the account statements were corrected in a new account statement.	No exceptions noted.
8.5 A confirmation letter is sent to the participant by a third-party vendor upon completion of non-monetary changes processed through AGILEnet and VALIC.com. VALIC performs a daily reconciliation of confirmation counts sent from VALIC to the third-party vendor and confirmation counts received from the third-party vendor.	Inspected a sample of non-monetary beneficiary and data maintenance changes to determine whether VALIC or the third-party vendor sent a letter to participants notifying them that a change was made to their account.	No exceptions noted.
	Reperformed a sample of daily reconciliations to determine whether confirmation counts VALIC sent to the third-party vendor agreed to the confirmation counts VALIC received from them.	No exceptions noted.
8.6 A confirmation letter sent to the participant upon completion of non-monetary changes processed through the record keeping system and AWD.	Inspected a sample of non-monetary beneficiary and data maintenance changes processed manually to determine whether confirmation letters were sent to participants and were stored in AWD.	No exceptions noted.
8.7 A transaction confirmation is sent to the participant by a third-party vendor upon completion of Asset Allocations or TOV transactions. VALIC performs a daily reconciliation of transaction confirmation counts sent from VALIC to the third-party vendor and transaction confirmation counts received from the third-party vendor.	Inspected a sample of Asset Allocations and TOV changes to determine whether VALIC Participant Reporting performed a daily reconciliation between confirmation counts VALIC sent to the third-party vendor and the counts VALIC received from them, and any discrepancies were investigated and resolved.	No exceptions noted.
	Reperformed a sample of daily reconciliations to determine whether confirmation counts VALIC sent to the third-party vendor agreed to the confirmation counts VALIC received from them.	No exceptions noted.
	Inspected a sample of third-party invoices to determine whether VALIC utilizes the third-party vendor to send TOV and Asset Allocation change confirmations.	No exceptions noted.

Investment Processing

Control Objective 9 - Controls provide reasonable assurance that investment income (or loss) is accurately and timely allocated and recorded to participant accounts.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
9.1 VPA management reviews and authorizes the daily investment transactions sent to each respective fund manager. Reviewed and approved as noted on the reconciliation report of the Checklist.	Inspected a sample of the Variable Share and Dollar Reconciliations for annuities and mutual funds for a sample of days to determine whether the reconciliation was prepared and independently reviewed on a daily basis. For any variances identified in reconciliations, inspected evidence to determine whether they were researched and resolved.	No exceptions noted.
9.2 A reconciliation occurs for annuity and group mutual funds investment holdings recorded in the trading applications (UVT) to the record keeping system on a daily basis. Evidence of review and approval of the reconciliations are noted on the reconciliation report of the Checklist.	Inspected a sample of the Shares to Units Reconciliation and Shares to Shares Reconciliations to determine whether reconciliations were prepared and reviewed by VPA. For any variances identified in reconciliations, inspected evidence to determine whether they were researched and resolved.	No exceptions noted.
9.3 Cash movement is reconciled on a daily basis by comparing the expected cash movement from the trade tickets to the actual cash movement reported by Treasury (OLE Reports). Evidence of review and approval is provided on the reconciliation report of the Checklist.	Inspected a sample of the expected cash vs. actual cash movement to determine whether the reconciliation was prepared and reviewed by VPA. For any variances identified in reconciliations, inspected evidence to determine whether they were researched and resolved. Reperformed the reconciliations by comparing the cash movement reports to bank statements and identifying variances.	No exceptions noted. No exceptions noted.

Control Objective 9 - Controls provide reasonable assurance that investment income (or loss) is accurately and timely allocated and recorded to participant accounts.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
9.4 The daily transfer agent transactions are reconciled for all cash movement by fund, shares outstanding, and NAV by individual fund product. Evidence of review and approval is provided on the Trade Summary by Source document which encompasses all supporting schedules.	Inspected the Transfer Agent Summary by Source reconciliations for a sample of days to determine whether the reconciliation was prepared and independently approved on a daily basis. For any discrepancies identified in reconciliations, inspected evidence to determine whether they were researched and resolved.	No exceptions noted.
9.5 The completion of daily reconciliation for annuities is recorded on the Unit Value Report Review Checklist and on the Unit Value Reasonableness Test. The completion of the daily reconciliation for group mutual funds is recorded on the Share Value Pricing Review Checklist. An independent review of the reconciliation is required and evidenced in the reconciliation of the Checklist.	Inspected a sample of the Unit Value Report Review Checklist and the Share Value Pricing Review Checklist to determine whether the daily reconciliations were performed for annuities and mutual funds. Inspected the Unit Value Report Review Checklist and the Share Value Pricing Review Checklist to determine whether they were reviewed and approved by a separate member of the VPA team.	No exceptions noted. No exceptions noted.
9.6 Dividend payment schedules are monitored to confirm recording of distributions by fund managers.	Inspected a sample of the Dividend Verification Reports to determine whether it was prepared to ensure the dividend rates from UVT agree to the dividend rates from VMS.	No exceptions noted.
9.7 The review and approval of the Remote Wire Upload encompasses cash movement to all non-VALIC fund companies and validates the purchase or redemption of the trading activity for the day as well as the total shares outstanding at each non-VALIC fund company. This review and approval process includes verification that each fund was notified via electronic communication of the day's activity and total shares outstanding.	Inspected a sample of the VALIC Remote Wire Upload to confirm evidence of review and approval was maintained from authorized signers. Inspected evidence to verify each fund was notified via electronic communication of the day's activity and total shares outstanding.	No exceptions noted. No exceptions noted.

Asset Valuation

Control Objective 10 - Controls provide reasonable assurance that transactions and participant account balances are valued based on market prices obtained from authorized pricing sources.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
10.1 VPA personnel validate asset valuation by reconciling the calculated change in reported NAV to the actual reported change in NAV and the percentage change in unit value from the net asset values of the underlying investment vehicles to help prevent or detect errors in the unit value calculations.	Inspected a sample of the Unit Value Change to NAV Change Reasonableness Check Report to determine whether they were completed and reviewed by separate members of the VPA group. For any variances identified in reconciliations, inspected evidence to determine whether they were researched and resolved.	No exceptions noted. No exceptions noted.
10.2 VPA personnel validate asset valuation for group mutual funds by comparing the share values received from the NSCC to share values received by the vendor VMS.	Inspected a sample of the Final NAV Comparison Report to determine whether the comparison was completed and reviewed by VPA. For any variances identified in reconciliations, inspected evidence to determine whether they were researched and resolved.	No exceptions noted. No exceptions noted.
10.3 The completion of daily reconciliation for annuities is recorded on the Unit Value Report Review Checklist and on the Unit Value Reasonableness Test. The completion of the daily reconciliation for group mutual funds is recorded on the Share Value Pricing Review Checklist. The reconciliations are prepared and reviewed by separate individuals.	Inspected a sample of the Unit Value Report Review Checklist and the Share Value Pricing Review Checklist to determine whether the daily reconciliations were performed for annuities and mutual funds. Inspected the Unit Value Report Review Checklist and the Share Value Pricing Review Checklist to determine whether they were reviewed and approved by a separate member of the VPA team.	No exceptions noted. No exceptions noted.
10.4 Dividend payment schedules are monitored to confirm recording of distributions by fund managers.	Inspected a sample of the Dividend Verification Reports to determine whether it was prepared to ensure the dividend rates from UVT agree to the dividend rates from VMS.	No exceptions noted.

Control Objective 10 - Controls provide reasonable assurance that transactions and participant account balances are valued based on market prices obtained from authorized pricing sources.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
10.5 A roll-forward is performed on the total fixed account values on a monthly basis.	Inspected a sample of the monthly roll-forwards to determine whether the roll-forward for total fixed account values was performed.	No exceptions noted.
10.6 The Interest Crediting Committee meets monthly and reviews and approves the interest crediting rates.	Test performed by the FCU team: Inspected a sample of monthly reviews of the interest crediting rates to determine whether the Interest Crediting Committee met and approved the rates.	No exceptions noted.

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Retirement Manager

Control Objective 11 - Controls provide reasonable assurance that employer, plan and vendor information setup in Retirement Manager is authorized and processed accurately, completely and in accordance with instructions received from the plan sponsors, vendors and participants.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
11.1 A quality review is completed to validate that Retirement Manager is set up according to the employer plan and vendor information received.	Inspected a sample of Employer, Plan, and Vendor information setups in Retirement Manager to determine whether the quality review checklist was completed and Implementation Coordinator quality review was performed.	No exceptions noted.
11.2 A Retirement Manager Contribution Limit Enforcement module is available for selected plan sponsors with IRC 403(b), 401(k), 401(a)/403(a), 414(h) and 457(b) plan types. Retirement Manager proactively reduces or stops deferral amounts for employees to prevent excess contributions calculated by the system.	Observed a contribution to determine that for a plan where the Contribution Limit Enforcement module was activated, whether Retirement Manager proactively reduced or stopped the contribution when the participant's contribution limit was reached.	No exceptions noted.
11.3 A Retirement Manager Hardship Withdrawal Enforcement module is available for selected plan sponsors with an IRC 403(b) plan type. Retirement Manager suspends elective contributions for a period of six months or more if designated by the plan.	Observed a contribution to determine when Hardship Withdrawal Enforcement Module was activated, and whether Retirement Manager suspended the elective contribution and indicated a suspension period. Observed Retirement Manager to determine whether Retirement Manager blocked ongoing contribution and the remaining payroll dates were made unavailable.	No exceptions noted. No exceptions noted.

Control Objective 11 - Controls provide reasonable assurance that employer, plan and vendor information setup in Retirement Manager is authorized and processed accurately, completely and in accordance with instructions received from the plan sponsors, vendors and participants.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
11.4 With regard to Contribution Limits and Hardship Withdrawal Enforcement modules, funds are released to the vendor or returned to the plan sponsor as instructed.	Observed a contribution to determine whether the common remitter service in Retirement Manager completed a reactive process to either 1) stop processing of the individual excess contributions or returning the contributions to the employer plan sponsor after receiving directions from the plan sponsor or 2) suspend contributions due to hardship withdrawal prior to releasing funds to the vendor or returning the contributions to the plan sponsor.	No exceptions noted.
11.5 A monthly audit of inbound SPARK files is performed to determine if any of the expected plan data is not received. If any of the data is not received for active vendor plans on Retirement Manager, contact is made with the vendor or plan sponsor regarding the delay.	Inspected a sample of monthly audits performed by VRSCO to determine whether expected plan data was received, by comparing the active vendor plans on Retirement Manager to the vendor plan SPARK data. For any issues noted, inspected evidence to determine whether they were researched and resolved.	No exceptions noted.
11.6 Retirement Manager aggregates disbursement information from plan vendors due to loan, hardship withdrawal or unforeseen emergency, in-service exchange, severance of employment, and age-based distributions and provides the plan sponsor or vendors with consolidated disbursement reporting across vendors.	Observed a plan sponsor dashboard within Retirement Manager to determine whether the aggregated disbursement data matches the SPARK source file.	No exceptions noted.

Control Objective 11 - Controls provide reasonable assurance that employer, plan and vendor information setup in Retirement Manager is authorized and processed accurately, completely and in accordance with instructions received from the plan sponsors, vendors and participants.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
11.7 A Retirement Manager Disbursement Eligibility module is available for plan sponsors using aggregated disbursement information for 403(b) and 457(b) plans in Retirement Manager. Retirement Manager calculates loan, hardship withdrawal or unforeseen emergency, in-service exchange, severance of employment, and age-based distribution eligibility based on 403(b), 457(b) or specific plan restrictions. The resulting certificate is used by the plan participant to request final approval from the designated vendor based on individual contract restrictions.	Observed a disbursement to determine when Disbursement Eligibility Module was activated, whether Retirement Manager calculated loan, hardship withdrawal or unforeseen emergency, in-service exchange, severance of employment, and age-based distribution eligibility.	No exceptions noted.
11.8 In cases where a 403(b) or 457(b) plan has multiple campus locations governed by the same plan document, Retirement Manager can perform compliance services for disbursement requests and provide disbursement reporting based on plan data under all campus locations.	Observed a plan with multiple campus locations governed by the same plan document to determine whether Retirement Manager performed compliance services for disbursement requests and provided disbursement reporting based on plan data.	No exceptions noted.

Control Objective 11 - Controls provide reasonable assurance that employer, plan and vendor information setup in Retirement Manager is authorized and processed accurately, completely and in accordance with instructions received from the plan sponsors, vendors and participants.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
11.9 Retirement Manager restricts the data at the plan sponsors, vendors and participant level. Plan sponsors can only access data belonging to their plans and cannot see any other plan information. Vendors can only view data for participants that have enrolled with their company. Participants can only view their own personal data.	Observed a Business Analyst log into Retirement Manager to determine whether Retirement Manager restricts information based on user's information so plan sponsors can only access data belonging to their plans, vendors can only view data for participants that have enrolled with their company, and participants can only view their personal data.	No exceptions noted.
11.10 A monthly review is completed of all outbound SPARK files generated to external third parties to ensure that the plan information is provided.	For a sample of monthly reviews, inspected the outbound SPARK files to determine whether they were successfully transmitted and reviewed by management. If files were not successfully transmitted, inspected evidence to determine whether issue was researched and resolved.	No exceptions noted.

General computer controls

Applications and Systems Development and Maintenance

Control Objective 12A - Controls provide reasonable assurance that changes to V-System are tested and approved by VALIC Management.

Control Objective 12B - Controls provide reasonable assurance that changes to distributed systems including SAP are tested and approved by VALIC Management.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
12.1 (12A, 12B) Mainframe and distributed application program changes are tested prior to loading into the production environment and testing approvals are documented.	**Mainframe** Inspected a sample of mainframe application program changes to determine whether they were tested prior to migration into the production environments and approvals were documented in the Change Management Notification and Approvals (CMNA) system. **Distributed Systems** Inspected a sample of distributed systems application program changes to determine whether they were tested prior to migration into the production environments and approvals were documented in the Change Management Notification and Approvals (CMNA) system.	No exceptions noted. No exceptions noted.
12.2 (12A, 12B) Appropriate VALIC user management must approve all mainframe and distributed application program changes before being placed into production.	**Mainframe** Inspected a sample of mainframe application program changes to determine whether appropriate business and technology approvals from VALIC user management were provided in the CMNA system before the change was placed into production. **Distributed Systems** Inspected a sample of distributed systems application program changes to determine whether appropriate business and technology approvals from VALIC user management were provided in the CMNA system before the change was placed into production.	No exceptions noted. No exceptions noted.
12.3 (12A) VALIC migration personnel authorize program changes in the electronic scheduler for mainframe changes.	Inspected user access to mainframe to determine whether developers did not have access to migrate changes to the production environment.	No exceptions noted.

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Control Objective 12A - Controls provide reasonable assurance that changes to V-System are tested and approved by VALIC Management.

Control Objective 12B - Controls provide reasonable assurance that changes to distributed systems including SAP are tested and approved by VALIC Management.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
12.4 (12B) Access to migrate changes to the production environment is limited to authorized VALIC migration personnel separate from development function.	Inspected user access to MS Team Foundation Server (TFS) to determine whether developers did not have access to migrate changes to the production environment.	No exceptions noted.
12.5 (12A, 12B) Mainframe and distributed application emergency moves and production fixes are approved by application managers.	**Mainframe** Inspected a sample of mainframe application emergency moves and minor production fixes to determine whether they were approved by the application managers in the Emergency ID database.	No exceptions noted.
	Distributed Systems Inspected a sample of distributed system application emergency program changes to determine whether they were approved by the application managers in the CMNA system.	No exceptions noted.
12.6 (12B) SAP developer update access to the production environment is appropriately controlled and restricted.	Inspected the client settings configuration in Table T000 (client settings) for the in-scope SAP instance to determine whether client dependent settings and cross - client independent settings are set to 'non-changeable' in the production client.	No exceptions noted.
	Inspected the listing of users with access to transport changes into the production environment through TMS to determine whether the access is granted via appropriate roles and restricted to the SAP Solution Center BASIS team.	No exceptions noted.
	Inspected the listing of users with access to transport changes into the production environment through SP2 to determine whether the access is restricted to the SAP Solution Center BASIS team.	No exceptions noted.
	Inspected the listings of users with access to develop and transport changes to determine whether the segregation of duties exists between users with access to develop and migrate changes.	No exceptions noted.
	Inspected the system parameters for Generic System IDs to determine if the access is appropriately configured and restricted.	No exceptions noted.
	Inspected the listing of users with access to SAP_ALL and SAP_NEW profiles to determine whether the access is appropriately restricted to appropriate users.	No exceptions noted.
12.7 (12B) Test plans and test results are documented and signed off by authorized employees for SAP changes.	Inspected a sample of SAP changes to determine whether test plans and test results were documented and approved.	No exceptions noted.

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IV. VALIC control objectives and controls, and PricewaterhouseCoopers LLP's tests of operating effectiveness and results of tests

Control Objective 12A - Controls provide reasonable assurance that changes to V-System are tested and approved by VALIC Management.

Control Objective 12B - Controls provide reasonable assurance that changes to distributed systems including SAP are tested and approved by VALIC Management.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
12.8 (12B) All required approvals for SAP changes (including business and technology) are obtained and documented prior to migration of the change into the production environment.	Inspected a sample of SAP changes to determine whether changes were approved prior to migration into the production environment.	No exceptions noted.
12.9 Network infrastructure changes performed by AIG IT are appropriately authorized, analyzed for impact, and include back-out procedures prior to loading into the production environment to support effective functioning of applications at, and to protect data from unauthorized changes.	Inspected a sample of infrastructure changes to determine whether they were appropriately authorized, analyzed for impact, and included back-out procedures prior to loading into the production environment.	No exceptions noted.

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Access to Data Files and Programs

Control Objective 13A - Controls provide reasonable assurance that logical access to V-System is properly authorized by VALIC Management.

Control Objective 13B - Controls provide reasonable assurance that logical access to distributed systems including SAP is properly authorized by VALIC Management.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
13.1 (13A, 13B) Access to migrate changes to the production environment is limited to authorized VALIC migration personnel separate from development function.	**Mainframe** Inspected user access to mainframe to determine whether developers did not have access to migrate changes to the production environment.	No exceptions noted.
	Distributed Systems Inspected user access to MS Team Foundation Server (TFS) to determine whether developers did not have access to migrate changes to the production environment.	No exceptions noted.
13.2 (13B) SAP developer update access to the production environment is appropriately controlled and restricted.	Inspected SAP user access listing to determine whether access to migrate transports into the production environment is restricted to the SAP Solution Center BASIS team.	No exceptions noted.
	Inspected SAP user access listing to determine whether segregation of duties existed between the transport creator and transport migrator.	No exceptions noted.
	Inspected the production support configuration for SAP to assess whether client dependent settings and cross-client independent settings are set to 'non-changeable'.	No exceptions noted.

Control Objective 13A - Controls provide reasonable assurance that logical access to V-System is properly authorized by VALIC Management.

Control Objective 13B - Controls provide reasonable assurance that logical access to distributed systems including SAP is properly authorized by VALIC Management.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
13.3 (13A, 13B) Oracle and SQL database activity is monitored daily to detect inappropriate activity within the database.	**Oracle** Inspected a sample of daily reports to determine whether they were appropriately reviewed. **SQL** Inspected a sample of daily reports to determine whether they were appropriately reviewed.	No exceptions noted. No exceptions noted.
13.4 (13A) VALIC users are required to use a password for mainframe application access, have a password that must be a minimum of eight characters long and include letters and at least one embedded number, change their password every 90 days and have their user ID code revoked after three failed log in attempts.	Inspected the password configurations for V-System to determine whether passwords were a minimum of eight characters in length, had at least one embedded number (alpha-numeric mix) and letters, must be changed every 90 days, and three failed logon attempts resulted in revocation of the user ID code.	No exceptions noted.
13.5 (13A, 13B) Operating system passwords are required, must meet current policy and standards which include a minimum of eight characters in length and must be changed every 90 days.	**VALIC Domain** Inspected the password configurations for VALIC Active Directory to determine whether a password is required, password was a minimum of eight characters in length and must be changed every 90 days. **R-1 Core Domain** Inspected the password configurations for R-1 Core Active Directory to determine whether a password is required, password was a minimum of eight characters in length and must be changed every 90 days.	No exceptions noted. No exceptions noted.
13.6 (13A, 13B) Network domain accounts that have been inactive for more than 90 days are flagged and disabled on a monthly basis.	Inspected a sample of monthly inactivity report listings. For all users listed as active and who have not logged into the network in the past 45+ days, inspected evidence to ensure the users were disabled appropriately.	No exceptions noted.

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VALIC control objectives and controls, and PricewaterhouseCoopers LLP's tests of operating effectiveness and results of tests

Control Objective 13A - Controls provide reasonable assurance that logical access to V-System is properly authorized by VALIC Management.

Control Objective 13B - Controls provide reasonable assurance that logical access to distributed systems including SAP is properly authorized by VALIC Management.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
13.7 (13A, 13B) Contractor access is automatically revoked after 90 days unless the manager recertifies.	Inspected evidence that access for a contractor was revoked on the 90 day expiration date when not recertified by a manager.	No exceptions noted.
13.8 (13A, 13B) New access requests of VALIC employees for the mainframe and distributed applications are documented and approved by appropriate VALIC management.	**Mainframe** Inspected a sample of new user access requests for the mainframe application to determine whether the new user access requests were documented and appropriately approved by their managers.	No exceptions noted.
	Distributed Systems Inspected a sample of new user access requests for distributed systems to determine whether the new user access requests were documented and appropriately approved by their managers.	No exceptions noted.
13.9 (13B) New user access requests to the Oracle and SQL database are initiated and approved by appropriate VALIC management.	**Oracle** Inspected a sample of new user access requests to Oracle databases to determine whether new user access requests were appropriately requested and approved in the DBA Help Desk or CMNA system prior to gaining access.	No exceptions noted.
	SQL Inspected a sample of new user access requests to SQL databases to determine whether new user access requests were appropriately requested and approved in the DBA Request Form or CMNA ticket prior to gaining access.	No exceptions noted.
13.10 (13B) Requests to add or change access to SAP must be documented and approved by an appropriate authority.	Inspected a sample of new and modified SAP user access to determine whether new user access requests were approved by the appropriate authority.	No exceptions noted.

Control Objective 13A - Controls provide reasonable assurance that logical access to V-System is properly authorized by VALIC Management.

Control Objective 13B - Controls provide reasonable assurance that logical access to distributed systems including SAP is properly authorized by VALIC Management.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
13.11 (13A, 13B) Privileged access to the operating system and database level is granted to appropriate personnel based on job responsibilities and must be approved by a manager.	Inspected a sample of operating system level access for new users to determine whether access was granted to appropriate personnel based on job responsibilities and was approved by a manager.	No exceptions noted.
13.12 (13A, 13B) Upon termination, access to the network is systematically revoked.	Inspected the listing of terminated users and compared the listing to current VALIC and R-1 Core domain network users to determine that user accounts were deleted at the VALIC and R-1 Core domain network level.	Exception noted. Termination requests were not made timely for 119 user accounts at the VALIC domain network level and R1 Core domain network level collectively out of the total population of 1,084. Of the 119 terminated users, 8 network accounts were accessed after termination. Refer to Section V for management's response.
13.13 (13A, 13B) VALIC Security administrator personnel delete or disable access of terminated employees, in the mainframe and distributed applications upon notification.	**Mainframe** Inspected the listing of VALIC terminated users and compared the listing to current users for the mainframe application to determine whether user accounts were deleted or disabled. **Distributed Systems** Inspected the listing of VALIC terminated users and compared the listing to current users for each distributed system to determine whether user accounts were deleted or disabled.	No exceptions noted. No exceptions noted.

Control Objective 13A - Controls provide reasonable assurance that logical access to V-System is properly authorized by VALIC Management.

Control Objective 13B - Controls provide reasonable assurance that logical access to distributed systems including SAP is properly authorized by VALIC Management.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
13.14 (13B) User access rights, privileges, functions, entitlements, roles and/or profiles within SAP are disabled when notified that a user has been terminated.	Inspected a sample of terminated users to determine whether access was removed or disabled in SAP.	No exceptions noted.
13.15 (13A, 13B) VALIC managers perform an annual review of VALIC user access to the mainframe and distributed applications by reviewing current user profiles/privileges. A list of corrections is prepared and forwarded to the security administrator for processing.	**Mainframe** Inspected the annual user access review performed in SOAR to determine whether VALIC managers reviewed VALIC users' access to the mainframe application.	No exceptions noted.
	Inspected a sample of documentation to determine whether changes resulting from user access reviews were processed.	No exceptions noted.
	Distributed Systems Inspected the annual user access review performed in SailPoint to determine whether VALIC managers reviewed VALIC users' access to all distributed systems.	No exceptions noted.
	Inspected a sample of documentation to determine whether changes resulting from user access reviews were processed.	No exceptions noted.
13.16 (13A, 13B) Users with privileged access to the operating system and database level are reviewed on an annual basis for appropriateness. Recertification items (including modification or deletion of access) that require further review are addressed by management in a timely manner.	Inspected annual operating system and database recertifications to determine whether management performed an annual recertification to ensure that privileges were restricted to appropriate users based on job responsibilities.	No exceptions noted.
	Inspected changes to users' privilege, identified as part of the recertification, to determine whether changes were performed as requested.	No exceptions noted.

IV. VALIC control objectives and controls, and PricewaterhouseCoopers LLP's tests of operating effectiveness and results of tests

Control Objective 13A - Controls provide reasonable assurance that logical access to V-System is properly authorized by VALIC Management.

Control Objective 13B - Controls provide reasonable assurance that logical access to distributed systems including SAP is properly authorized by VALIC Management.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
13.17 (13A, 13B) VALIC managers perform annual reviews of Oracle, SQL and DB2 database user access by reviewing current user profiles/privileges. A list of corrections is prepared and forwarded to the security administrator for processing.	Inspected a sample of Oracle, SQL, and DB2 user access reviews to determine whether VALIC managers reviewed VALIC users' access. Inspected a sample of change requests to determine whether changes resulting from user access reviews were processed.	No exceptions noted. No exceptions noted.
13.18 (13B) User access to SAP is reviewed annually and recertified by an appropriate authority to confirm that the access is aligned with the user's current job functions. Changes to user access discovered during the recertification are acted upon by an appropriate authority.	Inspected a sample of SAP user access reviews performed in SailPoint to determine whether VALIC managers reviewed VALIC users' access. Inspected a sample of change requests to determine whether changes resulting from user access reviews were processed.	No exceptions noted. No exceptions noted.

Program Execution Controls

Control Objective 14 - Controls provide reasonable assurance that processing is monitored and deviations are identified and resolved.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
14.1 In order to request a temporary override to a production job or job schedule, the VALIC application programmer must fill out an authorized request form in the ticketing system tool and obtain appropriate approval from VALIC Management.	**Mainframe** Inspected a sample of job overrides to mainframe production jobs to determine whether each override was appropriately approved by a VALIC Manager. **Distributed Systems** Inspected a sample of job overrides to distributed systems production jobs to determine whether each override was appropriately approved by a VALIC Manager.	No exceptions noted. No exceptions noted.
14.2 In the event of a mainframe production abend or other problem, the ticketing system pages VALIC personnel until the problem is resolved. Automated escalation procedures are in place to make sure there is timely resolution of production problems. Incidents are properly reported, logged, and resolved.	Inspected a sample of V-System production abends to determine whether each issue was documented in the ticketing system and incidents were properly reported, logged, and resolved.	No exceptions noted.
14.3 For distributed systems, there are two jobs monitoring applications. In the event of a production problem, the job monitoring software pages VALIC Information Technology personnel until the problem is resolved. Two daily reports are sent to Application Managers via emails that describe the status of key production jobs. The appropriate Application Manager will follow the job to resolution. Incidents are properly reported, logged, and resolved.	Inspected a sample of the morning and afternoon Self Service Back Office Confirmation reports to determine whether the status of production jobs was sent to application managers and problems were followed up for resolution and incidents were properly reported, logged, and resolved.	No exceptions noted.

Control Objective 14 - Controls provide reasonable assurance that processing is monitored and deviations are identified and resolved.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
14.4 Finance performs a daily balancing of administrative system general ledger entries in SAP. Any unbalanced general ledger entries are corrected.	Inspected a sample of SAP daily and monthly balancing reports to determine whether reports were reviewed for out of balance entries, and any out of balance entries identified were resolved.	No exceptions noted.
14.5 Batch processing job abends are identified, investigated and resolved in a timely manner.	Inspected a sample of job abends to assess whether an incident ticket was created as a result of the abend and whether the incident was researched and resolved in timely manner (i.e. in accordance with the Severity Levels). Inspected the Autosys and CA-7 job scheduling tools to determine whether job failures resulted in the automated creation of a ServiceNow incident ticket.	No exceptions noted. No exceptions noted.
14.6 Network infrastructure changes performed by AIG IT are appropriately authorized, analyzed for impact, and include back-out procedures prior to loading into the production environment to support effective functioning of applications at, and to protect data from unauthorized changes.	Inspected a sample of infrastructure changes to determine whether they were appropriately authorized, analyzed for impact, and included back-out procedures prior to loading into the production environment.	No exceptions noted.

Backup of Program and Data Files

Control Objective 15 - Controls provide reasonable assurance that backup jobs are monitored and deviations are identified and resolved.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
15.1 Monitoring procedures are in place to provide for the resolution of failed mainframe backup jobs. The on-call programmer is notified of any failed jobs and is responsible for correcting the problem and restarting the backup job.	Inspected a sample of V-System production backup jobs to determine whether the failed backup jobs were documented in the ticketing system and reported to the on-call programmer, corrected, and restarted.	No exceptions noted.
15.2 Backups are monitored to ensure completeness of processing. Errors are monitored, logged, resolved and documentation of the resolution is maintained.	For a sample of Mainframe LPARs, inspected that backups were configured to occur on a weekly basis.	No exceptions noted.
	For a sample of OpenSystem servers, inspected that backups were configured to occur on a daily incremental/full weekly, or other appropriate frequency as defined by the business.	No exceptions noted.
	For a sample of backups to Mainframe systems, inspected backup logs for evidence that backups are available for restoration and that errors are monitored, logged, resolved, and that documentation of the resolution is maintained.	No exceptions noted.
	For a sample of backups to OpenSystems, inspected backup logs for evidence that backups are available for restoration and that errors are monitored, logged, resolved, and that documentation of the resolution is maintained.	No exceptions noted.

Physical Access

Control Objective 16 - Controls provide reasonable assurance that physical access to computer equipment, storage media and program documentation is restricted to authorized individuals.

VALIC Control Activities	Tests of Operating Effectiveness	Results of Tests
16.1 Physical access to data centers is restricted to authorized individuals. Access is granted to appropriate personnel based on job responsibilities and must be approved by a manager.	Inspected a sample of new access granted to the data center and related access request forms to determine whether the access is granted to appropriate personnel based on job responsibilities and approved by the manager.	No exceptions noted.
16.2 Upon termination, physical access to data centers is revoked timely.	Inspected a sample of terminated employees from the master access card list to determine whether the individuals' access was removed from the data center timely.	Exception noted. For 1 out of 25 terminated employees sampled, physical access was not removed timely. Refer to Section V for management's response.
16.3 Users with access to secure and sensitive areas within the data center are reviewed on a quarterly basis. Recertification items (including modification or deletion of access) that require further review are addressed by management in a timely manner.	Inspected a sample of user access reviews to the data centers (secure rooms) to determine whether access was reviewed and changes were appropriately processed. Inspected changes to data center access, identified as part of the recertification, to determine whether changes were performed as requested.	No exceptions noted. No exceptions noted.

V. Other information provided by VALIC: Management's response to operating effectiveness exceptions

Control Activitiy	Description of Exception	Management Response
7.8 Accounting performs daily reconciliation of EFT annuity disbursement totals processed in SAP to the transmission file received from the bank. Any discrepancies are investigated and resolved.	The daily manual EFT reconciliation was not performed for the period 11/21/2015 - 7/24/2016.	The matter relates to the manual Electronic Fund Transfers (EFT) reconciliation that was performed on a daily basis until November 2015. In November 2015, AIG automated the process and eliminated the manual reconciliation process. A technical server issue occurred during the automated transmission job in July 2016 that caused the transmission of files to fail and were inadvertently not sent to the bank. The issue was identified and resolved within 3 business days and all EFTs were appropriately, completely, and accurately processed. Because the daily EFT manual reconciliation process was eliminated, the error was not detected immediately and upon detection the manual EFT reconciliation process was re-implemented. To remediate the issue going forward, Management communicated and reinforced procedures to ensure the bank's EFT transactions are properly reconciled to SAP on a daily basis. Further, Management reinstituted the daily manual reconciliation in July 2016. In addition, Management performs monthly bank reconciliations between EFT transactions and the SAP ledger (Control 7.11), which would capture the transmission discrepancies outstanding at month-end. Control 7.11 was tested with no exceptions noted.

Control Activitiy	Description of Exception	Management Response
13.12 (13A, 13B) Upon termination, access to the network is systematically revoked.	Termination requests were not made timely for 119 user accounts at the VALIC domain network level and R1 Core domain network level collectively out of the total population of 1,084. Of the 119 terminated users, 8 network accounts were accessed after termination.	Management reviewed application logs and confirmed none of the 8 terminated users logged into an application subsequent to termination date. To remediate, management is taking actions to improve timeliness of termination notification to HR, including: 1) monthly notification sent to all managers to review their employee data for accuracy, including terminated employees 2) self reporting of resignation 3) dashboard available to managers to monitor timeliness of termination reporting 4) HR and Technology Risk Office improving awareness around the importance of timely termination through training sessions 5) management implemented a control to identify and investigate instances where a terminated employee's account accesses an application after the termination date. In addition, management is performing a feasibility study around disabling network accounts after 10 days of inactivity.

Control Activitiy	Description of Exception	Management Response
16.2 Upon termination and/or transfer, physical access to data centers is revoked timely.	For 1 out of 25 terminated employees sampled, physical access was not removed timely.	Management reviewed access logs and confirmed that the terminated employee did not access the data center after termination date. Further, the employee had general access and did not have access to any of the secured rooms. The root cause of this issue was untimely notification of termination to HR so the management response in 13.12 is applicable. To remediate, management is taking actions to improve timeliness of termination notification to HR, including: 1) monthly notification sent to all managers to review their employee data for accuracy, including terminated employees 2) self reporting of resignation 3) dashboard available to managers to monitor timeliness of termination reporting 4) HR and Technology Risk Office improving awareness around the importance of timely termination through training sessions.

VI.   Glossary

VI. Glossary

Acronym	
AAC	Asset Allocation Change
ACH	Automated Clearing House
AIG	American International Group, Inc.
AIG FSB	AIG Federal Savings Bank
AWD	Automated Work Distributor
BoNY	Bank of New York
CCS	Client Contribution Services
CTO	Chief Technology Office
COLD	Computer Output to Laser Disc
DBA	Database Administration
DOL	Department of Labor
DST	DST Systems, Inc.
DTC	Deposit Transfer Conversion
EFT	Electronic Funds Transfer
ERISA	Employee Retirement Income Security Act
FedWire	Federal Reserve's Communication System
FINRA	Financial Industry Regulatory Authority
FTP	File Transfer Protocol
GAAP	Generally Accepted Accounting Principles
IT	Information Technology
IVR	Interactive Voice Response

Acronym	
LAN	Local Area Network
Lighthouse	VALIC advisor sales tool website
M&E	Mortality and Expense
NSCC	National Securities Clearing Corporation
PIN	Personal Identification Number
RACF	Resource Access Control Facility
RSVP	VALIC Group Mutual Fund Product
SAP	VALIC Financial Accounting System
SEC	Securities and Exchange Commission
SPD	Summary Plan Description
SQL	Structured Query Language
SSN	Social Security Number
TOV	Transfer of Value
TPA	Third-Party Administrator
UVT	Unit Value Trade System
VBP	VALIC By Phone
VMS	Vertical Management Systems
VPA	Variable Annuity and Mutual Fund Product Accounting and Reporting
VOL	VALIC.com
VRSCO	VALIC Retirement Services Company
V-System	VALIC Record Keeping System

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