

Audit of
PeopleSoft System Security
October 28, 2016

Report #2016-10



MISSION STATEMENT

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Audit of
PeopleSoft System Security
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MEMORANDUM

TO: Honorable Chair and Members of the School Board
Robert M. Avossa, Ed.D., Superintendent of Schools
Chair and Members of the Audit Committee

FROM: Lung Chiu, CPA, Inspector General

DATE: October 28, 2016

SUBJECT: Audit of PeopleSoft System Security

PURPOSE AND AUTHORITY

Pursuant to the *Office of Inspector General's (OIG) 2015-16 Work Plan*, we have performed the Audit of PeopleSoft System Security. The primary objective of the audit was to assess the adequacy and extent of compliance with the internal controls for accessing the PeopleSoft System at the District.

SCOPE AND METHODOLOGY

This audit was performed 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 our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. This audit included interviewing District staff and reviewing:

- Applicable *School Board Policies* and District Procedure Manuals, including
 - *Policy #2.50, Third Party Use of Technology*
 - *Policy #2.501, Information Security – Access Control Policy*
 - *Policy #3.09, Social Security Number*
 - *Policy #3.15, Appointment and Reappointment of Personnel*
 - *Policy #3.20, Resignation and Termination of Employment*
 - *Information Technology User Standards and Guidelines Manual*
 - *HR PS Secretary Training Manual – Job Processes*
- U.S. Office of Management and Budget (OMB) Memorandum *M-07-16 Safeguarding Against and Responding to the Breach of Personally Identifiable Information*

Draft findings were sent to the departments for review and comments. Management response is included in the Appendix. We appreciate the courtesy and cooperation extended to us by staff during the review. The final draft report was presented to the Audit Committee at its October 28, 2016, meeting.

BACKGROUND

The School District uses the PeopleSoft system to manage and process the District's human resource and financial transactions and databases through the following modules:

FIN (Financial) Modules

- Asset Management
- Billing
- Contracts
- Expenses
- eProcurement
- General Ledger
- Inventory
- Payables
- Project Costing
- Purchasing
- Receivables
- Commitment Controls (Budget)

HCM (Human Capital Management) Modules

- Human Resources
- Benefits Administration
- Time and Labor
- Absence Management
- Payroll
- Candidate Gateway and Recruit Workforce
- Employee and Manager Self Service
 - eBenefits
 - eCompensation
 - ePay
 - eProfile

Source: School District's 2014-16 Technology Plan.

Access to the PeopleSoft System is controlled through User-Roles. User-Roles define users by position, job description, etc., allowing individuals performing the same or similar job functions to have identical access assigned to them. This approach also allows the District to separate duties and maintain internal control by preventing the assignment of incompatible access. User access is distributed to Principals and Directors annually to confirm and/or modify access for employees in their school or department.

CONCLUSIONS

This audit produced the following major conclusions:

(Conclusions #2, #4, and #5 contain security information, which is confidential and exempt. This confidential exempt information has been redacted pursuant to Florida Statute Section 282.318(4)(g).)

1. General Procedural Controls Appeared Adequate

We reviewed certain procedural controls in managing PeopleSoft security and the status of corrective actions to address the audit findings identified in the 2014 Audits by the Florida Auditor General and the District's external auditor. Our review concluded that related corrective actions have been implemented. Also, the procedural controls reviewed during this audit appeared adequate:

- The District has implemented procedures for password rules that define the length and structure, password history, expiration, and allowed number of failed access attempts.
- System updates and security patch updates for PeopleSoft and Stoneware portal systems were installed via Change Management.
- Procedures for the creation and termination of user profiles for accessing the PeopleSoft System by employees and non-employees (e.g. District's consultants and vendors) appeared adequate.
- Access rights for 22 sample employees appeared consistent with their job functions.
- **Information Technology Standard Operating Procedure** requires an annual audit requiring:

“a formal review of PeopleSoft user access for all departments/schools on an annual basis at the Principal/Director level and higher. The purpose of this review is to confirm the appropriateness of each employee's user role assignment, based on current job responsibility and current job title...”

According to District bulletins, this management review of user rights was performed in 2013, 2014, and 2015. We reviewed the monitoring of employee access by Principals and Directors for 2015 and noted no exceptions.

- **Information Technology Standard Operating Procedure** requires monthly audits to ensure:
 - Termination of a PeopleSoft user's profile when the employee's employment with the District is ended.
 - Proper modification of a PeopleSoft user's profile when the employee transfers to another position within the District.

The above processes were performed by IT Security to ensure access to PeopleSoft data is properly terminated (or changed for transfers) based on notification from Principals and Directors.

2. (Redacted Pursuant to Florida Statute §282.318(4)(g))

[Redacted]

- [Redacted]

- [Redacted]

[Redacted]

Recommendation

[Redacted]

- [Redacted]

- [Redacted]

- [Redacted]

Management's Response from Chief Financial Officer and Chief Information Officer:

[Redacted]

3. Untimely Removal of Access for Terminated Employees

Access to PeopleSoft for terminated employees is automatically deactivated based on the termination date recorded in the PeopleSoft Human Resource (HR) Database.

A total of 901 District and charter school employees terminated their employments during February through April 2015. These 901 employees had a total of 1,021 job records (933 job records for District employees and 88 for charter school employees) because some of them had more than one job assignment.

District schools and departments notify Human Resources of an employee’s termination via paper form ***PBSD 1176 Employee Resignation/Termination***. Human Resources enters the termination information into PeopleSoft HR Database upon receipt of the paper forms. Charter schools, however, are responsible for entering their employee termination information into PeopleSoft HR Database. The review of these 1,021 job records found that 607 (59%) were not timely updated, with delay ranging from one to 118 days:

- Human Resources entered the employee termination information into PeopleSoft immediately after they received documentation (***PBSD 1176*** form) from the District schools and departments. Due to some delays of District schools and departments in notifying Human Resources about the change in personnel, 547 (59%) of the 933 terminated job records were not updated in PeopleSoft until one to 98 days after the employments were ended.
- Charter schools are responsible for entering employee termination data into PeopleSoft. However, 60 (68%) of the 88 terminated job records were not updated in PeopleSoft until one to 118 days after the employments were ended. (Please see the following exhibit.)

Delay in Updating PeopleSoft HR Database	# of Job Records		
	District Employees	Charter School Employees	Total
61 to 118 Days	3	13	16
31 to 60 Days	11	16	27
15 to 30 Days	32	12	44
8 to 14 Days	66	6	72
1 to 7 Days	435	13	448
Total with delays	547 (59%)	60 (68%)	607 (59%)
No Delay	386 (41%)	28 (32%)	414 (41%)
Total	933 (100%)	88 (100%)	1,021 (100%)

Source: *PeopleSoft HR Database*

Recommendation

Delays in updating the employees’ termination records in the PeopleSoft HR Database compromises the integrity of the information maintained in the District’s system. Terminated employees could access the District’s computer systems to conduct unauthorized activities. The employee termination information should be timely updated in the PeopleSoft HR Database; and the employees’ access to the District’s computer systems should be removed immediately upon termination of their employment with the District.

Management's Response:

Department of Compensation and Employee Information Services: *The employee resignation/termination process is in the process of being automated and this should assist in improving processing times. Additional causes of delays such as school processing times as well as PeopleSoft system downtime every two weeks for payroll processing are additional issues to investigate for improvement opportunities. (Please see page 12.)*

Department of Charter Schools: *The Department of Charter Schools will provide direction to the charter school operators of the necessary process for immediately updating employment termination in PeopleSoft. (Please see page 13.)*

4. (Redacted Pursuant to Florida Statute §282.318(4)(g))

[Redacted]

Recommendation

[Redacted]

Management's Response from Chief Financial Officer and Chief Information Officer:

[Redacted]

5. (Redacted Pursuant to Florida Statute §282.318(4)(g))

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Recommendation

[Redacted]

Management’s Response from Chief Financial Officer and Chief Information Officer:

[Redacted]

6. The Need For a Dedicated Person Responsible for Information Security

As a result of data breaches across the country, IT experts emphasize the importance of securing computer data from unauthorized access. School Districts similar to ours (Miami Dade and Broward) have a dedicated person to oversee the security program across the District’s enterprises. However, at our District, security related duties are assigned to individuals in combination with other job responsibilities, making it less of a priority and limiting accountability. Privacy laws such as Family Educational Rights and Privacy Act (FERPA), and Health Insurance Portability and Accountability Act (HIPPA) require schools to enact and enforce policies to strictly safeguard the confidentiality of education and health records of students.

Recommendation

The District should consider assigning a dedicated information security officer responsible for coordinating and developing strategy for the District's IT security policies including security risk assessments, logging, monitoring, incident responses, firewalls, remote access, etc. across multiple platforms throughout the District. This employee would help ensure IT security policy and procedures are established and followed throughout the District. Additionally, this staff would be responsible for ensuring annual security reviews by external experts and proper follow-up on all issues and related corrective actions.

Management's Response from Chief Financial Officer and Chief Information Officer: Management concurs. A new job description will be created and submitted for Board approval. Funding for this position will be sought through the FY18 budget development process. (Please see page 11.)

– End of Report –

Management's Response
Chief Financial Officer and Chief Information Officer



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SUPERINTENDENT

RECEIVED
SEP 21 2016
INSPECTOR GENERAL

MEMORANDUM

TO: Lung Chiu
Inspector General

FROM: Michael J. Burke *MJB*
Chief Financial Officer

DATE: September 21, 2016

SUBJECT: Management Response - Audit of PeopleSoft Security

The following is the Management Response to the Audit of PeopleSoft Security dated August 17, 2016.

Conclusion 1 – General Procedural Controls Appear Adequate

Response: Response not necessary.

Conclusion 2 – (Redacted Pursuant to Florida Statute §282.318(4)(g))



Conclusion 3 – Untimely Removal of Access for Terminated Employees

Delays in updating the employee's' termination records in the PeopleSoft HR Database compromises the integrity of the information maintained in the District's system. Terminated employees could access the District's computer systems to conduct unauthorized activities. The employee termination information should be timely updated in

Management's Response
Chief Financial Officer and Chief Information Officer

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September 21, 2016
Management Response – Audit of PeopleSoft Security

the PeopleSoft HR Database; and the employees' access to the District's computer systems should be removed immediately upon termination of their employment with the District.

Response: Human Resources is responding to this item.

Conclusion 4 – (Redacted Pursuant to Florida Statute §282.318(4)(g))



Conclusion 5 – (Redacted Pursuant to Florida Statute §282.318(4)(g))



Conclusion 6 – The Need for a Dedicated Person Responsible for Information Security

The District should consider assigning a dedicated information security officer responsible for coordinating and developing strategy for the District's IT security policies including security risk assessments, logging, monitoring, incident responses, firewalls, remote access, etc. across multiple platforms throughout the District. This employee would help ensure IT security policy and procedures are established and followed throughout the District. Additionally, this staff would be responsible for ensuring annual security reviews by external experts and proper follow-up on all issues and related corrective actions.

Response: Management concurs. A new job description will be created and submitted for Board approval. Funding for this position will be sought through the FY18 budget development process.

MJB/DA:ss:mv

cc: Deepak Agarwal

Management's Response
Director of Compensation and Employee Information Services Department



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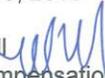
MARK MITCHELL
DIRECTOR

GONZALO S. LA CAVA Ed. D.
CHIEF OF HUMAN RESOURCES

RECEIVED
SEP 16 2016

INSPECTOR GENERAL

MEMORANDUM

DATE: September 15, 2016
FROM: Mark Mitchell 
Director, Compensation and Employee Information Svcs
TO: Lung Chiu
Inspector General
SUBJECT: District IG Audit of PeopleSoft Security - Management Response to Preliminary and Tentative IG Report

In response to one of the conclusions noted in the IG Audit of PeopleSoft Security Report, management offers the following response.

Conclusion:

Untimely removal of access for terminated employees:

Access to PeopleSoft for terminated employees is automatically deactivated based on the termination date recorded in the PeopleSoft Human Resource (HR) Database. District schools and departments notify HR of an employee's termination via paper form PBSD 1176 Employee Resignation/Termination. HR enters the termination information upon receipt of the paper forms. Charter schools, however, are responsible for entering their employee termination information into PeopleSoft HR Database.

Management Response:

The employee resignation/termination process is in the process of being automated and this should assist in improving processing times. Additional causes of delays such as school processing times as well as PeopleSoft system downtime every two weeks for payroll processing are additional issues to investigate for improvement opportunities.

MM/lm

cc: Gonzalo La Cava Ed.D.

Handwritten initials, possibly 'ML', in the bottom right corner of the page.

Management's Response
Director of Charter Schools Department



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MANAGEMENT COMMENTS

TO: Lung Chiu, Inspector General
FROM: James T. Pegg, Director 
Department of Charter Schools
DATE: September 15, 2016
SUBJECT: Audit of PeopleSoft Security

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INSPECTOR GENERAL

The Memorandum of August 17, 2016, regarding the Audit of PeopleSoft Security has been reviewed specifically as the Audit applies to the Department of Charter Schools and the charter schools operating in the School District of Palm Beach County.

In the Audit, there is a finding that charter school operators are not taking action to update charter school employee records, specifically the lack of updating employment termination records.

The Department of Charter Schools will provide direction to the charter school operators of the necessary process for immediately updating employment termination in PeopleSoft.

C: Mark Howard, Chief of Performance Accountability