



Follow-up Review of  
Audit of  
Contractor Licensing Enforcement,  
Building Code Services Division

Office of the County Auditor

Follow-up Review Report

**Robert Melton, CPA, CIA, CFE, CIG**  
**County Auditor**

**Review Conducted by:**

Gerard Boucaud, CIA, CISA, CDPSE, Audit Manager  
Luis Martinez, CISA, CDPSE, Information Technology Audit Supervisor  
Stacey Thomas, CGAP, Audit Senior

**Report No. 20-21**  
**September 30, 2020**



**OFFICE OF THE COUNTY AUDITOR**

115 S. Andrews Avenue, Room 520 • Fort Lauderdale, Florida 33301 • 954-357-7590 • FAX 954-357-7592

September 30, 2020

Honorable Mayor and Board of County Commissioners

We have conducted a follow-up review of our Audit of the Contractor Licensing Enforcement Section within the Building Code Services Division. (Report No. 18-29). The objective of our review was to determine the implementation status of our previous recommendations.

We conclude that of the 35 recommendations in the report, we determined that 25 were implemented, four recommendations were partially implemented, three recommendations were not implemented, and three recommendations were not applicable. We commend management for implementing our recommendations. The status of each of our recommendations is presented in this follow-up report.

We conducted this review in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the review to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our review objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our review objectives.

We appreciate the cooperation and assistance provided by the staff of the Contractor Licensing Enforcement Section within the Building Code Services Division, and the Enterprise Technology Services Division throughout our review process.

Respectfully submitted,

A handwritten signature in blue ink that reads "Bob Melton".

Bob Melton  
County Auditor

cc: Bertha Henry, County Administrator  
Monica Cepero, Deputy County Administrator  
Andrew Meyers, County Attorney  
Lenny Vialpando, Director of Environmental Protection and Growth Management  
Hipolito Cruz, Director, Building Code Services  
Damaris Lugo, Assistant Director, Building Code Services

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# IMPLEMENTATION STATUS SUMMARY

## Implementation Status of Previous Recommendations From Audit of Contractor Licensing Enforcement, Building Code Services Division

REC. NO.	PREVIOUS RECOMMENDATION	IMPLEMENTED	PARTIALLY IMPLEMENTED	NOT IMPLEMENTED	NOT APPLICABLE
1A.	Ensure appropriate procedures are in place to conduct investigations of contractor complaints timely. In addition, management should review current investigator staffing levels for adequacy in meeting the objectives of the agency and the needs of Broward County residents.	<input checked="" type="checkbox"/>			
1B.	Implement procedures to prioritize cases based on life, health, and safety issues.	<input checked="" type="checkbox"/>			
1C.	Delete invalid complaint cases from POSSE and ensure appropriate procedures are in place to minimize the occurrence of invalid cases.	<input checked="" type="checkbox"/>			
2.	Increase the frequency and variety of proactive enforcement efforts.	<input checked="" type="checkbox"/>			
3A.	Ensure Central Examining Board meetings operate in compliance with Broward County Code of Ordinances.		<input checked="" type="checkbox"/>		
3B.	Consider reducing the number of Central Examining Boards.			<input checked="" type="checkbox"/>	

REC. NO.	PREVIOUS RECOMMENDATION	IMPLEMENTED	PARTIALLY IMPLEMENTED	NOT IMPLEMENTED	NOT APPLICABLE
4A.	Ensure all applicants overcharged by the testing facility receive refunds promptly for monies paid in excess of the authorized examination fee.	<input checked="" type="checkbox"/>			
4B.	Work with the CEBs to ensure adequate contract administration activities are implemented to monitor the performance of testing facility contactors against contract terms and conditions.	<input checked="" type="checkbox"/>			
5A.	Implement procedures to periodically reconcile citations issued against reports from the Clerk of Courts and ensure citation payments received are recorded in the County's financial system.	<input checked="" type="checkbox"/>			
5B.	Ensure appropriate procedures are in place to impose liens on citations outstanding for more than 90 days.	<input checked="" type="checkbox"/>			
6A.	Ensure that duplicate payments made to claimants are recovered. In addition, Management should ensure that payment procedures are enhanced to include a review for duplicate payments prior to payment issuance.	<input checked="" type="checkbox"/>			
6B.	Ensure restitution payments match the amount granted by the CEB.	<input checked="" type="checkbox"/>			
6C.	Implement appropriate procedures to ensure all documentation required by the Code of Ordinances is created and maintained to support restitution payments.	<input checked="" type="checkbox"/>			
6D.	Provide the Board of County Commissioners with a report at least annually of the monies deposited into the Restitution Fund, claims paid and balance	<input checked="" type="checkbox"/>			

REC. NO.	PREVIOUS RECOMMENDATION	IMPLEMENTED	PARTIALLY IMPLEMENTED	NOT IMPLEMENTED	NOT APPLICABLE
7.	Implement procedures to periodically review GPS reports tracking the use of County vehicles used by Investigators.	<input checked="" type="checkbox"/>			
8A.	Ensure users roles are appropriately designed for the intended job function, activity or transaction in accordance with the principle of least privilege. Management should also ensure appropriate segregation of duties are enforced.			<input checked="" type="checkbox"/>	
8B.	Ensure privileged user access is restricted based on job responsibilities and ensure that the following job functions are segregated; <ul style="list-style-type: none"> <li>i. User Administration</li> <li>ii. Application Development</li> <li>iii. Business Transactions</li> </ul>			<input checked="" type="checkbox"/>	
8C.	Implement appropriate procedures to monitor high risk activity, such as changes to user access, jobs and objects within the application and ensure that: <ul style="list-style-type: none"> <li>i. Appropriate application logs are enabled and periodically reviewed.</li> <li>ii. Individual, named accounts are used when performing administrator functions.</li> <li>iii. System logs (history file, admin log) cannot be modified by the individuals the logs are intended to monitor.</li> </ul>		<input checked="" type="checkbox"/>		

REC. NO.	PREVIOUS RECOMMENDATION	IMPLEMENTED	PARTIALLY IMPLEMENTED	NOT IMPLEMENTED	NOT APPLICABLE
8D.	<p>Ensure user access to POSSE is reviewed at least annually. Management should:</p> <ul style="list-style-type: none"> <li>i. Ensure reports utilized to communicate user access for review by management are suitable for that purpose, and</li> <li>ii. Ensure individuals authorizing access to POSSE have sufficient knowledge to understand and periodically review employee access rights based on job responsibilities and segregation of duties requirements.</li> </ul>		<input checked="" type="checkbox"/>		
8E.	Ensure appropriate procedures are in place to remove or disable employee accounts from POSSE within 24 hours of employee termination or transfer.	<input checked="" type="checkbox"/>			
8F.	Ensure appropriate procedures are in place to restrict vendor access to County systems until required for the performance of vendor responsibilities, and ensure that vendor accounts with administrator capabilities are prevented from misuse.	<input checked="" type="checkbox"/>			
9A.	We commend management for successfully resolving the encryption of documents stored on the PADD server as of January 27, 2018.				<input checked="" type="checkbox"/>
9B.	We commend management for Securing license application documentation until it is uploaded into POSSE.				<input checked="" type="checkbox"/>
10.	Ensure appropriate procedures are in place to maintain documents used to support the issuance and renewal of certificates of competency within POSSE.	<input checked="" type="checkbox"/>			

REC. NO.	PREVIOUS RECOMMENDATION	IMPLEMENTED	PARTIALLY IMPLEMENTED	NOT IMPLEMENTED	NOT APPLICABLE
11.	Update POSSE minimum password requirements to meet or exceed County policy.	<input checked="" type="checkbox"/>			
12A.	Enable electronic badge access to secure sensitive areas.	<input checked="" type="checkbox"/>			
12B.	Implement procedures to periodically change combination locks wherever combination locks are used.				<input checked="" type="checkbox"/>
12C.	Discontinue the practice of propping open secured doors.	<input checked="" type="checkbox"/>			
13A.	Implement a formal backup restoration test process.	<input checked="" type="checkbox"/>			
13B.	Determine the maximum tolerable data loss for POSSE and ensure backup processes are designed to limit data loss to this threshold.	<input checked="" type="checkbox"/>			
14A.	Ensure approved ETS change control procedures are followed for any changes to County systems and network environments. Any deviations from approved change control procedures should be documented, adequately justified, reviewed by ETS Security and Change Management teams for adequacy, and approved by all impacted stakeholders.	<input checked="" type="checkbox"/>			
14B.	Ensure security administration, change installation and system development functions are appropriately segregated.	<input checked="" type="checkbox"/>			
15A.	Ensure appropriate procedures are in place to resolve incidents according to timelines established by departmental policies and		<input checked="" type="checkbox"/>		



REC. NO.	PREVIOUS RECOMMENDATION	IMPLEMENTED	PARTIALLY IMPLEMENTED	NOT IMPLEMENTED	NOT APPLICABLE
	procedures. Such procedures should require documentation and management's approval of any exceptions.				
15B.	Ensure appropriate segregation of duties are enforced for the incident management process, and adequate documentation is maintained of work performed by ETS technicians in accordance with incident management procedures.	☑			
16.	Test the COOP for POSSE at least annually.	☑			

# INTRODUCTION

## **Scope and Methodology**

The Office of the County Auditor conducts audits of Broward County's entities, programs, activities, and contractors to provide the Board of County Commissioners, Broward County's residents, County management, and other stakeholders unbiased, timely, and relevant information for use in promoting government accountability and stewardship and improving government operations.

We conducted a follow-up review of our Audit of the Contractor Licensing Enforcement Section within the Building Code Services Division. (Report No. 18-29). The objective of our review was to determine the implementation status of previous recommendations for improvement.

We conducted this review in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the review to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our review objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our review objectives.

Our follow-up review included such tests of records and other auditing procedures, as we considered necessary in the circumstances. The follow-up testing was performed for the period July 1, 2020 through September 23, 2020. However, transactions, processes, and situations reviewed were not limited by the audit period.

## **Overall Conclusion**

We conclude that of the 35 recommendations in the report, we determined that 25 were implemented, four recommendations were partially implemented, three recommendations were not implemented, and three recommendations were not applicable. We commend management for implementing our recommendations. The status of each of our recommendations is presented in this follow-up report.

# OPPORTUNITIES FOR IMPROVEMENT

This section reports actions taken by management on the Opportunities for Improvement in our previous review. The issues and recommendations herein are those of the original review, followed by the current status of the recommendations.

## **1. Contractor Complaints Should be Prioritized and Investigated in a Timely Manner.**

During our review of complaints against licensed and unlicensed contractors, we noted the following concerns:

- A. Investigators were starting investigations on complaints filed four months prior. Four months is an excessive amount of time between complaint submission and follow up by an investigator. Upon further analysis, we noted:
  - i. Seventeen of 30 (57%) complaint cases reviewed closed more than 30 days from the date the case was created in POSSE, resulting in noncompliance with the Code of Ordinances.
  - ii. Four of 30 (13%) complaint cases reviewed are still open and being investigated. These cases have been open for an average of 211 days with a range of 150 to 297 days.

The reduction in investigator staffing levels contributed to the delays. There were two investigators assigned 59 complaint cases each at the time of our review.

- B. Contractor Licensing did not have a formal process for prioritizing complaint cases based on life, health and safety issues. Complaint cases are generally investigated in the order they are received. Complaint cases involving life, health and safety issues should be given precedence over other types of complaints.
- C. Six of 30 (20%) complaint cases reviewed were determined to be invalid. A case number was assigned in POSSE, but there was no case information contained within the record. Management stated that cases opened in error or for training are not deleted or removed from the system.

**We recommended** management:

- A. Ensure appropriate procedures are in place to conduct investigations of contractor complaints timely. In addition, management should review current investigator staffing levels for adequacy in meeting the objectives of the agency and the needs of Broward County residents.

- B. Implement procedures to prioritize cases based on life, health, and safety issues.
- C. Delete invalid complaint cases from POSSE and ensure appropriate procedures are in place to minimize the occurrence of invalid cases.

**Implementation Status:**

- A. Implemented
- B. Implemented
- C. Implemented

**2. Proactive Contractor Licensing Enforcement Activities Should be Enhanced.**

Proactive contractor licensing inspection and enforcement activities are not adequate to curb unlicensed activity and encourage licensed contractors to stay licensed. Proactive enforcement activities assist in the timely identification of unlicensed contractors, such as patrols to identify code violators, stings and raids in conjunction with law enforcement agencies, and review of published advertisements and postings for contractor services. During our review, we determined that CLE is focusing their enforcement efforts on investigating contractor complaint cases and has participated in stings within other municipalities only to a limited degree. Reduced staffing and a high number of contractor complaint cases per investigator contribute to a reduction in the number of proactive enforcement activities which compliments the current complaint-driven investigations. Proactive enforcement activities are key to the agency's mission and compliance with Chapter 9 of the Code of Ordinances. Inadequate proactive enforcement reduces the likelihood that unlicensed contractors are encouraged to become licensed or cited for violations.

**We recommended** management increase the frequency and variety of proactive enforcement efforts.

**Implementation Status:** Implemented

**3. Central Examining Boards Should Comply With the Code of Ordinances and the Number of Boards Should be Evaluated.**

During our review of Central Examining Boards, we noted the following concerns:

- A. Central Examining Boards (CEBs) do not operate in compliance with Chapter 9 of the Broward County Code of Ordinances. Specifically, we noted the following concerns:
  - i. Two of the six (33%) Central Examining Boards did not meet the stipulated number of times per year. Section 9-43 of the Broward County Code of Ordinances stipulates the minimum number of times each CEB must meet per year.

*(c) Each board shall meet a minimum of eight (8) times a year, except that the Central Examining Board of Liquefied Petroleum Gas Contractors shall meet a minimum of four (4) times a year.*

Table 3 shows the number of meetings for each CEB during FY 2017 compared to the minimum required.

TABLE 3 NO. OF MEETINGS PER CENTRAL EXAMINING BOARDS FY 17		
Central Examining Board of:	No. of Required Meetings	Actual No. of Meetings
Electricians	8	6
Engineered Construction Trades	8	10
General Construction Trades	8	8
Mechanical Contractors	8	2
Plumbers	8	10
Liquefied Petroleum Gas Contractors	4	4

Prepared by the Office of the County Auditor based on data received from Environmental Protection and Growth Management Department.

- ii. Six of the six (100%) CEBs are operating with less than the required number of members. Section 9-42 of the Broward County Code of Ordinances stipulates the number of members each CEB should have.

*(a) The Broward County Central Examining Boards of Plumbers, Engineered Construction Trades, General Construction Trades, and Mechanical Contractors and Specialty Mechanical Contractors shall consist of nine (9) members, of which five (5) members shall be appointed by the Broward County Board of County Commissioners and four (4) members by the Broward County League of Cities, or its successor organization.*

*(b) The Broward County Central Examining Board of Electricians shall consist of seven (7) members, of which four (4) members shall be appointed by the Broward County Board of County Commissioners and three (3) members by the Broward County League of Cities or its successor organization.*

*(c) The Central Examining Board of Liquefied Petroleum Gas Contractors shall consist of six (6) members, of which three (3) members shall be appointed by the Broward County Board of County Commissioners and three (3) members by the Broward County League of Cities or its successor organization.*

Table 4 shows the number of members for each CEB during FY 2017.

TABLE 4 NO. OF MEMBERS FOR EACH CENTRAL EXAMINING BOARDS FY 17		
Central Examining Board of:	No. of Required Members	Actual No. of Members
Electricians	7	5
Engineered Construction Trades	9	6
General Construction Trades	9	4
Mechanical Contractors	9	4
Plumbers	9	5
Liquefied Petroleum Gas Contractors	6	5

Prepared by the Office of the County Auditor based on data received from Environmental Protection and Growth Management Department.

Management stated it is difficult to obtain new board members. Lack of compliance with Broward County Code of Ordinances may increase the County’s legal risk and affect the timeliness of license application processing and contractor complaint handling.

- B. Broward County has the highest number of Central Examining Boards when compared to surveyed counties within the state of Florida. Most jurisdictions surveyed have one licensing board that meets monthly, bi-monthly, or quarterly. Table 5 shows the number of Central Examining Boards per surveyed county.

TABLE 5 No. of Central Examining Boards per Surveyed County						
	Broward	Miami-Dade	Hillsborough	Pinellas	Palm Beach	Orange
Number of Boards	6	1	4	1	1	No Licensing Board

Prepared by the Office of the County Auditor based on a survey of selected Florida municipalities.

The high number of licensing boards compared to other counties contributes to the issues noted in item 3A above and results in increased administrative costs. While reducing the number of boards would potentially require a change in the County’s Charter, it may improve the efficiency and effectiveness of the Central Examining Boards.

**We recommended** management:

- A. Ensure Central Examining Board meetings operate in compliance with Broward County Code of Ordinances.
- B. Consider reducing the number of Central Examining Boards.

**Implementation Status:**

- A. Partially Implemented: Despite meeting the required number of times, the Central Examining Boards do not have the required number of members.
- B. Not Implemented: The Central Examining Boards did not support this recommendation.

**We continue to recommend** that management consider reducing the number of Central Examining Boards.

**4. Management Should Evaluate Testing Facility Performance against Contract Requirements and Ensure Overcharges are Reimbursed to Applicants.**

During our review of contractor testing facilities, we noted the following concerns:

- A. The Central Examining Board (CEB) for General Construction determined on February 9, 2017 that Gainesville Independent Testing Services, Inc. (GITS) overcharged license applicants an estimated \$26,370 in examination fees for over a 3-year period. This estimate is expected to be higher as some applicants took an exam more than once. As of March 14, 2018, CEBs were informed by GITS that no refunds have been made more than one year after discovery. Applicants overcharged by the testing facility should receive refunds for monies paid in excess of the authorized examination fee.
- B. Inadequate contract administration activities to ensure compliance with contract terms and conditions allowed the overcharging of license applicants to occur for an extended period. CEB agreements with testing facilities stipulate how much each testing facility should charge applicants to take the exams. GITS charged more than the agreement stipulated which is in violation of the agreement. Adequate contract administration activities allow management to monitor vendor performance against contract terms and conditions.

**We recommended** management:

- A. Ensure all applicants overcharged by the testing facility receive refunds promptly for monies paid in excess of the authorized examination fee.
- B. Work with the CEBs to ensure adequate contract administration activities are implemented to monitor the performance of testing facility contactors against contract terms and conditions.

**Implementation Status:**

- A. Implemented
- B. Implemented

## **5. Citations Should be Adequately Handled, Liens Should be Issued Timely, and Citation Payments Should be Appropriately Recorded.**

Citations were adequately handled, liens were not issued timely, and citation payments were not appropriately recorded. Specifically, we noted the following concerns:

- A. Management had not implemented procedures to periodically reconcile citations issued against reports from the Clerk of Courts.
- B. Liens were not issued timely for uncollected citations. Twenty-eight of 45 (62%) citations sampled, for an approximate total of \$20,000, remained outstanding for over 90 days without a lien being imposed.

**We recommended** management:

- A. Implement procedures to periodically reconcile citations issued against reports from the Clerk of Courts and ensure citation payments received are recorded in the County's financial system.
- B. Ensure appropriate procedures are in place to impose liens on citations outstanding for more than 90 days.

**Implementation Status:**

- A. Implemented
- B. Implemented

## **6. Restitution Payments Should be Appropriately Handled and Adequately Processed.**

During our review of restitution payments, we noted restitution payments were not handled in accordance with the Broward County Code of Ordinances. We noted the following concerns:

- A. Three of 58 (5%) restitution payments reviewed were duplicates resulting in overpayments of \$10,400. All duplicate payments should be recovered and appropriate procedures should be implemented to ensure payments are not duplicated.
- B. Appropriate controls had not been implemented to ensure restitution payments match the Final Order approved by the CEB. As a result, we noted that for 1 of 12 (8%) restitution payments sampled, the amount paid to the claimant did not match the amount "granted" on the Final Order, resulting in an overpayment of \$200.
- C. Required documentation was not consistently maintained for restitution payments. Specifically, we noted:
  - i. For 6 of 12 (50%) restitution payments sampled, a completed and signed claim form was not available for review as required by the Code of Ordinance.



- ii. For 1 of 12 (8%) restitution payments sampled, a Final Order of restitution was not available for review as required by the Code of Ordinance.
- D. The Board of County Commissioners is not provided with a report at least annually of the monies deposited into the Restitution Trust Fund, claims paid, and balance, as required by Article IX, Section 9-141 of the Code of Ordinances.

**We recommended** management:

- A. Ensure that duplicate payments made to claimants are recovered. In addition, Management should ensure that payment procedures are enhanced to include a review for duplicate payments prior to payment issuance.
- B. Implement appropriate procedures to ensure restitution payments match the amount granted by the CEB.
- C. Implement appropriate procedures to ensure all documentation required by the Code of Ordinances is created and maintained to support restitution payments.
- D. Provide the Board of County Commissioners with a report at least annually of the monies deposited into the Restitution Fund, claims paid and balance.

**Implementation Status:**

- A. Implemented
- B. Implemented
- C. Implemented
- D. Implemented

**7. Investigator Oversight Procedures Should be Enhanced.**

Procedures to provide oversight of Investigators were not adequate. Global Positioning System (GPS) reports tracking the activity of County vehicles used by Investigators were not periodically reviewed. We noted a gap in the GPS logs for one vehicle for 41 days that was not investigated and remains unexplained.

**We recommended** management implement procedures to periodically review GPS reports tracking the use of County vehicles used by Investigators.

**Implementation Status:** Implemented

## **8. Access to County Data Should be Restricted Based on Job Responsibilities, and Duties Should be Segregated and Adequately Monitored.**

During our review of access to data and transactions within POSSE and its network environment, we noted the following concerns:

- A. Management has not adequately designed user access group functions to restrict access to POSSE based on employee job responsibilities and segregation of duties restrictions as required by County Policy. For example:
  - i. Two groups, BCS Definition assigned to 20 employees and BCS Elevator assigned to eight employees, allow access to modify attributes in the application including the ability to modify fee schedule values in specific modules within POSSE. This access is not appropriately restricted based on job responsibilities.
  - ii. Employees have the ability to create new contractor license jobs, perform data entry functions, change the job status at any time, issue licenses, and adjust payments without any oversight.

Broward County IT Administration Policy, Volume 7: Enterprise Technology Services (ETS) Chapter 3, Section 5.2, requires employees to be given only the access required to perform job responsibilities (least privilege). Job functions should be appropriately segregated. Excessive access increases the risk of inappropriate or fraudulent activities.

- B. Access to sensitive functions and data within POSSE are not appropriate. We noted the following concerns:
  - i. Privileged user access is not appropriately segregated from other job functions:
    - a. Seven of 10 (70%) employees with the ability to perform user administration functions for POSSE do not require this access as part of their job responsibilities.
    - b. One of 10 (10%) employees reviewed had the ability to perform application development activities, user administration, and business transactions. This combination of access creates segregation of duties conflicts.
    - c. One of 10 (10%) employees reviewed had the ability to perform user administration and perform business transactions. This combination of access creates a segregation of duties conflict.

Privileged access should be restricted based on job responsibilities and job functions should be appropriately segregated. Inappropriate privileged access and a lack of adequate segregation of duties increase the risk of inappropriate and unauthorized activity.

C. Monitoring and accountability for users with privileged access are not adequate. We noted the following:

- i. Logs for user access and system configurations changes to jobs and objects within POSSE were not enabled or monitored by management to ensure appropriateness. Application logs should be enabled and periodically reviewed by management. Without a periodic review of access changes made by administrators, inappropriate or unauthorized changes may be made without detection.
- ii. Database administrators, who manage the database where POSSE data is stored, use shared, generic system accounts to perform database administration functions reducing user accountability as activity performed by these accounts cannot be tied to a single individual.
- iii. Database administrators have the ability to modify the log of historical activity (history file) on the UNIX server which records the actions they performed on POSSE's database reducing management's ability to rely on these logs to monitor database administrator activity.
- iv. UNIX administrators, who manage the operating system environment for the POSSE application, have the ability to modify administrator logs used to record their activity reducing management's ability to rely on these logs to monitor administrator activity.

Individual user accounts should be used in place of generic and (or) shared system accounts to ensure accountability. System logs monitoring privileged user access should be restricted from unauthorized modification. A lack of adequate monitoring increases the risk that inappropriate and unauthorized activity will not be detected.

D. Management has not implemented procedures to periodically review user access to POSSE. Further, although role based access is implemented, management does not have a firm understanding of the access granted when provisioning roles to facilitate management review. Periodic user access reviews should be performed to ensure employee access remains commensurate to employee job responsibilities. Lack of periodic review could result in employees inappropriate access to functions not required for the performance of job responsibilities.

E. Management has a formal process for removing terminated employee access from County systems; however, access was not consistently revoked within 24 hours of employee termination. Specifically, we noted the following concerns;

- i. One administrator account belonging to an employee terminated in 2014 was not disabled or removed.
- ii. Eight of 12 (66%) employee accounts were not deactivated within one day of termination. One of 12 (8%) employee accounts was deactivated 119 days after

termination. Seven of 12 (58%) employee accounts deactivations ranged between 2 and 10 days, with an average deactivation period of 4.8 days.

Upon termination, employee access to County computer, network and data resources should be revoked timely.

- F. Vendor accounts were not disabled when no active project is in progress. We noted two vendor user accounts with administrator privileges were enabled; however, at the time of our review, no active projects were scheduled or being performed by the vendor.

**We recommended management:**

- A. Ensure users roles are appropriately designed for the intended job function, activity or transaction in accordance with the principle of least privilege. Management should also ensure appropriate segregation of duties are enforced.
- B. Ensure privileged user access is restricted based on job responsibilities and ensure that the following job functions are segregated;
  - i. User Administration
  - ii. Application Development
  - iii. Business Transactions
- C. Implement appropriate procedures to monitor high risk activity, such as changes to user access, jobs and objects within the application and ensure that:
  - i. Appropriate application logs are enabled and periodically reviewed.
  - ii. Individual, named accounts are used when performing administrator functions.
  - iii. System logs (history file, admin log) cannot be modified by the individuals the logs are intended to monitor.
- D. Ensure user access to POSSE is reviewed at least annually. Management should:
  - i. Ensure reports utilized to communicate user access for review by management are suitable for that purpose, and
  - ii. Ensure individuals authorizing access to POSSE have sufficient knowledge to understand and periodically review employee access rights based on job responsibilities and segregation of duties requirements.
- E. Ensure appropriate procedures are in place to remove or disable employee accounts from POSSE within 24 hours of employee termination or transfer.
- F. Ensure appropriate procedures are in place to restrict vendor access to County systems until required for the performance of vendor responsibilities, and ensure that vendor accounts with administrator capabilities are prevented from misuse.

**Implementation Status:**

- A. Not Implemented. POSSE user access groups have not been appropriately designed in accordance with the principle of least privilege and to ensure appropriate segregation of duties are enforced.

**We continue to recommend** that management ensure users roles are appropriately designed for the intended job function, activity or transaction in accordance with the principle of least privilege. Management should also ensure appropriate segregation of duties are enforced.

- B. Not Implemented. Privileged user access has not been restricted based on job responsibilities and to ensure that job functions are appropriately segregated.

**We continue to recommend** that management ensure privileged user access is restricted based on job responsibilities and ensure appropriate segregation of duties.

- C. Partially Implemented. UNIX system logs (history file, admin log) can be modified by the individuals the logs are intended to monitor.

- D. Partially Implemented. Because of the issue noted in “OFI 8 Recommendation A” management does not have a full understanding of the aggregate access granted when employees must have multiple groups assigned to perform their basic job functions in POSSE.

- E. Implemented

- F. Implemented

**9. Personally Identifiable Information Should be Adequately Protected to Prevent Unauthorized Exposure.**

During our review, we noted the following concerns:

- A. Documents containing Personally Identifiable Information (PII) such as social security numbers, driver’s licenses, and credit reports, stored on the POSSE Archival Document Database (PADD) server were not encrypted during our audit period. This issue was remediated by management during our review.
- B. Approximately 150 license application packets received in 2017 were not appropriately secured or scanned into POSSE as required by agency procedures. These packets contain sensitive personal information. This issue was remediated by management during our review.

Broward County IT Administration Policy, Volume 7: ETS Chapter 3, Section 5.2, requires all sensitive and confidential data to be encrypted. Inadequately protected sensitive PII resulting in loss, could result in substantial harm, embarrassment, inconvenience, or unfairness to the individual.

**We commended** management for:

- A. Successfully resolving the encryption of documents stored on the PADD server as of January 27, 2018.
- B. Securing license application documentation until it is uploaded into POSSE.

**Implementation Status:** Not Applicable as there was no recommendation.

## **10. Documentation Should be Maintained to Support the Issuance and Renewal of Licenses in POSSE.**

Adequate documentation was not consistently maintained to support the issuance and renewal of licenses within POSSE. During our review we noted the following concerns:

- A. For eighteen of 60 (30%) new license applications reviewed, required documentation did not exist in POSSE as required by agency procedures. Specifically, we noted:
  - i. Two of 60 (3%) new license applications reviewed had no required supporting documentation.
  - ii. Seven of 60 (12%) new license applications reviewed were missing key documentation, such as the license application, experience affidavit, board approval, general liability insurance, worker's compensation, and state filings.
  - iii. 11 of 60 (18%) new license applications reviewed had no documentation to indicate that background checks were complete.
- B. For nine of the 60 (15%) renewal applications reviewed, required documentation did not exist in POSSE as required by agency procedures. Specifically, we noted:
  - i. Eight of 60 (13%) renewal applications had no required supporting documentation.
  - ii. One of 60 files (2%) was missing key documentation such as the renewal form.

**We recommended** management ensure appropriate procedures are in place to maintain documents used to support the issuance and renewal of certificates of competency within POSSE.

**Implementation Status:** Implemented

## **11. POSSE Password Requirements Should be Enhanced to Prevent Unauthorized Access.**

The minimum password requirements for POSSE did not meet the standards required by Broward County's Acceptable Use Policy, Volume 7: ETS Chapter 2, Section 5. Passwords represent the digital keys to County systems and should be configured to meet or exceed the minimum security standards established by the County.

**We recommended** management update POSSE minimum password requirements to meet or exceed County policy.

**Implementation Status:** Implemented

## **12. Physical Access Controls Should be Enhanced to Restrict and Monitor Access to Secure Areas.**

Management has a formal process for authorizing physical access to secure areas within the agency; however, we noted the following concerns:

- A. Electronic badge access equipment has been installed throughout the agency; however, except for the cash room, this equipment had not been enabled to facilitate the recording and monitoring of access to secure areas.
- B. Combination door locks were utilized for gaining access to secure areas; however, management had not implemented appropriate procedures to periodically change combination locks.
- C. Doors to the Contractor Licensing area were routinely propped open after hours by the cleaning crew which weakened physical security controls and increases the risk of unauthorized access to sensitive information.

**We recommended** management:

- A. Enable electronic badge access to secure sensitive areas.
- B. Implement procedures to periodically change combination locks wherever combination locks are used.
- C. Discontinue the practice of propping open secured doors.

**Implementation Status:**

- A. Implemented
- B. Doors are now controlled by electronic badge access
- C. Implemented

## **13. Policies and Procedures Governing the Backup and Recovery of POSSE Should be Enhanced.**

Policies and procedures governing the backup and recovery of POSSE's database were adequate except for the following items:

- A. An annual test to ensure data files and programs can be recovered has not been formalized.

- B. The backup schedule could have resulted in a maximum permanent data loss up to 48 hours in the event of a catastrophic incident at the production data facility.

**We recommended** management:

- A. Implement a formal backup restoration test process.
- B. Determine the maximum tolerable data loss for POSSE and ensure backup processes are designed to limit data loss to this threshold.

**Implementation Status:**

- A. Implemented
- B. Implemented

**14. Change Management Policies and Procedures Should be Followed and Segregation of Duties Enforced.**

During our review of Change Management Policies and Procedures, we noted the following concerns:

- A. Application change management procedures approved by ETS were not consistently followed. During our review, we noted the following concerns:
  - i. Changes defined as “standard changes” to POSSE did not follow the established change management process. An alternate change management process was implemented; however, evidence of the approval by all stakeholders for this alternate process was not available for review.
  - ii. Eight of ten (80%) records tested did not contain the approval by the ETS Security group (Security) required by the change control process.
- B. Change management procedures were not appropriately segregated. The POSSE Support Administrator performed incompatible duties by both developing system changes and installing those changes into production.

**We recommended** management:

- A. Ensure approved ETS change control procedures are followed for any changes to County systems and network environments. Any deviations from approved change control procedures should be documented, adequately justified, reviewed by ETS Security and Change Management teams for adequacy, and approved by all impacted stakeholders.
- B. Ensure security administration, change installation and system development functions are appropriately segregated.

**Implementation Status:**

- A. Implemented



B. Implemented

**15. Incident Management Policies and Procedures Should be Followed and Segregation of Duties Enforced.**

Incidents were not consistently handled according to ETS's policies and procedures. We noted the following concerns:

- A. Incidents were not consistently closed within the time windows established by incident management procedures. Two of 12 (17%) incidents reviewed were closed later than the established due date (3 and 37 business days). ETS defines incident management processes by priority level (1-5). These procedures include estimated time to repair by priority, status update and resolution closure procedures.
- B. One of 12 (8%) incidents did not follow policy which enforces segregation of duties. The incident was created, updated and closed in the ticketing system by the initiator who was a non ETS developer. Procedures mandate either the queue manager or the assigned technician within ETS close the incident ticket. In addition, the incident required work to be performed by an ETS database administrator, but the incident did not include adequate documentation of the work performed.

**We recommended** management:

- A. Ensure appropriate procedures are in place to resolve incidents according to timelines established by departmental policies and procedures. Such procedures should require documentation and management's approval of any exceptions.
- B. Ensure appropriate segregation of duties are enforced for the incident management process, and adequate documentation is maintained of work performed by ETS technicians in accordance with incident management procedures.

**Implementation Status:**

- A. Partially Implemented. Appropriate procedures are in place to resolve incidents according to timelines established by departmental policies and procedures; however, we noted one of the 2 incidents reviewed was still in "assigned" status since July 30, 2020 and there is no indication that the issue had been resolved or that work was performed to address the incident. This incident was 49 days late as of September 24, 2020.
- B. Implemented

## **16. Continuity of Operations Plans for POSSE Should be Tested Annually.**

The current continuity of operations plan (COOP) for POSSE is adequate; however, the plan is not tested periodically to ensure its viability in the event of a disaster. Continuity of Operations Plans should be regularly tested to ensure the plan is adequate and remains current as the division evolves.

**We recommended** management test the COOP for POSSE at least annually.

**Implementation Status:** Implemented