

STATE OF FLORIDA AUDITOR GENERAL

Information Technology Operational Audit

Report No. 2017-199
April 2017

STATE BOARD OF ADMINISTRATION

Selected Financial Systems



Sherrill F. Norman, CPA
Auditor General

Board of Trustees and Executive Director of the State Board of Administration

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The team leader was Karen Thomas, CPA, and the audit was supervised by Tina Greene, CPA, CISA.

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STATE BOARD OF ADMINISTRATION

Selected Financial Systems

SUMMARY

This operational audit of the State Board of Administration (SBA) focused on evaluating selected information technology (IT) controls applicable to Florida PRIME, Eagle-Straight-Through Accounting and Recordkeeping (Eagle STAR), and PeopleSoft Financials and included a follow-up on the findings included in our report No. 2013-180 that were applicable to the scope of this audit.

Our audit disclosed the following:

Finding 1: The SBA did not have written interface procedures that included a complete list of interfaces for Florida PRIME, Eagle STAR, and PeopleSoft Financials.

Finding 2: Eagle STAR and PeopleSoft Financials interface reconciliation and error correction processes need improvement to ensure that interface data errors are timely discovered and corrected.

Finding 3: Florida PRIME monitoring controls for participant bank information and payment instructions recorded in Florida PRIME and the SBA's financial institution's banking application need improvement to ensure that data is accurate, valid, and complete.

Finding 4: Input edits need improvement with regard to Eagle STAR generic batch trade processing and the Eagle STAR to PeopleSoft Financials interface validation tables.

Finding 5: SBA change management controls for Florida PRIME, Eagle STAR, and PeopleSoft Financials need improvement to ensure that program changes are appropriately authorized, tested, approved, and implemented into the production environment.

Finding 6: The SBA had not established written procedures for, and did not perform, periodic reviews of Florida PRIME SBA user access privileges. In addition, the SBA did not perform a periodic review of access privileges for several Eagle STAR templates. Also, the SBA did not have procedures in place for the periodic review process for PeopleSoft Financials to ensure that responses were timely received from supervisors and that changes to access privileges requested by supervisors were timely made.

Finding 7: Some access privileges granted to Florida PRIME, Eagle STAR, and PeopleSoft Financials data and IT resources were inappropriate and unnecessary.

Finding 8: SBA user authorization procedures did not address how supervisory approval should be documented for access privileges granted to Florida PRIME, Eagle STAR, and PeopleSoft Financials and documentation of supervisory approval was not consistently maintained.

Finding 9: Certain security controls related to user authentication, logging and monitoring, or access privileges for Florida PRIME, Eagle STAR, and PeopleSoft Financials data and related IT resources need improvement to ensure the confidentiality, integrity, and availability of Florida PRIME, Eagle STAR, and PeopleSoft Financials data and related IT resources.

BACKGROUND

The State Board of Administration (SBA) was established by the State Constitution and provides a variety of investment services to State and local governmental entities in Florida. Pursuant to State law,¹ the SBA is responsible for ensuring that moneys invested are handled in the best interest of the State. The SBA uses several applications, including Florida PRIME, Eagle-Straight-Through Accounting and Recordkeeping (Eagle STAR), and PeopleSoft Financials, to assist in their duties.

The Local Government Surplus Funds Trust Fund (Fund), created by State law,² provides an investment vehicle for local governmental units to invest surplus funds. The Florida PRIME system is a Web-based system developed internally by the SBA to administer the Fund. Local governments complete a Participant Account Maintenance Form (PAMF) that includes contact information, banking information, and a list of participant designees who are authorized to use or view their Florida PRIME account. Designated SBA employees use the PAMF to set up an account in Florida PRIME. External users (Participants) and certain SBA employees may then use Florida PRIME to record and view investment transaction information. The actual banking and investing activities are transacted by the SBA's financial institution. Bank account information, including bank payment instructions, are maintained separately in the SBA's financial institution's banking application and data is transmitted between or entered in the Florida PRIME and the SBA's financial institution's banking application on a daily basis. Florida PRIME investment transactions are uploaded into Eagle STAR on a daily basis.

Eagle STAR is the SBA's investment portfolio management system, purchased from Eagle Investment Systems, LLC. On a daily basis, ledger entries for transactions posted in Eagle STAR are translated and sent to PeopleSoft Financials for posting in the general ledger. On an annual basis, data from PeopleSoft Financials is transmitted to the Florida Accounting Information Resource Subsystem (FLAIR) for the State's year-end reporting.

FINDINGS AND RECOMMENDATIONS

Finding 1: Interface Procedures

Interface controls include procedures to ensure that interfaces are processed accurately, completely, and timely. Effective interface procedures include a complete list of interfaces, the timing of the interface processing, and how the interfaces are to be processed and reconciled.

As of September 8, 2016, the SBA did not have written interface procedures that included a complete list of interfaces for Florida PRIME, Eagle STAR, and PeopleSoft Financials to ensure that all interfaces are accurately, completely, and timely processed. Although SBA management created and provided manual interface lists on September 13, 2016, for Florida PRIME, on September 26, 2016, for Eagle STAR, and on September 15, 2016, for PeopleSoft Financials, interface procedures were not updated to reflect the lists.

¹ Section 215.44(2)(a), Florida Statutes.

² Section 218.405, Florida Statutes.

The lack of a complete list of interfaces in the written interface procedures increases the risk that interfaced data may not be accurately, completely, and timely processed as intended by management.

Recommendation: To ensure that interfaced data is accurately, completely, and timely processed as intended by SBA management, we recommend that SBA management include a complete list of interfaces in the written interface procedures.

Finding 2: Interface Controls

Interface controls consist of those controls over the accurate, complete, and timely processing of information between applications and other source and target systems on an ongoing basis. Interface controls include error handling and reconciliation controls that reasonably assure that all transactions are accounted for and that all errors are identified, isolated, analyzed, and timely corrected. Further, errors should be corrected in the source system and reprocessed accordingly. Interface processing logs are used to track pertinent information related to application interface transactions, both manual and automated. Interface processing logs should be used to identify those transactions that did not process completely or correctly and should document errors and exceptions identified during processing. Logs should contain enough information to identify the exact transactions that failed and the corrective actions taken to assure the correct processing of the transaction.

Investment data is transmitted from Eagle STAR to the PeopleSoft Financials general ledger on a daily basis. Our review of controls related to the Eagle STAR and PeopleSoft Financials interface disclosed that some interface controls need improvement. Specifically, we found that:

- A timely and consistent, ongoing reconciliation of Eagle STAR and the PeopleSoft Financials general ledger was not performed to ensure that all relevant Eagle STAR data was successfully loaded into the PeopleSoft Financials general ledger.
- Eagle STAR to PeopleSoft Financials interface exceptions were not always timely reviewed, investigated, and corrected, as needed. Specifically, our review of an October 23, 2016, year-to-date *STAR/PeopleSoft Reconciliation of Investment Categories* report and related supporting documentation disclosed that, as of the report date, four of the five noted interface exceptions had not been resolved in 17 to 81 days.
- A PeopleSoft Financials journal voucher dated November 7, 2016, was recorded in PeopleSoft Financials to correct interface errors from Eagle STAR rather than correcting the interface error in the source system (Eagle STAR) and reprocessing the data through the interface.
- Screen prints of interface errors occurring on September 21, 2016, showed that interface error transactions and error reversing transactions related to unposted journal vouchers were manually deleted in PeopleSoft Financials and were not retained in history logs. Additionally, SBA management stated on November 2, 2016, that there were no edits in place to prevent the erroneous deletion of unposted journal vouchers.
- When Eagle STAR extraction file processing resulted in log errors that required the file to be rerun or manually modified, a history of the original file was not retained for investigative purposes. Subsequent to our November 15, 2016, inquiry, SBA management implemented a process to retain a history of the original file for 62 days.

The lack of adequate interface reconciliation and error correction processes increases the risk that interface data errors could occur and not be timely discovered and corrected.

Recommendation: We recommend that SBA management improve interface controls to ensure that data interfaced from Eagle STAR to the PeopleSoft Financials general ledger is timely reconciled to ensure the completeness and accuracy of data; exceptions are reviewed, investigated, and corrected as needed; errors are corrected in the source system and reprocessed; and that interface errors and error-reversing transactions are appropriately corrected, logged, and retained to ensure a complete history of interfaced transactions.

Finding 3: Monitoring Controls

Effective data controls include auditing and monitoring controls to ensure that master data (e.g., bank account information and payment instructions) used for transactional data is complete and valid and is reviewed and approved by designated data owners. Effective master data monitoring controls include periodic review and reconciliation procedures to ensure that master data is consistent among different application modules and that new master data and changes made to existing master data are complete and valid.

Florida PRIME is used to record and track, among other things, Participant³ bank information and bank payment instructions, referred to as bank templates, that are used to facilitate Participant cash transfer activity and monitoring of investment activity. Although Florida PRIME is used for this purpose, the SBA uses its financial institution to actually perform cash transfer and investment activities. Participant bank information and bank payment instructions, submitted by Participants using a Participant Account Maintenance Form (PAMF), are manually recorded by the SBA in Florida PRIME and the SBA's financial institution's banking application. However, the payment instructions are controlled by the account information recorded in the SBA's financial institution's banking application.

Our audit procedures disclosed that SBA monitoring procedures did not include a periodic comparison of Participant bank information and bank payment instructions recorded in Florida PRIME to the SBA's financial institution's banking application. Additionally, SBA management did not provide documentation evidencing that bank information and payment instructions recorded by the SBA in Florida PRIME or its financial institution's banking application were periodically compared to bank information and payment instructions recorded on the PAMF.

Absent a periodic comparison of the bank information and payment instructions recorded by the SBA in Florida PRIME and its financial institution's banking application and a comparison of the information in Florida PRIME and SBA's financial institution's banking application to the PAMF, there is an increased risk that unauthorized or erroneous additions or changes could occur and not be timely detected.

Recommendation: We recommend that SBA management improve monitoring controls by periodically comparing bank information and payment instructions recorded in Florida PRIME to information recorded in the SBA's financial institution's bank application. In addition, we recommend that SBA personnel periodically compare recorded information in Florida PRIME and the SBA's financial institution's bank application to the PAMFs. Any differences noted should be timely resolved to ensure that Participant information is accurate, valid, and complete.

³ Participants are local governments investing local government surplus funds in the Local Government Surplus Funds Trust Fund created by Section 218.405, Florida Statutes.

Finding 4: Application Input Edits

Effective application input controls provide reasonable assurance that erroneous data is prevented or detected before processing and help ensure the accuracy and validity of data. Our review of Eagle STAR transaction and interface processes disclosed that some application input edits need improvement. Specifically, we noted that:

- Although there were application input edits in place to ensure the accuracy and completeness of Eagle STAR transaction data entered during the Eagle STAR generic batch trade processing, usernames manually entered to record the user processing the transaction were not validated for accuracy.
- Usernames used to record the user entering validation data as part of the input or modification to the Eagle STAR to PeopleSoft Financials interface validation tables were manually entered and not validated for accuracy.

In response to our audit inquiry, SBA management stated that enhancements will be made to validate the usernames used during the Eagle STAR generic batch trade processing. Additionally, SBA management stated that enhancements will be made to the Eagle STAR to PeopleSoft Financials interface validation tables to auto-populate and control (i.e., prevent manual entry) the usernames. However, as of December 13, 2016, SBA management had not provided a timeline as to when the enhancements would be completed.

The lack of adequate application input edits that ensure that usernames are accurate and valid increases the risk that data may be compromised and limits SBA management's ability to assign responsibility for transaction and interface activity.

Recommendation: We recommend that SBA management improve application input edits to ensure that usernames associated with data records are accurate and valid.

Finding 5: Change Management Controls

Effective change management controls over program changes ensure that only appropriately authorized, tested, and approved program changes are implemented into the production environment. Additionally, change management controls ensure that the movement of programs into the production environment is controlled by individuals independent of both the user and programming staff. Furthermore, the effectiveness of change management controls is enhanced through controls that ensure that the change management control process is followed when program changes are implemented into the production environment.

Our audit procedures disclosed that SBA change management controls need improvement. Specifically, we found that:

- Although the SBA had a change management process in place to ensure that changes were appropriately authorized, tested, and approved before being implemented into the production environments, the SBA had not established controls, such as the use of a reconciliation process, to ensure that all changes implemented into the production environments followed the SBA's change management process.

- The six program changes that were implemented in the Florida PRIME, Eagle STAR, and PeopleSoft Financials production environments during the period February 10, 2016, through September 20, 2016, were implemented into the production environment by the same individual who coded the program changes.
- The Eagle STAR to PeopleSoft Financials interface error log on October 25, 2016, indicated that the interface validation table was updated by Accounting Information Systems (AIS) staff; however, the SBA did not provide documentation to demonstrate that updates were tested and approved by the appropriate data owner prior to being implemented into the production environment.
- The SBA uses a ticket tracking system to create tickets that, among other things, can initiate a program change and, as of September 19, 2016, 12 individuals with programming capabilities were assigned an access role defined within the ticket tracking system that allows individuals the capability to create tickets, assign the tickets to themselves, and close tickets.

In response to our inquiries, SBA management stated that due to staffing limitations, some employees have multiple duties. Nevertheless, absent effective change management controls to ensure that all program changes are appropriately authorized, tested, approved, and implemented into the production environments, erroneous or unauthorized program changes may be implemented into the production environments without timely detection.

Recommendation: We recommend that SBA management establish controls to ensure that program changes are appropriately authorized, tested, approved, and implemented into the production environments.

Finding 6: Periodic Review of Access Privileges

Effective security controls include procedures to ensure that data owners periodically review access privileges for continued appropriateness. Additionally, periodically reviewing assigned IT access privileges helps ensure that employees cannot access or modify IT resources inconsistent with their assigned job duties. SBA procedures⁴ state that, on an annual basis, the Data Steward who performs security administration duties should verify user access privileges related to PeopleSoft Financials with the employee's supervisor.

Our audit procedures disclosed that controls related to the periodic review of access privileges related to Florida PRIME, Eagle STAR, and PeopleSoft Financials need improvement. Specifically, we found that:

- The SBA had not established written procedures for, and did not perform, periodic reviews of Florida PRIME SBA user access privileges.
- Although the SBA performed a periodic review of access privileges defined for 1 of the 17 Eagle STAR Generic Batch Templates (the Add Price Template) on May 3, 2016, the SBA did not perform a review of the user access privileges defined for the remaining 16 Eagle STAR Generic Batch Templates including the Cash Contributions/Withdrawal Generic Batch Template.
- Although the SBA security administration distributed periodic review requests to 27 supervisors on February 12, 2016, as part of their periodic access review process for PeopleSoft Financials, the SBA did not have procedures in place to ensure that responses were timely received from supervisors and that changes to user access privileges were timely requested by supervisors.

⁴ SBA Accounting Information Systems Procedures.

Additionally, our review of eight of the periodic review requests made on February 12, 2016, disclosed that:

- Two periodic review requests had not been responded to by the applicable supervisor as of November 7, 2016. Another supervisor responded to the request on July 7, 2016, 146 days after the request was made.
- Two supervisors responded on February 12, 2016, requesting that access security roles be removed for three employees. However, as of November 7, 2016, the access security roles had not been removed.

Without effective periodic reviews of user access privileges, and timely actions to remove inappropriate or unnecessary privileges, SBA management's assurance that user access privileges are authorized and appropriate is limited.

Recommendation: We recommend that SBA management establish and implement procedures for the periodic review of Florida PRIME SBA user access privileges and access privileges defined to all of the Eagle STAR Generic Batch Templates. SBA management should ensure that supervisors timely respond to requests for periodic reviews of PeopleSoft Financials user access privileges and that changes requested by supervisors are timely made.

Finding 7: Appropriateness of Access Privileges

Effective access controls include measures that restrict user access privileges to data and IT resources to only those functions that promote an appropriate separation of duties and are necessary for the user's assigned job duties. Appropriately restricted access privileges help protect data and IT resources from unauthorized modification, loss, and disclosure.

Our audit procedures disclosed some inappropriate and unnecessary access privileges to Florida PRIME, Eagle STAR, and PeopleSoft Financials data and IT resources. Specifically, our review of:

- The Eagle STAR to PeopleSoft Financials interface process disclosed that AIS staff authorized to perform interface processes also had update access privileges to the Eagle STAR and PeopleSoft Financials applications and interface validation table. In particular:
 - Our examination of a PeopleSoft Financials journal voucher dated November 7, 2016, disclosed that the journal voucher was recorded by the AIS staff member responsible for processing the interface and not by appropriate accounting staff.
 - Our review of Eagle STAR to PeopleSoft Financials interface documents provided in response to our October 19, 2016, observation, disclosed that updates to the validation table were made by AIS staff who were also performing the interface process that would allow the AIS staff to make unauthorized changes to the validation table.
- SBA records for the 5 users who, as of September 26, 2016, had access to the Florida PRIME Caller Verification Screen used for verification of investor contact information and personal identification numbers disclosed that 1 user had inappropriate access to the screen.
- SBA records for the 16 users with update access privileges to the Eagle STAR Cash Contributions/Withdrawal Generic Batch Template as of October 18, 2016, disclosed that 5 users had inappropriate access for their job duties.
- SBA records for the 13 users with update access privileges to the Eagle STAR Transfers Generic Batch Template as of October 18, 2016, disclosed that the access privileges were not needed. In response to our inquiry, SBA management stated that the Eagle STAR Transfers Generic Batch Template was no longer used by the SBA.

Appropriately restricted access privileges help protect data and IT resources from unauthorized modification, loss, or disclosure.

Recommendation: We recommend that SBA management limit user access privileges to Florida PRIME, Eagle STAR, and PeopleSoft Financials to promote an appropriate separation of duties and restrict users to only those user access privileges and functions necessary for the users' assigned job duties.

Finding 8: User Authorization Procedures

Effective access authorization practices include, among other things, the use of access authorization forms to document the user access privileges authorized by management. Access authorization documentation should be maintained in an appropriate manner to facilitate the complete and accurate assignment of user access privileges and evidence of management approval. Requests to grant access privileges for users to Florida PRIME, Eagle STAR, and PeopleSoft Financials are created through a help desk ticket in the SBA's ticket tracking system.

SBA procedures⁵ as of September 19, 2016, required supervisory approval for access to Florida PRIME, Eagle STAR, and PeopleSoft Financials. However, the procedures do not address how the supervisory approval should be documented. Through our audit inquiries with the security administrators of Florida PRIME, Eagle STAR, and PeopleSoft Financials, we determined that supervisory approval of requested user access privileges was not consistently documented or maintained. For example, approvals could be captured in e-mails and attached to the appropriate help desk ticket or obtained through telephone conversations with no written approvals. Additionally, security administrators may, based on telephone conversations, also create help desk tickets, assign the tickets to themselves, and close the tickets on behalf of users' supervisors.

The maintenance of documentation appropriately authorizing user access privileges enhances SBA management's ability to both ensure and demonstrate that access privileges granted for users are appropriate for the users' assigned job duties and commensurate with SBA management's direction.

Recommendation: To ensure that user access privileges are appropriately authorized and commensurate with SBA management's direction, we recommend that SBA management revise security administration procedures to specify how supervisory approval for access to Florida PRIME, Eagle STAR, and PeopleSoft Financials should be documented and to require that the documentation be appropriately maintained.

Finding 9: Security Controls – User Authentication, Logging and Monitoring, and Access Privileges

Security controls are intended to protect the confidentiality, integrity, and availability of data and IT resources. Our audit procedures disclosed that certain security controls related to user authentication, logging and monitoring, or access privileges for Florida PRIME, Eagle STAR, and PeopleSoft Financials data and related IT resources need improvement. We are not disclosing specific details of the issues in this report to avoid the possibility of compromising Florida PRIME, Eagle STAR, and PeopleSoft

⁵ Prime Procedure for Internal User Security and SBA Accounting Information Systems Procedures.

Financials data and related IT resources. However, we have notified appropriate SBA management of the specific issues.

Appropriate security controls related to user authentication, logging and monitoring, and access privileges for Florida PRIME, Eagle STAR, and PeopleSoft Financials data and related IT resources would help ensure the confidentiality, integrity, and availability of Florida PRIME, Eagle STAR, and PeopleSoft Financials data and related IT resources. Similar findings were communicated to SBA management in connection with prior audits of the SBA, most recently our report No. 2013-180.

Recommendation: We recommend that SBA management improve certain security controls related to user authentication, logging and monitoring, or access privileges for Florida PRIME, Eagle STAR, and PeopleSoft Financials data and related IT resources to ensure the confidentiality, integrity, and availability of Florida PRIME, Eagle STAR, and PeopleSoft Financials data and related IT resources.

PRIOR AUDIT FOLLOW-UP

Except as discussed in the preceding paragraphs, the SBA had taken corrective actions for the applicable findings included in our report No. 2013-180.

OBJECTIVES, SCOPE, AND METHODOLOGY

The Auditor General conducts operational audits of governmental entities to provide the Legislature, Florida's citizens, public entity management, and other stakeholders unbiased, timely, and relevant information for use in promoting government accountability and stewardship and improving government operations.

We conducted this IT operational audit from September 2016 through November 2016 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for the audit findings and our conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for the audit findings and our conclusions based on our audit objectives.

This IT operational audit focused on evaluating selected IT controls applicable to Florida PRIME, Eagle STAR, and PeopleSoft Financials during the period July 2016 through October 2016 and selected actions subsequent thereto. The audit included controls over selected interfaces and selected application-level general controls over logical access, change management, and contingency planning. The overall objectives of the audit were:

- To determine the effectiveness of selected IT controls in achieving management's control objectives in the categories of compliance with controlling laws, administrative rules, and other guidelines; the confidentiality, integrity, availability, relevance, and reliability of data; and the safeguarding of IT resources.
- To determine whether management had corrected, or was in the process of correcting, deficiencies disclosed in our report No. 2013-180 that were applicable to the scope of this audit.
- To identify statutory and fiscal changes that may be recommended to the Legislature pursuant to Section 11.45(7)(h), Florida Statutes.

This audit was designed to identify, for the IT systems and controls included within the scope of the audit, deficiencies in management's internal controls; instances of noncompliance with applicable governing laws, rules, or contracts; and instances of inefficient or ineffective operational policies, procedures, or practices. The focus of this audit was to identify problems so that they may be corrected in such a way as to improve government accountability and efficiency and the stewardship of management. Professional judgment has been used in determining significance and audit risk and in selecting the particular IT controls, legal compliance matters, and records considered.

As described in more detail below, for the IT systems and controls included within the scope of this audit, our audit work included, but was not limited to, communicating to management and those charged with governance the scope, objectives, timing, overall methodology, and reporting of the audit; obtaining an understanding of the IT systems and controls; exercising professional judgment in considering significance and audit risk in the design and execution of the research, interviews, tests, analyses, and other procedures included in the audit methodology; obtaining reasonable assurance of the overall sufficiency and appropriateness of the evidence gathered in support of the audit findings and our conclusions; and reporting on the results of the audit as required by governing laws and auditing standards.

This audit included the selection and examination of IT system controls and records. Unless otherwise indicated in this report, these items were not selected with the intent of statistically projecting the results, although we have presented for perspective, where practicable, information concerning relevant population value or size and quantifications relative to the items selected for examination.

An audit by its nature does not include a review of all records and actions of agency management, staff, and contractors and, as a consequence, cannot be relied upon to identify all instances of noncompliance, fraud, abuse, or inefficiency.

In conducting this audit, we:

- Interviewed SBA personnel and reviewed documentation to obtain an understanding of:
 - The purpose or goals of Florida PRIME, Eagle STAR, and PeopleSoft Financials.
 - The business process flows for Florida PRIME, Eagle STAR, and PeopleSoft Financials related to interfaces.
 - The application change management processes for Florida PRIME, Eagle STAR, and PeopleSoft Financials, including identification of policies and procedures for application change control.
 - The procedures for user account management processes for authorizing, creating, modifying, and revoking Florida PRIME, Eagle STAR, and PeopleSoft Financials user accounts.
 - The process for periodically reviewing access privileges for Florida PRIME, Eagle STAR, and PeopleSoft Financials user accounts.
- Evaluated selected interface controls for Florida PRIME, Eagle STAR, and PeopleSoft Financials. Specifically, we:
 - Inquired and requested a complete list of interfaces for Florida PRIME, Eagle STAR, and PeopleSoft Financials on September 8, 2016.

- For 3 of the 21 identified Eagle STAR interfaces as of September 26, 2016, evaluated the interface controls designed to ensure Eagle STAR data is complete, accurate, and only processed once.
- For 2 of the 11 identified PeopleSoft Financials interfaces as of September 15, 2016, evaluated the interface controls designed to ensure PeopleSoft Financials interfaced data is complete, accurate, and only processed once.
- Reviewed five interface exceptions from the October 23, 2016, year-to-date *STAR/PeopleSoft Reconciliation of Investment Categories* report to determine whether interface exceptions were timely reviewed, investigated, and corrected.
- Reviewed screen prints of interface errors occurring on September 21, 2016, to determine whether interface errors were retained in history logs.
- Reviewed Eagle STAR to PeopleSoft Financials interface error log on October 25, 2016, to determine whether interface errors were appropriately reviewed, investigated, and corrected.
- Evaluated the effectiveness of the SBA's audit and monitoring capability for the Florida PRIME bank templates.
- Evaluated selected application change management controls related to Florida PRIME, Eagle STAR, and PeopleSoft Financials. Specifically, we reviewed six application development tickets opened between February 10, 2016, and September 20, 2016, related to Florida PRIME, Eagle STAR, and PeopleSoft Financials to determine whether the Florida PRIME, Eagle STAR, and PeopleSoft Financials application changes were appropriately authorized, documented, tested, approved, and implemented.
- Evaluated selected application access controls related to Florida PRIME, Eagle STAR, and PeopleSoft Financials. Specifically, we:
 - Reviewed SBA procedures for the periodic review of user access privileges for Florida PRIME, Eagle STAR, and PeopleSoft Financials.
 - Reviewed records of the SBA's periodic review of user access privileges for the 17 Eagle STAR Generic Batch Templates.
 - Evaluated whether any of the 27 supervisors were approving their own PeopleSoft Financials user access privileges during the February 12, 2016, periodic review. Additionally, we evaluated eight periodic review requests to determine whether supervisors timely responded and whether the related requested user access privilege changes were timely made.
 - Evaluated the appropriateness of the PrimeTrans role granted to 5 Florida PRIME users as of September 26, 2016.
 - Evaluated the appropriateness of access granted to the 12 Eagle STAR users that had access to the Add Issue Prices panel as of September 8, 2016.
 - Evaluated the appropriateness of access granted to the 16 Eagle STAR users with access to the Cash Contribution/Withdrawal Generic Batch Template, the 13 Eagle STAR users with access to the Transfers Generic Batch Template, and the 9 Eagle STAR users with access to the Add Prices Generic Batch Template, as of October 18, 2016.
 - Reviewed the appropriateness of Eagle STAR access granted to security administrators as of September 8, 2016.
 - Reviewed the appropriateness of PeopleSoft Financials access granted to security administrators as of September 8, 2016.
 - Evaluated Florida PRIME, Eagle STAR, and PeopleSoft Financials access procedures as of September 19, 2016.

- Evaluated selected access controls designed to protect sensitive system (Florida PRIME, Eagle STAR, PeopleSoft Financials) resources and reviewed duties related to key system and database functions.
- Evaluated user authentication controls related to Florida PRIME, Eagle STAR, and PeopleSoft Financials.
- Evaluated selected application contingency planning controls related to Florida PRIME.
- Communicated on an interim basis with applicable officials to ensure the timely resolution of issues involving controls and noncompliance.
- Performed various other auditing procedures, including analytical procedures, as necessary, to accomplish the objectives of the audit.
- Prepared and submitted for management response the findings and recommendations that are included in this report and which describe the matters requiring corrective actions. Management's response is included in this report under the heading **MANAGEMENT'S RESPONSE**.

AUTHORITY

Section 11.45, Florida Statutes, provides that the Auditor General may conduct audits of the IT programs, activities, functions, or systems of any governmental entity created or established by law. Pursuant to the provisions of Section 11.45, Florida Statutes, I have directed that this report be prepared to present the results of our IT operational audit.



Sherrill F. Norman, CPA
Auditor General

MANAGEMENT'S RESPONSE



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April 5, 2017

Ms. Sherrill F. Norman
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Dear Ms. Norman:

Our responses to the preliminary and tentative findings and recommendations which may be included in your report on the Information Technology Operational Audit of the State Board of Administration Selected Financial Systems are discussed below:

Finding No. 1: Interface Procedures

Recommendation: To ensure that interfaced data is accurately, completely, and timely processed as intended by SBA management, SBA management should include a complete list of interfaces in written procedures.

Response: The SBA agrees and has already taken corrective action by creating a database table listing the referenced interfaces.

Finding No. 2: Interface Controls

Recommendation: SBA management should improve interface controls to ensure that data interfaced from Eagle STAR to the PeopleSoft Financials general ledger is timely reconciled to ensure the completeness and accuracy of data; exceptions are reviewed, investigated and corrected as needed; errors are corrected in the source system and reprocessed; and that interface errors and error-reversing transactions are appropriately corrected, logged, and retained to ensure a complete history of interfaced transactions.

Response: The SBA agrees and plans to integrate recent available functionality in PeopleSoft that will improve the SBA's ability to retain error and error-reversing entries resulting from interface process reconciliations between Eagle STAR and PeopleSoft Financials.

**Finding No. 3:
Monitoring Controls**

Recommendation: SBA management should improve monitoring controls by periodically comparing bank information and payment instructions recorded in Florida PRIME to information recorded in the SBA's financial institution's bank application. In addition, SBA personnel should periodically compare recorded information in Florida PRIME and the SBA's financial institution's bank application to the PAMFs. Any differences noted should be timely resolved to ensure that Participant information is accurate, valid and complete.

Response: The SBA understands this recommendation and will continue to evaluate and employ additional compensating controls to ensure Participant information is accurate and complete.

**Finding No. 4:
Application Input Edits**

Recommendation: SBA management should improve application input edits to ensure that usernames associated with data records are accurate and valid.

Response: The SBA agrees and has already taken corrective action.

**Finding No. 5:
Change Management Controls**

Recommendation: SBA management should establish controls to ensure that program changes are appropriately authorized, tested, approved, and implemented into the production environments.

Response: The SBA agrees and has already taken corrective action.

**Finding No. 6:
Periodic Review of Access Privileges**

Recommendation: SBA management should establish and implement procedures to the periodic review of Florida PRIME SBA user access privileges and access privileges defined to all of the Eagle STAR Generic Batch Templates. SBA management should ensure that supervisors timely respond to requests for periodic reviews of PeopleSoft Financials user access privileges and that changes requested by supervisors are timely made.

Ms. Sherrill F. Norman
April 5, 2017
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Response: The SBA agrees and has already taken corrective action.

**Finding No. 7:
Appropriateness of Access Privileges**

Recommendation: SBA management should limit user access privileges to Florida PRIME, Eagle STAR, and PeopleSoft Financials to promote an appropriate separation of duties and restrict users to only those user access privileges and functions necessary for the users' assigned job duties.

Response: The SBA agrees and has already taken corrective action.

**Finding No. 8:
User Authorization Procedures**

Recommendation: To ensure that user access privileges are appropriately authorized and commensurate with SBA management's direction, SBA management should revise security administration procedures to specify how supervisory approval access for access to Florida PRIME, Eagle STAR and PeopleSoft Financials should be documented and to require that the documentation be appropriately maintained.

Response: The SBA agrees and has already taken corrective action.

**Finding No. 9:
Security Controls—User Authentication, Logging and Monitoring, and Access Privileges**

Recommendation: The SBA should improve certain security controls related to user authentication, logging and monitoring, or access privileges for Florida PRIME, Eagle STAR, and PeopleSoft Financials data and related IT resources to ensure the confidentiality, integrity and availability of Florida PRIME, Eagle STAR, and PeopleSoft Financials data and related IT resources.

Response: The SBA agrees and has already taken corrective action.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Ashbel C. Williams
Executive Director & Chief Investment officer

ACW:apw