



T. Bert Fletcher, CPA, CGMA
City Auditor

HIGHLIGHTS

Highlights of Auditor Report #1505

WHY THIS AUDIT WAS CONDUCTED

This audit was conducted to address concerns regarding the performance of the Tallahassee-Leon County Consolidated Dispatch Agency (CDA) in receiving and processing emergency calls for fire, law enforcement, and medical services. Some of those concerns related to the performance of technology recently implemented to assist the CDA in providing services, and to the contract executed for implementation of that technology. Other concerns related to the performance of CDA staff. An ancillary purpose of the audit was to determine the impact technology issues experienced at the CDA had on the City's project to implement a new Records System at the Tallahassee Police Department (TPD).

To address those concerns we established seven specific audit objectives:

1. Identify and evaluate the technology issues that have adversely impacted the CDA and identify actions taken to resolve those issues.
2. Determine the impact technology issues pertaining to the new Computer-Aided Dispatch (CAD) system at the CDA had on the implementation of the new Records System at TPD.
3. Identify and evaluate the contracts with Motorola Inc. to implement the new CAD system at the CDA and the new Records System at TPD.
4. Determine if payments for maintenance and support for the various Motorola systems were proper, reasonable, and in accordance with governing contractual provisions.
5. Identify and evaluate the policies and procedures, quality assurance and training processes, and staffing of the CDA.
6. Identify and evaluate the CDA process for informing responding (service) units of pertinent information regarding the locations (premises) to which the responding units have been dispatched.
7. Determine the CDA "response times" relating to emergency calls processed by the CDA and compare those times to that of other jurisdictions.

The scope of this audit included activity of the CDA since it cutover to the new Motorola CAD system in September 2013 through October 2014. Certain activities occurring after that period through the end of our audit fieldwork in early December 2014 were also addressed. The scope also included activity relating to the two contracts with Motorola Inc. for the implementation of the new CAD system and the new TPD Records System.

WHAT WE CONCLUDED

The Tallahassee-Leon County CDA provides area citizens with significantly enhanced dispatch operations compared to the previous separate dispatch operations that were performed independently by TPD and the Leon County Sheriff's Office. Under the CDA, the primary benefit to the public is that an emergency call for assistance is now received, processed, and dispatched to all appropriate responding agencies in a single coordinated process, as opposed to past practices in which

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AUDIT OF THE TALLAHASSEE-LEON COUNTY CDA AND RELATED MOTOROLA CONTRACTS

The establishment of the CDA has improved the dispatching of emergency services; however, as a relatively new agency the CDA has experienced several issues that have, at times, adversely impacted the public and responding agencies' confidence in the new coordinated dispatch process.

emergency calls were often transferred between the separate dispatch agencies, with each dispatch agency sometimes dispatching responding units to the same incident in separate processes. Notwithstanding the CDA's success, as a relatively new agency, it has experienced several operational issues that have, at times, adversely impacted the public and responding agencies' confidence in the new coordinated dispatch process. Those issues were magnified due to the problems that occurred with some of the new technology implemented at the CDA. We found that actions have been taken to address those issues and that the CDA, under the guidance of a Director hired in February 2014, continues to advance in regard to technology, processes, policies, and procedures. Several areas were identified by this audit for which improvements and enhancements have been recommended. Those areas pertain to CDA technology; implementation of the new TPD Records System; contract execution and management; maintenance payments; CDA policies, processes, and staffing; premises hazards; and response time measurement.

The primary issues addressed in this audit, some of which had been identified and were being addressed prior to the start of the audit, included:

- There have been significant technology issues regarding the new CAD system implemented at the CDA, which impacted the efficiency and effectiveness of CDA operations. Those issues included system instability (slow processing of commands and temporary outages) as well as functional issues. Both the owners (City, County, and Sheriff's Office) and Motorola have devoted resources and efforts to resolve those issues and, to date, it appears that many of those issues have been addressed and corrected. Yet, the system must consistently perform for an extended period without reoccurrence of those issues before the owners can be confident of the system's reliability.
- Because of various reasons, the City and Motorola have not completed implementation of TPD's new Records System. The initial contracted completion date has been extended several times for reasons attributable primarily to Motorola, but also in part to the City. Those delays have resulted in adverse financial impacts to the City, calculated at approximately \$148,500 as of September 30, 2014. The current planned completion date is the end of summer 2015.
- Overall, the owners' contract with Motorola for the new CAD system was adequate and contained appropriate terms and conditions, and contract deliverables were provided and payments made in accordance with those terms and conditions. However, certain contract provisions should have been enhanced to better protect the owners and the CDA. Specifically, the amount withheld from payment, pending the owners' final acceptance of the system, was too low. Similarly, the maximum amount allowed for liquidated damages was too low. Furthermore, some change orders were executed without documented approval or co-execution by all owners. Lastly, an appropriate approval authority within the City for execution of change orders was not established.

- Overall, the City's contract with Motorola for TPD's new Records System was adequate and contained appropriate terms and conditions. Contract deliverables were provided and payments made in accordance with those terms and conditions. However, the contract did not allow for liquidated damages in the event the system was not timely implemented and did not require Motorola to execute and provide a performance or surety bond guaranteeing Motorola's successful implementation of the new system. Lastly, justification for one change order that extended the contract date for system implementation was not adequately documented and some change orders were not approved and executed by the appropriate City authority.
- Approximately \$50,000 in overpayments to Motorola occurred due to undetected over billings by Motorola for system maintenance services. After we brought this to the owners' attention, the overpayments were successfully recovered from Motorola.
- While establishment of all formal written policies and procedures had not been completed, CDA management was in the process of drafting and completing the necessary remaining policies and procedures at the time of our audit, with plans to obtain CDA Board approval for those remaining policies and procedures in the near future.
- The CDA's formal quality assurance (QA) function currently did not address all categories of calls or the dispatch function. The QA process identified areas where performance improvements were needed and actions were being taken to address those areas.
- While CDA call takers/dispatchers received comprehensive training, a few did not have required certifications. Better records are needed to track whether call takers and dispatchers maintain the required certifications.
- Current CDA staff is reasonably experienced but is working significant overtime to ensure the CDA is adequately staffed because of vacancies that are attributable, in part, to relatively high staff turnover. Exit interviews with departing staff were not being conducted to obtain information that might assist the CDA in reducing the relatively high turnover.
- The CDA did not have an adequate process or maintain adequate records to monitor whether established protocol was followed with respect to reporting critical premises hazard information to responding units.
- While certain response times were periodically calculated and reviewed, additional response times should be periodically calculated and used by CDA management for oversight purposes.

WHAT WE RECOMMENDED

For the issues addressed within the audit, our major recommendations included:

1. The owners should continue to work with Motorola to resolve remaining technical and performance issues relating to the CAD system and seek appropriate restitution from Motorola for the adverse financial impacts resulting from those system issues.
2. Enhancements should be made to the implementation (testing) and risk analysis processes regarding acquisition of future systems that impact the public's health, safety, and welfare.

3. The TPD Records System should be completed and consideration should be given by the City to pursuing reimbursement from Motorola for the adverse financial impacts resulting from delays in completion of that system.
4. Future contracts for major system acquisitions should contain enhanced terms and conditions that provide stronger financial incentives and/or penalties (e.g., retainage and liquidated damages) in the event the contractor does not timely complete installation of an acceptable system. Also, consideration should be given to applying existing provisions in the CAD system contract that provide for liquidated damages.
5. Change orders should be reviewed and approved by each applicable party and executed by an appropriate City representative and authority, and justification for each change order should be documented.
6. To preclude future overpayments, project managers should ensure amounts billed by and paid to contractors are in accordance with governing contractual provisions.
7. The CDA should continue efforts to ensure comprehensive formal policies and procedures are established and implemented by the end of the summer of 2015 as planned.
8. The CDA should complete plans to review all categories of law enforcement calls as part of the formal quality assurance process; efforts to address areas of underperformance identified by the quality assurance process should be continued; and the formal quality assurance process should be expanded to address the dispatch function and processing times.
9. A centralized system should be established to track the certification status of all CDA staff. CDA management should ensure call takers and dispatchers maintain required certifications. Additionally, the CDA should continue efforts to require all trainers are certified in the training function.
10. The CDA should conduct exit interviews with terminating employees and take appropriate actions based on useful information obtained through those interviews. Also, to help alleviate potential stress and fatigue and to lessen overtime worked by current staff, ongoing recruitment efforts to reduce the number of vacancies should be continued.
11. Corrective measures planned and being taken to ensure critical premises hazards are opened and communicated by dispatchers in accordance with CDA protocol should be completed. Also, the CDA should establish a method/process to monitor, on an ongoing basis, whether established protocol has been followed regarding reporting critical premises information (hazards) to responding units. Furthermore, owner efforts to obtain historical information from Motorola to allow for an analysis as to whether premises hazards have been opened and reviewed as required by CDA protocol should be continued.
12. To provide additional information that would be useful for management oversight purposes, the CDA should consider enhancing its process for determining response times.

We would like to thank staff at the CDA, the City Information System Services Department, TPD, the Tallahassee Fire Department, Leon County Emergency Medical Services, and the Leon County Sheriff's Office for their assistance and cooperation during this audit.

To view the full report, go to: <http://www.talgov.com/auditing/auditing-auditreports.aspx>

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Audit of the Tallahassee-Leon County Consolidated Dispatch Agency and Related Motorola Contracts



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Audit made by:

T. Bert Fletcher, CPA, CGMA, City Auditor

Patrick Cowen, CPA, Senior IT Auditor

Dennis Sutton, CPA, Audit Manager

Cameisha Smith, Senior Auditor

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Audit of the Tallahassee-Leon County Consolidated Dispatch Agency and Related Motorola Contracts



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Report #1505

March 16, 2015

Executive Summary

While several issues and concerns are addressed in our audit, the CDA represents an enhancement to area dispatch operations.

The overall purpose of this audit was to address concerns regarding CDA performance in receiving and processing emergency calls.

The Tallahassee–Leon County Consolidated Dispatch Agency (CDA) provides area citizens with significantly enhanced dispatch operations compared to the previous separate dispatch operations that were performed independently by the Tallahassee Police Department (TPD) and Leon County Sheriff’s Office. Under the CDA, the primary benefit to the public is that an emergency call for assistance is now received, processed, and dispatched to all appropriate responding agencies in a single coordinated process, as opposed to past practices in which emergency calls were often transferred between the separate dispatch agencies, with each dispatch agency sometimes dispatching responding units to the same incident in separate processes. Notwithstanding the CDA’s success, as a relatively new agency, it has experienced several operational issues that have, at times, adversely impacted the public and responding agencies’ confidence in the new coordinated dispatch process. Those issues were magnified due to the problems that occurred with some of the new technology implemented at the CDA. We found that actions have been taken to address those issues and that the CDA, under the guidance of a Director hired in February 2014, continues to advance in the right direction in regard to technology, processes, policies, and procedures. Several areas were identified by this audit for which improvements and enhancements have been recommended. Those areas pertain to CDA technology issues; implementation of the new TPD Records System; contract execution and management; maintenance payments; CDA policies, processes, and staffing; premises hazards; and response time measurement.

Audit Purpose and Objectives. The purpose of this audit was to address concerns regarding the performance of the Tallahassee–Leon County Consolidated Dispatch Agency (CDA) in receiving and processing emergency calls, including the dispatching of appropriate service units

(fire, law enforcement, and medical) to address incidents associated with those calls. Some of those concerns related to the performance of technology recently implemented to assist the CDA in providing services, and to the contracts executed for implementation of that technology. Other concerns related to the performance of CDA staff. An ancillary purpose of the audit was to determine the impact technology issues experienced at the CDA had on the City's project to implement a new Records System at the Tallahassee Police Department.

To address those concerns we established seven specific audit objectives:

1. Identify and evaluate the technology issues that have adversely impacted the CDA's ability to efficiently and effectively receive and process emergency calls and dispatch service units based on those calls and to identify actions taken to resolve those issues.
2. Determine the impact technology issues pertaining to the new Computer Aided Dispatch and Mobile System (CAD system) implemented at the CDA have on the implementation of the new Records System at the Tallahassee Police Department (TPD).
3. Identify and evaluate the contracts with a third-party vendor (Motorola, Inc.) to implement the new CAD system at the CDA and implement the new Records System at TPD. Included as part of this objective was a determination of contract compliance with terms regarding deliverables and payments for services, as well as a determination of the adequacy of contractual terms and conditions.
4. Determine if payments for maintenance and support for the various Motorola systems used by the City and the CDA were proper, reasonable, and in accordance with governing contractual provisions.
5. Identify and evaluate the policies and procedures, quality assurance and training processes, and staffing of the CDA.
6. Identify and evaluate the CDA process for informing responding (service) units of pertinent information regarding the locations (premises) to which they have been dispatched.

We established seven specific audit objectives to address the concerns.

7. Determine the CDA “response times” relating to emergency calls processed by the CDA and to compare those times to that of other jurisdictions.

The scope of the audit included activity of the CDA since it cutover to a new CAD system in September 2013 and activity relating to two Motorola contracts executed in 2010 for the CAD system and a new TPD Records System.

There have been significant technical issues that impacted the efficiency of CDA operations.

Completion of the new TPD Records System has been delayed due to several factors.

Certain contractual terms should have been enhanced to better protect the interest of the owners, and the CDA.

Overpayments to Motorola totaling \$50,000 were identified by the audit.

Audit Scope. The scope of this audit included activity of the CDA since it cutover to the new Motorola CAD system in September 2013 through October 2014 (fourteen months). Certain activities occurring after that period through the end of our audit fieldwork in early December 2014 were also addressed by this audit. The scope also included activity relating to the two contracts with Motorola, Inc. (Motorola) for the implementation of the new CAD system and the new TPD Records System. Those contracts were executed in December 2010.

Overview of Audit Results. Our audit did not identify significant concerns or issues that indicate the consolidation of the dispatch function within the Tallahassee-Leon County area was not appropriate, or that the expected benefits from that consolidation will not be realized. Our audit did identify issues and concerns which have been proactively addressed by the CDA Board, CDA Director, and owner agencies (City, County, and Sheriff’s Office). Many of those issues and concerns had been identified and were being addressed prior to the start of this audit.

In regard to the issues and concerns addressed in our audit, we found there have been significant technology issues regarding the new CAD system which impacted the efficiency and effectiveness of CDA operations. Some of those issues, as well as other factors, have significantly delayed completion of the new Records System at TPD. We identified areas where contractual provisions for both the new CAD system at the CDA and the new Records System at TPD should have been enhanced to better protect the interests of the applicable owners (City, County, and/or Sheriff’s Office) and the CDA. Our audit also identified overpayments to Motorola of approximately \$50,000, which have subsequently been recovered.

Additionally, our audit showed the CDA is in the process of establishing formal policies and procedures with plans to obtain appropriate industry accreditation after completion and full implementation of those policies and procedures.

Enhancements were recommended regarding CDA policies, quality assurance, training and employee certifications, and staffing.

Records were not adequate to show critical information was generally provided to responding units for applicable incidents.

Response times were calculated and compared to other jurisdictions; however, conclusions cannot be drawn from those comparisons.

We found the CDA has a formal quality assurance function to review call taker performance in processing emergency calls for fire and medical services, as well as emergency calls involving missing children dispatched to TPD and the Sheriff's Office, although it has not yet applied that function to calls for other law enforcement services. Actions are being taken by the CDA to address concerns identified by that quality assurance function. The CDA should consider expanding the quality assurance process to other areas, including dispatcher performance and response times, and should complete current plans to apply that process to all categories of law enforcement calls.

The CDA has a formal training program and requires CDA call takers and dispatchers to be certified in accordance with applicable State statutes and to also obtain and maintain other pertinent certifications. Instances were identified where a few CDA employees were not certified as required. We determined a need for the CDA to improve records and methods used to track employee certifications.

We determined CDA staff worked significant overtime due, in part, to a relatively high turnover rate and resulting vacancies in call taking and dispatcher positions.

We determined there was not an adequate method/process in place or records available that would facilitate management monitoring or demonstration of staff compliance with protocol for premises hazards. The lack of such records also precluded us from determining the extent to which critical information (e.g., officer safety) was being relayed to responding units for applicable incidents.

We calculated CDA response times and gathered information on response times of public dispatch agencies in other jurisdictions. However, because of variations in methods and systems used by dispatch agencies to calculate response times, it was not possible to draw conclusions based on comparisons of the CDA's response times to the times reported by other jurisdictions.

The most significant determinations from our audit are presented in the following paragraphs under each specific audit objective.

Audit Objective No. 1 - Identify and evaluate the technology issues that have adversely impacted the CDA's ability to efficiently and effectively receive and process emergency calls and dispatch service units based on those calls, and identify actions taken to resolve those issues:

The new CAD system installed at the CDA was a new product that had not been proven by Motorola through multiple implementations.

Many of the significant system stability and functional issues may have been successfully addressed and resolved; however, the CAD system must consistently perform adequately for an extended period before the owners can be confident all issues are resolved.

The owners have been proactive in communicating with Motorola the importance of successfully resolving the significant system issues; including submitting a proposed contract amendment that provides several concessions to the owners in the event the issues are not timely addressed and resolved.

Our audit showed the City of Tallahassee, Leon County, and Leon County Sheriff's Office (owners), on behalf of the CDA, acquired a Computer Aided Dispatch (CAD) system from Motorola, Inc. (Motorola) that was, in essence, a new product that had not been proven through multiple implementations at other public safety dispatch agencies. At the date the owners executed the contract with Motorola, the new system had been installed at only a few agencies. As is typical with new systems, the new CAD system has experienced technical issues. Those issues included system instability (slow response and processing of system commands and temporary outages) as well as functional issues. While some agencies that implemented versions of the same system indicated to us that they did not experience any significant problems with their systems, other agencies that implemented this system indicated they have experienced similar technical issues as the Tallahassee-Leon County CDA. Both the owners and Motorola have devoted resources and effort to resolve the technical issues. To date, it appears many of those issues have been addressed and corrected. Yet, the system must consistently perform adequately for an extended period without reoccurrence of system instability or functionality issues before the owners can be confident the CDA will not experience additional unfavorable events. Actions by the owners and Motorola continue in an effort to resolve remaining issues.

In a June 24, 2014, letter to Motorola the owners (through the City of Tallahassee as the entity designated by the applicable inter-local agreement to administer and manage the implementation of the new CAD system on behalf of the other owners and the CDA) expressed concerns regarding the technical issues and the resulting impacts on CDA operations. Motorola assigned additional experienced staff to address the system issues in response. As noted in the previous paragraph, Motorola's efforts and response have to some extent been successful. However, because of continuing concerns, the owners (through the City) submitted a proposed contract amendment on October 16, 2014, to Motorola that provided for (1) certain financial consideration to the owners due to the adverse impacts of

Hindsight indicates enhanced system testing likely would have shown there were significant performance issues.

the technical issues, (2) a deadline for resolving remaining issues and demonstrating consistent adequate system performance, and (3) a remedy in the event Motorola is not successful in efforts to rectify any remaining issues and ensure consistent performance. That remedy includes reimbursement of the full contract price and Motorola's continued support of the implemented CAD system until such time a new replacement system is acquired and installed by the owners.

To date, Motorola has not agreed to the amendment. Motorola contends that based on certain contract provisions, the owners have granted "final acceptance" of the new system. However, no formal "final acceptance" has been granted by the owners as provided in the contract and Motorola has not billed the owners for amounts withheld pending the granting of that final acceptance. As of February 25, 2015, negotiations between Motorola and the owners were still ongoing.

Hindsight also shows competitive procurement methods likely were appropriate.

Hindsight shows while system testing was performed, more enhanced testing in a simulated environment prior to the cutover to the new system may have revealed the potential for the significant performance issues that occurred. Hindsight also shows that if the owners had determined prior to acquisition that the system was a "new system" and not a typical system upgrade, a more enhanced risk analysis could have been done likely resulting in application of competitive procurement methods and consideration of additional systems for implementation, and potentially the decision to engage a qualified consultant to assist in the monitoring of the implementation of a new CAD system.

At this point we recommend the owners continue working with Motorola to resolve and rectify any remaining issues.

At this point, we recommend the owners continue working with Motorola to resolve and rectify remaining issues. The owners should continue efforts to execute a contract amendment that provides for appropriate continued support (financial and technical) from Motorola and a deadline by which significant issues must be resolved. If that deadline is not met, the owners should consider a replacement system and options for recourse, including submitting a claim to the applicable surety company for recovery of the contract price. (See pages 47 through 75 of this report for details pertaining to this audit objective.)

Audit Objective No. 2 - Determine the impact technology issues pertaining to the new Computer Aided Dispatch and Mobile System (CAD system) have on the implementation of the new Records System at the Tallahassee Police Department (TPD):

Several factors have contributed to significant delays in the implementation of the new Records System at TPD; with most factors attributable to Motorola.

To date, because of various reasons, the City and Motorola have not completed implementation of the new Records System for the Tallahassee Police Department (TPD). The contract for that new Records System, executed in December 2010, provided for that new system to be completed and implemented by December 2011. That initial completion date was extended several times because of various factors, attributable in part to the City but primarily attributable to Motorola. Based on our interviews of knowledgeable City and TPD staff, some of the factors resulting in the delay included: (1) Motorola's delay in starting a conversion of data from the existing Records System, (2) time and resources expended by Motorola in creating an interface between the existing Records System and the former CAD system used by TPD that was not necessary as the new CAD system was implemented at the CDA before that interface could be used, (3) problems in creating other interfaces between the new Records System and other TPD applications, (4) functionality issues, and (5) an agreement between the City and Motorola to further delay efforts to complete implementation of the Records System so as to allow for increased efforts to complete implementation of the new CAD system at the CDA. Those delays have resulted in adverse financial impacts to the City. Our calculations of those impacts, based on a reasonable expected completion date of December 2012 (one year after the initial contractual completion date of December 2011 and after adjustment for the amount of Motorola's reduction in the maintenance fees due for the legacy system) is \$148,531. The current planned completion date is the end of summer 2015. We recommend the City continue to work with Motorola to complete implementation of the system. We also recommend the City consider requesting reimbursement from Motorola for the financial consequences suffered by the City due to delays attributable to Motorola. (See pages 75 through 84 of this report for details pertaining to this audit objective.)

The City should consider seeking restitution from Motorola for the adverse financial impacts resulting from the delays.

The contracts executed with Motorola for the new CAD system at the CDA and the new Records System at TPD were generally adequate and appropriate; however, certain provisions should have been enhanced.

Contract terms should have provided for a greater withholding of funds due the contractor pending final acceptance of the system by the owners.

Contract terms should have provided for greater liquidated damages.

Audit Objective No. 3 - Identify and evaluate the contracts with a vendor (Motorola, Inc.) to implement the new CAD system at the CDA and implement the new Records System at TPD. Included as part of this objective was a determination of contract compliance with terms regarding deliverables and payments for services, as well as a determination of the adequacy of certain contractual terms and conditions:

The contracts with Motorola for both the implementation of the new CAD system at the CDA and the new Records System at TPD were executed in December 2010. Those two contracts are discussed separately in the following paragraphs.

CAD system: Overall, the contract for the new CAD system contained adequate and appropriate terms and conditions that specified the work to be performed, deliverables to be provided and related milestones to be met on which payments would be based, and provisions to protect the interest of the owners and CDA. We determined that other than the owners' final acceptance of the system upon which the final payment would be made, all contract deliverables were provided and payments were made in accordance with contract terms and conditions. However, we noted certain contract provisions that should have been enhanced to better protect the interest of the owners and CDA. Specifically:

- The amount withheld from payment pending final acceptance of the system by the owners (meaning the system was determined by the owners to be operating and performing appropriately and satisfactory) was only 5% of the contract price. For the CAD system component (there was also a radio equipment component), this has resulted in a withholding of only \$64,651 of the total of \$1,293,025 payable to Motorola for that component. In our opinion, a more appropriate amount to withhold pending demonstration of a satisfactory and appropriately performing system would have been an amount ranging from 20% to 30% of the contract amount, which would have served as a greater incentive for the vendor to ensure a properly performing system was installed.
- In accordance with common and good business practices, the contract provided the owners the right to assess liquidated damages in the event the system was not timely implemented. However, that provision

provided the maximum amount that could be assessed was 7% of the contract price, or \$90,512. In our opinion, a higher maximum amount would have served as a stronger incentive for Motorola to ensure an adequately performing system was timely installed.

In addition, we determined the owners did not comply with or apply two contract provisions that if followed or applied would have better protected the interests of the owner's and the CDA. Specifically:

- The contract provided that the owners were to request and obtain written permission from Motorola before using the new CAD system for anything other than testing or training purposes. Contrary to that provision, the CDA commenced using the new system in September 2013 without requesting and obtaining written permission from Motorola. As a result, Motorola has indicated in an email to the owners that it now interprets the CDA's use of the system without that written permission as the granting of "final acceptance" of the system by the owners. While we do not concur with that interpretation, as Motorola has not billed the owners for the amount withheld pending final acceptance and the owners have not formally granted final acceptance, written permission should nonetheless have been requested and obtained in September 2013 as provided by the contract.
- As indicated above, the owners have the contractual right to assess liquidated damages for the untimely completion of an adequately performing system, albeit in a lesser amount than we have recommended. To date, the owners have not assessed Motorola for such damages. In the event there are additional system stability and performance issues, the owners should consider applying that provision, especially if the owners and Motorola do not execute a fair and appropriate contract amendment as addressed above under Audit Objective No. 1.

The owners should have complied with all contract provisions.

Consideration should be given to applying liquidated damages provisions.

Concerns with contract change orders were identified.

Lastly, regarding change orders to the contract we determined the following:

- Some change orders were executed solely by the City and Motorola without documented approval or co-execution by the other owners (Leon County and the Sheriff's Office).

- An appropriate approval authority for the City was not determined or designated.

Recommendations were made to address the contractual issues.

We recommend, for future contracts of this nature, that provisions be included that provide for a significant amount to be withheld until the owners have accepted the applicable system as completely installed and performing properly and adequately. Similarly, amounts assessable for liquidated damages should be sufficient to provide a significant incentive for the contractor/vendor to complete the new system in a timely manner. We also recommend all applicable contractual terms and conditions be followed by the owners so as to protect the owners' (and public's) best interest. Additionally, at this point the owners should consider invoking the current liquidated damages provisions in the current contract with Motorola in the event subsequent system stability or performance issues occur or reoccur. Lastly, each party to the contract (City, County, and Sheriff's Office) should approve and execute any subsequent change orders; and for those change orders executed to date only by the City, documented approval and concurrence should be obtained from the County and Sheriff's Office as to the additional services authorized. An appropriate City authority for approving and executing subsequent change orders should also be designated by City management.

The contract for the new TPD Records System did not contain provisions for liquidated damages and did not require a surety or performance bond.

Records System: The contract for implementation of the new Records System at TPD was executed as an amendment of the maintenance agreement between TPD and Motorola for the existing TPD Records System. We determined that contract contained adequate and appropriate terms and conditions that specified the work to be performed and the deliverables to be provided and related milestones to be met on which payments would be based. We also noted that a contract change order was executed for Motorola to provide certain financial consideration to the City in the event the new system was not timely implemented. That financial consideration has been provided in that Motorola is not billing the City for certain ongoing maintenance of the existing Records System.

Notwithstanding that change order, the contract did not provide the City the right to assess liquidated damages in the event Motorola did not timely complete implementation of the new Records System. As implementation of the new system has not been completed (three years after the initially

planned completion date), such provisions would have provided the City additional financial consideration for the delays addressed above under Audit Objective No. 2.

Furthermore, the contract did not require Motorola to execute and provide the City a performance or surety bond guaranteeing Motorola's successful completion of the new system implementation. The lack of such a provision limits the City's recourse in the event Motorola ultimately does not complete that implementation.

Issues regarding contractual change orders were also identified for this project.

Lastly, regarding change orders to the contract we determined:

- Justification for one change order that extended the contract date for completion of system implementation was not adequately documented.
- Certain change orders were not approved and executed by the appropriate authority as provided by City policy.

To address those issues we recommend that contracts for future projects include provisions requiring a surety/performance bond guaranteeing the contractor's performance and the ability of the City to assess liquidated damages in the event the contractor does not complete the project in a timely manner. Also, regarding the current project, justification for any subsequent change order should be adequately documented and such change orders should be executed by appropriate authorities as provided by City policy. *(See pages 84 through 98 of this report for details pertaining to this audit objective.)*

Recommendations were made to address the identified issues.

Audit Objective No. 4 - Determine if payments for maintenance and support for the various Motorola systems used by the City and the CDA were proper, reasonable, and in accordance with governing contractual provisions:

As part of our audit, we reviewed various payments to Motorola, including payments for maintenance of Motorola systems used by the City and CDA. Our review showed most of those payments were in the correct amounts as provided by applicable maintenance agreements and terms and conditions established by the contracts for implementation of the new CAD system and Records System. However, we identified approximately \$50,000 in overpayments to Motorola due to undetected over billings by Motorola. Those overpayments pertained to maintenance of the new CAD system at the CDA and maintenance of the existing

We identified two instances where Motorola overbilled the City and CDA a total of approximately \$50,000 for maintenance fees.

The overpayments were recovered from Motorola.

Records System at TPD. After we brought those instances to City staff's attention (the City processes payments on behalf of the CDA), the City successfully recovered the overpayments from Motorola. We recommend project managers assigned to manage and oversee projects of this nature ensure that amounts billed by and paid to contractors are in accordance with contractual provisions governing fees for services. (See pages 98 through 102 of this report for details pertaining to this audit objective.)

Audit Objective No. 5 - Identify and evaluate the policies and procedures, quality assurance and training processes, and staffing of the CDA: In regard to CDA policies and procedures, quality assurance and training processes, and staffing, we determined areas of concern as described in the following paragraphs.

The CDA is in the process of establishing formal policies and procedures.

Policies and Procedures: CDA management is in the process of developing formal policies and procedures for the operation and administration of the CDA. CDA management's intent is to establish and follow such policies and procedures such that accreditation can be obtained from applicable industry organizations. As of the end of our audit fieldwork, the CDA had established and was following 40 formal policies and procedures and was in the process of drafting and completing an additional 36 policies and procedures. CDA management indicated additional policies and procedures will be drafted and placed into operation as the need is determined. Additional resources have been committed by the City to assist the CDA in completing those policies and procedures. We recommend those efforts be continued. (Subsequent to the end of our fieldwork the CDA requested and obtained CDA Board approval for 45 of the formal policies completed as of that date.)

The CDA established a formal quality assurance function for medical and fire services calls.

Quality Assurance: In accordance with industry standards, the CDA established a quality assurance (QA) function to review the performance of CDA call takers in regard to answering and processing emergency calls. Performance goals were established against which QA review results are measured and the results are used to assist call takers improve their performance. Results to date show the CDA's overall goals are being met with some improved performance since the CDA first started operations. However, we determined the following:

The CDA plans to address all categories of law enforcement calls as part of the quality assurance process.

The quality assurance process should be expanded to other areas.

The CDA is taking actions based on the results of quality assurance review results.

CDA call takers and dispatchers must complete 232 training hours and become State certified.

- To date, the QA function has only been applied to calls for medical and fire services and to law enforcement calls involving missing children. Calls for law enforcement services not involving missing children have not been reviewed as the application used for the QA process relies on information from a triage software which is currently not used for law enforcement calls (i.e., manual process used for those calls). A new triage application was recently implemented, as planned by the CDA since its inception, to allow for processing (triaging) law enforcement calls as well as calls for medical and fires services. The use of that new application to process (triage) all calls is planned for the first quarter of calendar year 2015. At that point, the CDA intends to expand the QA process to include all categories of law enforcement calls. As calls for law enforcement services represent a significant portion of total emergency calls received by the CDA, we recommend the CDA start reviewing those calls as soon as possible.
- The QA process did not include a formal evaluation of the dispatch function. Given that the CDA is a new agency with new systems and procedures, consideration should be given to expanding the QA process to address the work of dispatchers. Similarly, consideration should be given to expanding that process to review the reasonableness of time taken by call takers and dispatchers to process and dispatch calls.
- As stated above, QA review results for calls for medical and fire services show the CDA is meeting overall performance goals. In regard to individual categories reviewed and graded, the results show the most significant need for better performance was in regard to “case entry” and providing “pre-arrival instructions” for medical calls. Efforts to improve performance in those categories should be continued.

Training and Certification: Before individuals work as a call taker or dispatcher in a public safety dispatch agency, State statute requires the individual to complete 232 hours of training in an approved curriculum and pass a "public safety telecommunicator" examination. Individuals that complete the training and pass the examination are certified by the Florida Department of Health (FDOH) as public safety telecommunicators. The

CDA developed an internal training program that has been approved by the State as meeting the curriculum requirements for the 232-hour program.

In addition to requiring call takers and dispatchers to complete the required training and obtain the FDOH public safety telecommunicator certification, the CDA requires call takers and dispatchers to obtain eight additional certifications applicable to the public safety telecommunicator function. Some of those other certifications are provided through the International Academies for Emergency Dispatchers (IAED) and other industry organizations. Areas addressed by those certifications include dispatching for medical, fire, and law enforcement services; hazardous materials; cardiopulmonary resuscitation or CPR; and missing children.

In addition to the State certification, the CDA required call takers and dispatchers to obtain and maintain additional certifications.

Another one of the required certifications allows the call taker or dispatcher to access secured information available through Florida Department of Law Enforcement (FDLE) databases, which can be useful when law enforcement officers responding to an incident request a dispatcher to provide information on a subject or vehicle at the incident. Other non-required specialty certifications are available and may also be obtained, including certification by the Association of Public Safety Communication Officials (APCO) in training of public safety agency telecommunicators. To remain certified, many of the certifying agencies, including the FDOH, require periodic continuing education.

We identified a few CDA staff that were not currently certified in all required areas.

We determined current and former CDA call takers and dispatchers, for the most part, completed required training, had all required certifications, and were completing required continuing education. However, we identified areas for which improvements are needed as explained in the following:

- We determined one of the 90 current employees working as a call taker or dispatcher at the CDA was not currently certified as a public safety telecommunicator as required by State statute and the CDA. In response to that determination, CDA management stopped that employee from working as a call taker or dispatcher until the employee became re-certified by the FDOH.

The CDA did not have an adequate tracking and monitoring system to ensure certain required certifications were maintained by staff.

- We determined four of the 90 current call takers/dispatchers did not have certifications granting them access to the FDLE databases used to provide information requested and needed by service units (e.g., law enforcement) responding to an incident. As a result, in the event one of those employees was requested to provide such information while working as a dispatcher, he/she would have to request another call taker or dispatcher to access the FDLE database and relay the information, thereby delaying provision of the requested information to the applicable responding unit. In response to this determination, three of the applicable employees renewed their certification. The fourth employee no longer works at the CDA.
- The CDA did not provide records demonstrating five current and six former employees working as call takers or dispatchers had 15 required certifications. Without those records the CDA was unable to demonstrate those employees were trained and qualified in accordance with CDA requirements.

We determined the above instances were attributable, at least in part, to the lack of an adequate tracking and monitoring system to ensure certain required certifications were maintained by CDA call takers and dispatchers. (Some certifications were adequately tracked while others were not.) We recommend CDA management establish appropriate records and processes to track and monitor the status of all required certifications for CDA call takers and dispatchers.

Staffing: Based on a survey of other public dispatch agencies, we found the CDA pays a comparable starting salary to call takers and dispatchers. (Note: It was not practicable for our survey to address potential differences between the workloads and responsibilities of the CDA positions and those of the surveyed agencies.). Our analysis showed current staff is reasonably experienced. However, current staff is working significant overtime to ensure the CDA is adequately staffed because of vacancies that are attributable, in part, to relatively high turnover in the telecommunicator positions. Significant overtime has the potential to increase stress and fatigue, which in turn, increases the risk of mistakes in the call taking and dispatch functions. We recommend the CDA conduct exit interviews with terminating employees and take appropriate actions based on useful

CDA staff worked significant overtime due, in part, to high turnover rates and resulting vacancies.

information obtained through those interviews. Ongoing recruitment efforts to reduce the number of vacancies should be continued. (See pages 102 through 132 of this report for details pertaining to this audit objective.)

Adequate information was not available to allow a determination as to whether critical information was provided to responding units for incidents involving premises with officer safety warnings.

Audit Objective No. 6 - Identify and evaluate the CDA process for informing responding (service) units of pertinent information regarding the locations (premises) to which they have been dispatched: One attribute available in the CDA's CAD system allows critical information applicable to a specific premises (address/location) to be recorded ("flagged") within the system as a premises hazard. Information recorded varies, but includes, for example, (1) details that responding units should be made aware of for safety purposes (e.g., threatening or dangerous individual residing at the premises or hazardous materials located at the premises), (2) access codes for locked entrances, and (3) codes to allow alarms to be turned off. Premises hazards are categorized into type. For example, those potentially impacting the responding units' safety are shown as "Officer Safety" warnings or "Hazardous Materials" warnings.

Corrective measures are planned and being taken regarding premises hazards.

The CDA did not have an adequate method/process or maintain adequate records to determine whether established protocol has been followed by call takers and dispatchers with respect to reporting critical information to responding units for incidents where there was an officer safety or other pertinent premises hazard recorded in the CAD system. Management indicated some of the premises hazard information may be outdated and should either be updated or removed from the CAD system. Corrective actions are being taken to ensure premises hazard information is current, the hazards are opened by dispatchers, and the relevant hazard information is provided to responding units. We recommend those actions be completed. In addition, we recommend the CDA establish a method/process to track whether established protocol has been followed regarding reporting critical information to responding units for incidents. (See pages 132 through 136 of this report for details pertaining to this audit objective.)

Response times were calculated for the 13-month period October 1, 2013, through October 31, 2014.

Audit Objective No. 7 - Determine "response times" relating to emergency calls processed by the CDA and compare those times to that of other jurisdictions: Using CDA system data, we calculated responses times

for the different components that comprise the response process. Our calculations were for the thirteen-month period October 1, 2013, through October 31, 2014. We made adjustments in our calculations for abnormalities that were explained by knowledgeable staff. Our calculated response times are shown in the following table.

Average CDA and Service Unit Response Times				
October 1, 2013 through October 31, 2014				
	Emergency Medical Services	Tallahassee Fire Department	Leon County Sheriff's Office	Tallahassee Police Department
Number of Incidents	13,027	2,156	2,952	6,408
Component #1- Start to Pre-alert (1)	01:10	01:15	01:40	01:36
Component #2 – Pre-alert to Dispatch	00:41	00:34	01:49	01:42
Component #3 – Dispatch to On Scene	08:25	06:40	06:13	05:17
Response Time #1 – Start to Dispatch	01:51	01:49	03:29	03:18
Response Time #2 – Pre-alert to On Scene	09:06	07:14	08:02	06:59
Response Time #3 – Start to On Scene	10:16	08:29	09:42	08:35
Note (1): Pre-alert represents that point at which the call taker notified the dispatcher of the incident such that a service unit can be dispatched to the scene of the incident.				

We also gathered available information concerning response times for public dispatch agencies in other jurisdictions. However, because of the variations in methods and systems used in determining response times, we determined it was not possible to draw any conclusions based on comparisons of the CDA's response times to the times reported by other jurisdictions. (See pages 136 through 145 of this report for details pertaining to this audit objective.)

Appropriate actions should be taken to ensure a reliable and adequate CAD system and to complete the new TPD Records System.

Audit Recommendations: The owners on behalf of the CDA need to ensure technical issues impacting the efficiency and effectiveness of CDA operations are addressed and resolved. Appropriate actions should be taken, including consideration of discarding the current CAD system and obtaining a replacement system in the event technical issues are not resolved such that system performance is satisfactory. For future system implementations, consideration should be given to hiring a qualified third-

Appropriate terms and conditions should be included in future contracts.

party consultant to help ensure proper implementation, including the conduct of adequate system testing based on expected activity levels and data volumes. Additionally, for future system implementations, risk analyses should be enhanced and competitive procurement methods applied when appropriate based on those enhance analyses.

Efforts should be enhanced to ensure proper and correct payments for maintenance fees.

Efforts need to be made by the City and Motorola to complete implementation of the new Records System at TPD. As a result of the significant delays in completing implementation of that system, the City should consider seeking reimbursement from Motorola for the financial consequences suffered by TPD due to those delays.

Improvements need to continue regarding CDA policies, procedures, and processes.

For future similar system projects, the City and owners should ensure contractual terms and condition are (1) adequate and appropriate to protect the public's best interest, (2) followed, and (3) applied when appropriate. Efforts should be enhanced to ensure payments for maintenance services are correct and in accordance with governing contractual provisions. Change orders should be executed in accordance with applicable policies and good business practices.

Efforts should be continued to attract and retain trained call takers and dispatchers.

The CDA needs to continue efforts to complete development and implementation of formal policies and procedures. The CDA should also continue with efforts to apply the quality assurance function to all categories of calls for law enforcement services. The CDA should expand the quality assurance function to address the dispatching function and the time taken by call takers and dispatchers to process and dispatch calls. Efforts should be continued to improve call taker performance when such a need is indicated by the results of the quality assurance reviews. CDA management needs to improve records and methods to ensure all call takers and dispatchers are certified as required by State statute and CDA policy.

Planned corrective measures should be completed for ensuring critical information contained in premises hazards is communicated to responding units.

As part of the process to attract and retain trained telecommunicators, we recommend the CDA conduct exit interviews with terminating employees and take appropriate actions based on useful information obtained through those interviews. Ongoing recruitment efforts to reduce the number of vacancies should be continued.

We recommend the CDA complete the corrective measures planned and being taken to ensure critical information is provided to responding units for those incidents involving locations that have been flagged with

premises hazards. Additionally, the CDA should establish a method/process to track whether established protocol has been followed regarding reporting critical information to responding units for incidents.

The CDA should enhance the process for calculating and determining response times to provide additional information that would be useful for management oversight purposes. Information obtained through those enhancements should be used by CDA and responding agency management in determining and evaluating performance and in identifying areas where improvements should be made.

The CDA should consider enhancing its process for determining response times to provide additional information that would be useful for management oversight purposes.

We would like to thank staff at the CDA, the City ISS Department, TPD, the Tallahassee Fire Department, the Leon County EMS, and the Leon County Sheriff's Office for their assistance and cooperation during this audit.

Auditor Comment. Regarding the CDA, that agency began operations in September 2013, following years of planning by owner staff and officials, the construction of a centralized facility, the installation of what was believed to be an upgrade of a computer system that had been successfully used at TPD for years, and the employment of experienced call takers and dispatchers transferred to the CDA from TPD and the Sheriff's Office. Based on those circumstances, a decision was made that the CDA was ready for operations. In hindsight, one could conclude that a delay in the commencement of CDA operations may have been more appropriate. While it was unclear as to whether a delay would have eliminated some or all of the operational issues described in subsequent pages of this report, a delay would have provided additional time and opportunities for testing the CDA's new technology, the hiring of a permanent director, the establishment of formal CDA policies and procedures, and the training of CDA staff in the application of the policies and procedures. Regardless of whether a delay was or was not more appropriate, the issues and concerns addressed in this audit are correctable and are being addressed, and owner agency and CDA leadership are making appropriate changes to ensure Leon County area citizens will be provided with an enhanced emergency dispatch function.

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Audit of the Tallahassee-Leon County Consolidated Dispatch Agency and Related Motorola Contracts



T. Bert Fletcher, CPA, CGMA
City Auditor

Report #1505

March 16, 2015

Scope, Objectives, and Methodology

The overall purpose of this audit was to address concerns regarding CDA performance in receiving and processing emergency calls.

Concerns were expressed regarding technology and contracts executed to implement that technology.

An ancillary purpose of the audit was to determine the impact technology issues at the CDA had on the implementation of a new Records System at the TPD.

The Office of the City Auditor is an independent appraisal activity within the City organization for the review of operations as a service to management. Accordingly, we periodically respond to requests from the City Commission to independently review processes and procedures and performance and financial activity relative to City-funded programs and functions.

This audit of the recently created Tallahassee-Leon County Consolidated Dispatch Agency (CDA) and related Motorola contracts was conducted as requested by a City commissioner with subsequent approval by the CDA Board (comprised of the City Manager, Leon County Administrator, and Leon County Sheriff). Prior to the initiation of this audit, the City Auditor obtained from the Mayor, other City commissioners, the Leon County Administrator, and the Leon County Sheriff their concurrence with the overall scope and objectives of the audit.

The overall purpose of this audit was to address concerns regarding the performance of the CDA in receiving and processing emergency calls, including the dispatching of appropriate service units (fire, law enforcement, and medical) to address incidents associated with those calls. Some of those concerns related to the performance of technology [the Computer Aided Dispatch and Mobile System (CAD system)] recently implemented to assist the CDA in providing services and to the contracts executed for implementation of that technology. Other concerns related to the performance of CDA staff.

An ancillary purpose of the audit was to determine the impact technology issues experienced at the CDA had on the City's project to implement a new Records System at the Tallahassee Police Department. The Records System is to replace an existing TPD system and will be used to support

TPD case reporting and management, research, administration, and reporting.

To address those concerns we established the following audit objectives:

1. Identify and evaluate the technology issues that have adversely impacted the CDA's ability to efficiently and effectively receive and process emergency calls and dispatch service units based on those calls, and identify actions taken to resolve those issues.
2. Determine the impact technology issues pertaining to the new Computer Aided Dispatch and Mobile System (CAD system) have on the implementation of the new Records System at the Tallahassee Police Department (TPD).
3. Identify and evaluate the contracts with a third-party vendor (Motorola, Inc.) to implement the new CAD system at the CDA and implement the new Records System at TPD. Included as part of this objective was a determination of contract compliance with terms regarding deliverables and payments for services, as well as a determination of the adequacy of certain contractual terms and conditions.
4. Determine if payments for maintenance and support for the various Motorola systems used by the City and the CDA were proper, reasonable, and in accordance with governing contractual provisions.
5. Identify and evaluate the policies and procedures, quality assurance and training processes, and staffing of the CDA.
6. Identify and evaluate the CDA process for informing responding (service) units of pertinent information regarding the locations (premises) to which they have been dispatched.
7. Determine "response times" relating to emergency calls processed by the CDA and compare those times to that of other jurisdictions.

Seven specific audit objectives were established to address the concerns.

The scope of the audit included activity of the CDA since it cutover to a new CAD system in September 2013 and activity relating to two Motorola contracts executed in 2010 for the CAD system and a new TPD Records System.

The scope of this audit included activity of the CDA since it cutover to the new Motorola CAD system in September 2013 through October 2014 (fourteen months). Certain activities occurring after that period through the end of our audit fieldwork in early December 2014 were also addressed by

this audit. The scope also included activity relating to the contracts with Motorola, Inc., (Motorola) for the implementation of the new CAD system and the new TPD Records System. Those contracts were executed in December 2010.

We performed various audit procedures to achieve our objectives, including:

We performed various audit procedures to achieve our objectives.

General

- Identifying, researching, and reviewing:
 - Industry material on public safety emergency dispatch operations.
 - Inter-local agreements between the City and Leon County that established and/or impact the CDA.
 - Pertinent media articles addressing recent events at the CDA.
- Gaining an understanding of:
 - The call taking and dispatch functions at the CDA.
 - The technology and systems used by the CDA.

Technology Issues

- Meeting with staff from the CDA, the City's Information System Services (ISS) Department, and the Leon County Sheriff's Office, as well as Motorola representatives, to:
 - Identify system (CAD and other computer systems) events that have adversely impacted the CDA's ability to efficiently and effectively receive and process emergency calls.
 - Determine the causes, or likely causes, of those events.
 - Determine what actions have been or are being taken to preclude future adverse events.
- Surveying other jurisdictions (public safety dispatch operations) that have implemented the same CAD system as the CDA to determine their experiences for comparison purposes.

We met with staff from the CDA, City, Sheriff's Office, and Motorola as part of determining technology issues and their impacts and current statuses; we also surveyed other dispatch centers to determine their experiences with similar systems used by the CDA.

(NOTE: Our audit did not include technical testing of the hardware and software installed for the new Motorola CAD and Records Systems. Our audit evaluations of those systems were completed with

the assistance of knowledgeable owner staff and, for the CAD System, knowledgeable Motorola staff.)

TPD Records System

We determined the reasons for delays in completing the new TPD Records System and the financial impacts of those delays.

- Meeting with staff in the City's ISS Department and TPD to determine the status of efforts to implement the new TPD Records System and the underlying reasons for delays in completing that implementation.
- Determining the financial impacts to the City as a result of delays in implementation of the new TPD Records System.

Motorola Contracts

We reviewed contracts with Motorola regarding contract deliverables and payments, adequacy of terms and conditions, and change orders.

- Reviewing the two contracts with Motorola for implementation of the new CAD system at the CDA and the new Records System at TPD. For each of those contracts our procedures included:
 - Identifying contract deliverables and determining if required deliverables were received.
 - Identifying payments made to Motorola based on those contracts and determining whether those payments were proper, correct, and in accordance with governing contractual provisions.
 - Determining if certain contractual terms and conditions were reasonable, appropriate, and in the best interest of the applicable entities (i.e., the CDA, City, Leon County, and the Sheriff's Office).
 - Identifying and reviewing change orders to determine if they were reasonable, justified, and properly approved and executed.

We reviewed payments to Motorola for maintenance and support of various Motorola systems implemented at the CDA and City.

Maintenance Payments

- Identifying and reviewing payments made by the City to Motorola for maintenance and support of various Motorola systems used by the City and the CDA to determine if they were proper, reasonable, and in accordance with governing contractual provisions.

CDA Policies and Procedures

- Determining what formal policies and procedures had been established and implemented by the CDA and whether those policies and procedures were in accordance with industry standards.

Quality Assurance

- Identifying and evaluating the CDA's process for monitoring on an ongoing basis the actions and decisions of call takers, including the actions taken by the CDA in response to the results of that process.

Training Processes

We reviewed CDA policies and procedures, quality assurance and training processes, and staffing.

- Determining what training and certifications were required of CDA call takers and dispatchers.
- Determining if the required training appeared adequate and appropriate.
- Determining if CDA staff received the required training and obtained the required certifications.

Staffing

We reviewed the processes for notifying responding units of pertinent information relating to the locations to which they are dispatched.

- Determining the current staffing level of the CDA for call takers and dispatchers.
- Determining the level of experience of CDA call takers and dispatchers.
- Determining staff turnover since the inception of the CDA in the summer of 2013 and comparing that turnover to turnover rates for public safety dispatch agencies in other jurisdictions.
- Determining the starting salary for the CDA call takers and dispatchers and comparing that starting salary to the starting salaries for public safety dispatch agencies in other jurisdictions.
- Determining the hours worked (including overtime) by CDA call takers and dispatchers.

Premises information

- Determining and evaluating the process by which service (responding) units dispatched to incidents are made aware of pertinent information relating to the location to which they are dispatched.
- With the assistance of City and Leon County Sheriff's Office technical staff, determining the extent to which responding units have been made aware of pertinent information relating to the locations (premises) to which they were dispatched.

We calculated CDA response times and compared those times to other public safety agencies.

Response Times

- With the assistance of City and Leon County Sheriff's Office technical staff, obtaining historical data from the CAD and 911 phone systems and calculating times for:
 - Answering 911 calls.
 - Processing of calls by call takers and dispatchers.
 - Responding to the related incidents (i.e., by responding units).
- Comparing the calculated times as described above to times of other public safety dispatch agencies.

We conducted this audit in accordance with the International Standards for the Professional Practice of Internal Auditing and Generally Accepted Government Auditing Standards. Those standards require 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.

Background

The Tallahassee-Leon County CDA was created through inter-local agreements for the purpose of providing citizens a more efficient and effective emergency response process.

Each participating owner agency was delegated specific support responsibilities through the inter-local agreements.

General Overview

Prior to the creation of the Tallahassee-Leon County Consolidated Dispatch Agency in 2013, there were two separate public safety dispatch operations available to the citizens of Tallahassee and Leon County. The Leon County Sheriff's Office operated a dispatch center for law enforcement (Sheriff Deputies) and emergency medical services. The City of Tallahassee Police Department (TPD) operated a dispatch center for law enforcement (police officers) and fire services. In September 2006, for the purpose of providing citizens a more efficient and effective emergency response process, the City of Tallahassee, Leon County, and the Leon County Sheriff's Office entered into a Memorandum of Agreement for the eventual consolidation of public safety communications.

As a result, the Tallahassee-Leon County Consolidated Dispatch Agency (CDA) was created in April 2013 pursuant to a May 2012 inter-local agreement (agreement) between the City, County, and Sheriff's Office. The CDA operates under that initial agreement and subsequent agreements executed by the three entities. Under those agreements, the responsibilities

of each entity were established. Those responsibilities included the following:

- Leon County (County) will provide support for the CDA's telephone system.
- The Leon County Sheriff's Office (Sheriff's Office) will provide support for the emergency 911 system.
- The City of Tallahassee (City) will provide support for the CDA's computer hardware and software for the Computer Aided Dispatch (CAD) system and related systems, to include installation, maintenance, training, and management.
- The City and the County will provide support for the Geographical Information System (GIS) used by the CDA.

The CDA governing board is comprised of the Sheriff, County Administrator, and City Manager.

The May 2012 agreement provided for the creation of a governing board and empowered the Board to hire (and terminate) a Director, adopt a budget, and oversee the CDA. The CDA Board is comprised of the Sheriff, County Administrator, and City Manager. The May 2012 agreement also created a Management Committee to make recommendations for the hiring of the CDA Director and to monitor and review overall operations of the CDA. The Management Committee is comprised of the TPD Police Chief, TFD Fire Chief, County EMS Chief, and a Sheriff's appointee.

A Management Committee was established to monitor and oversee CDA operations and to recommend the hiring of a CDA Director.

Funds to operate the CDA are appropriated by the City, County, and Sheriff's Office pursuant to the May 2012 agreement and a subsequent May 2013 agreement. Specifically, funding for operating costs other than the radio system are to be allocated between the City and Leon County (including the Sheriff's Office) based on the relative percentages of the County population that live inside and outside the City's corporate limits. Operating costs of the radio system are to be allocated among the respective entities based on the proportionate share of radios used by each of the entities. Funding of the CDA for fiscal year 2014 totaled \$7,401,350. Of that total, the City provided \$4,481,528 (61%) and the County and Sheriff's Office provided \$2,325,341 (31%). The remaining funds in the amount of \$594,481 (8%) were transferred in from the City's Fire Services Fee Operating Fund and the County EMS agency. The primary costs of the CDA are for staffing and technology.

Funding for the CDA is appropriated and shared by the City and County/Sheriff's Office; FY 2014 funding totaled \$7.4 million which was primarily for staffing and technology.

The CDA is to be staffed by 100 permanent positions, including 85 telecommunicators (who serve as call takers and dispatchers and provide quality assurance services), 15 supervisors responsible for direct oversight and training of telecommunicators, one quality assurance coordinator, one training coordinator, one administrative staff, and three management staff. Temporary staff are hired as needed to supplement the work performed by the permanent employees.

The CDA operates in the Tallahassee-Leon County Public Safety Complex which was completed and opened in July 2013. In addition to the CDA, the Public Safety Complex houses the County Emergency Medical Services (EMS), City Fire Department Administration, the City Regional Transportation Center, and the County Emergency Operations Center.

The CDA's first Director was hired by the CDA Board and started work in February 2014; several months after the CDA began operations. Prior to the hiring of the Director of the CDA, the CDA was managed by two interim co-Directors appointed by the CDA Board, one from the Leon County Sheriff's Office and one from TPD. The CDA is continuously in operation, seven days a week and 24 hours a day, including holidays.

The current CDA Director was hired in February 2014; several months after the CDA began operations.

Enhanced Dispatch Process

The CDA provides area citizens with significantly enhanced dispatch services compared to the previous separate dispatch operations that were performed independently by the Tallahassee Police Department (TPD) and Leon County Sheriff's Office. The primary benefit to the public under the CDA is that an emergency call for assistance is now received, processed, and dispatched to all appropriate responding agencies (TPD, Tallahassee Fire Department, Sheriff's Office, and EMS Agency) in a single coordinated process; as opposed to past practices in which emergency calls were often transferred (sometimes several times) between the separate dispatch agencies, with each dispatch agency sometimes dispatching responding units to the same incident in separate processes. Specific benefits resulting from the establishment of the CDA include:

- The first person answering an emergency call can provide assistance as there is no need to transfer the call to a different dispatch agency.

The CDA provides area citizens with significantly enhanced dispatch operations when compared to the former processes and operations.

- There is a single “computer aided dispatch (CAD) system” that all responding agencies utilize instead of separate systems, resulting in a more coordinated and effective response effort through facilitated sharing of information and communications. The single CAD system also allows for more efficient technological support of the infrastructure necessary to operate a dispatch agency such as the emergency 911 system, geographical information systems (GIS), paging system (e.g., fire station alarms), and radio system.
- Locating all call takers and dispatchers for all responding agencies in a single room enhances the ability of staff and supervisors to coordinate the response process and increases the level of situational awareness.
- There is one set of radio channels that are utilized by all responding agencies thereby facilitating communications and helping ensure the “closest” available units respond to an incident.

Ultimately, these benefits facilitate shorter and more appropriate responses to emergency incidents.

CDA Operations

The call taking and dispatch functions were included in the scope of this audit; those functions are performed by trained telecommunicators.

Overview: For purposes of this audit, we categorized the emergency response process into three categories including call taking, dispatching, and response. The call taking and dispatch functions are performed by trained telecommunicators (an industry term) who are employees of and located at the CDA. The response function is performed by the agencies to which emergency calls are dispatched and include the Sheriff’s Office, the Tallahassee Police Department (TPD), the Tallahassee Fire Department, and Leon County Emergency Medical Services (EMS). While the call taking and dispatch functions were included in the scope of this audit, the process and procedures regarding how the different agencies respond to incidents following dispatch by the CDA were not included, as those agencies (the Fire Department, the Sheriff’s Office, TPD, and EMS) govern that process and not the CDA.

There are typically six to eight call takers on duty at any point in time.

Call Taking Process: Telecommunicators assigned to the call taking function work at 12 work stations established and designated specifically for that function. On a typical 12-hour shift there are from six to eight telecommunicators working as call takers. The number on duty varies

between day and night shifts and with the number of supervisory staff on duty.

Emergency calls come in through both the emergency 911 phone system and administrative phone lines.

Calls come into the CDA through the 911 emergency (911) phone system and through the separate non-emergency (or administrative) phone system. Both 911 and administrative incoming calls go into a system queue and can be answered by any on-duty call taker. The first available call taker (e.g., not on another call) answers each call as it comes in, with priority given to calls coming in through the 911 system. Calls are automatically answered in the order in which they come in. Several tools are used to facilitate the timely answering of calls, including:

- Audible rings, with 911 calls having a more profound and unique ring so as to easily distinguish them from calls coming in through the administrative phone system.
- Incoming calls are displayed by source on one of five monitors located at each workstation.
- Incoming calls are displayed by source on each of several large screen monitors strategically located throughout the room in which the call takers are located.

Various monitors, screens, and other technology are available to assist in the call taking process.

Both the workstation monitors and large screen monitors show at any point in time the number of incoming calls by type waiting to be answered and the wait time accrued (in seconds) for the oldest call. Those monitors also show the number of call takers available to take incoming calls and the number of call takers currently processing a call (i.e., and not available to take another call until processing of the applicable call is complete).

Multiple trunked lines are dedicated to both the 911 phone system and the administrative phone system to ensure each caller gets through immediately to the CDA. While priority is given to answering calls coming in through the 911 system, call takers also answer calls through the administrative system as soon as possible, as emergency calls often come in through those lines.

Most emergency calls requesting assistance come in through the administrative phone lines.

During the eleven-month period November 2013 through September 2014, CDA call takers answered 412,755 calls, of which 152,543 came in through the 911 system and 260,212 came in through the administrative system. Many calls through the administrative system represent instances where (1)

TPD or the Sheriff's Office call the CDA to request they dispatch a unit to respond to an incident reported directly to them instead of the CDA, (2) other agencies such as the FSU or FAMU police departments call the CDA requesting a unit (from TPD for example) be dispatched for assistance, or (3) an alarm company calls to request a unit be dispatched based on alarm going off at a residence or business or as a result of a medical bracelet/necklace going off. Other calls on the administrative system are administrative in nature (individual requesting information only) and do not result in a responding unit being dispatched.

Those 412,755 calls resulted in the creation of 169,611 incidents in the CAD system for which a responding unit was dispatched and responded to the incident. As noted, many calls do not result in creation of an incident, especially calls on the administrative line that do not pertain to an emergency. Conversely, a single phone call may result in multiple incidents within the CAD system, as a separate incident is created within that system for each agency assigned to respond to the situation (e.g., if TPD, the Fire Department, and EMS each respond to a call, there will be three incidents recorded in the CAD system). For the 169,611 incidents, 38,751 resulted from calls through the 911 system and 130,860 resulted from calls through the administrative system.

Calls to the CDA through either the 911 or administrative system may be made from traditional landlines, cellular (cell) phones, or VoIP (Voice over Internet Protocol) phones. The 911 system is programmed to automatically capture the phone number and address of incoming calls whenever technically possible. That information should always be captured for traditional landline calls. For those cell phone calls where there is an adequate connection between the caller and the cellular tower processing and relaying the call, the system is capable of capturing the phone number and caller location within 150 feet. However, for cell phone calls where the cellular tower connection is not adequate, the location of the caller cannot be determined (only the tower location is determinable). In regard to calls made through a VoIP phone, the system will capture the number and location to which that phone is registered by the caller and related service company. If the phone is registered correctly, the number and correct location will be captured.

During the eleven-month period November 2013 through September 2014, 169,611 incidents were created in the CAD system based on 412,755 phone calls.

Whenever technically possible, the phone number and location of the caller is automatically captured by the 911 system.

Available to the call taker through the CDA phone system are several applications to facilitate the efficient and effective processing of incoming calls in unique circumstances. Those applications include:

- A “language” application that allows the call taker to immediately access and connect to a remote interpreter thereby allowing the call taker to effectively communicate with a caller that does not speak English.
- A Telecommunication Device for the Deaf (TDD), also known as Text Telephone (TTY), that allows a call taker to communicate with a caller, that is deaf or hearing impaired, through typed messages (caller must also have such a device on his/her phone for this process to work).
- A “members menu” that allows the call taker to immediately connect a caller to another jurisdiction as appropriate (e.g., FSU Police Department or dispatch agencies in surrounding counties).

Information captured by the 911 system is transferred into the CAD system; information received through administrative calls is entered into the CAD system by the call takers.

All calls are to be recorded and can be replayed, such as if a caller is hysterical or intoxicated and the call taker needs to repeat the call in an attempt to better understand what the caller said or to listen for background noise for clues as to what happened.

Phone numbers and locations captured by the 911 phone system are transferred automatically into the CDA’s Computer Aided Dispatch (CAD) system. For calls coming in through the administrative system, the phone numbers and locations are typed into the CAD system by the call taker as there is no interface between that phone system and the CAD system.

Incident information captured by the call takers is submitted to dispatchers through the CAD system.

Each call taker workstation has a monitor with a CAD system intake screen. For each emergency call, the applicable call taker first asks the caller the address of the incident and the phone number from which the call is being made. For calls made through the administrative phone system the answers are entered into the CAD system. For calls made through the 911 system, the call taker either accepts the information that transferred into the CAD system from the 911 phone system or retypes it if the caller provides more accurate information as to a more appropriate phone number or location description. After obtaining answers to those two initial questions the call taker asks other basic questions (name of caller and/or description of what happened or is happening). Based on answers to those basic

questions, the call taker makes a decision as to the most appropriate incident type and records the corresponding code for that type into the CAD system incident screen. The call taker then submits that information through the CAD system to a dispatcher (i.e., hits “submit”). That initial submission is termed a “pre-alert.”

Call takers are trained to ask specific questions to classify the incident for dispatch purposes; a special software application is used in that process for certain calls.

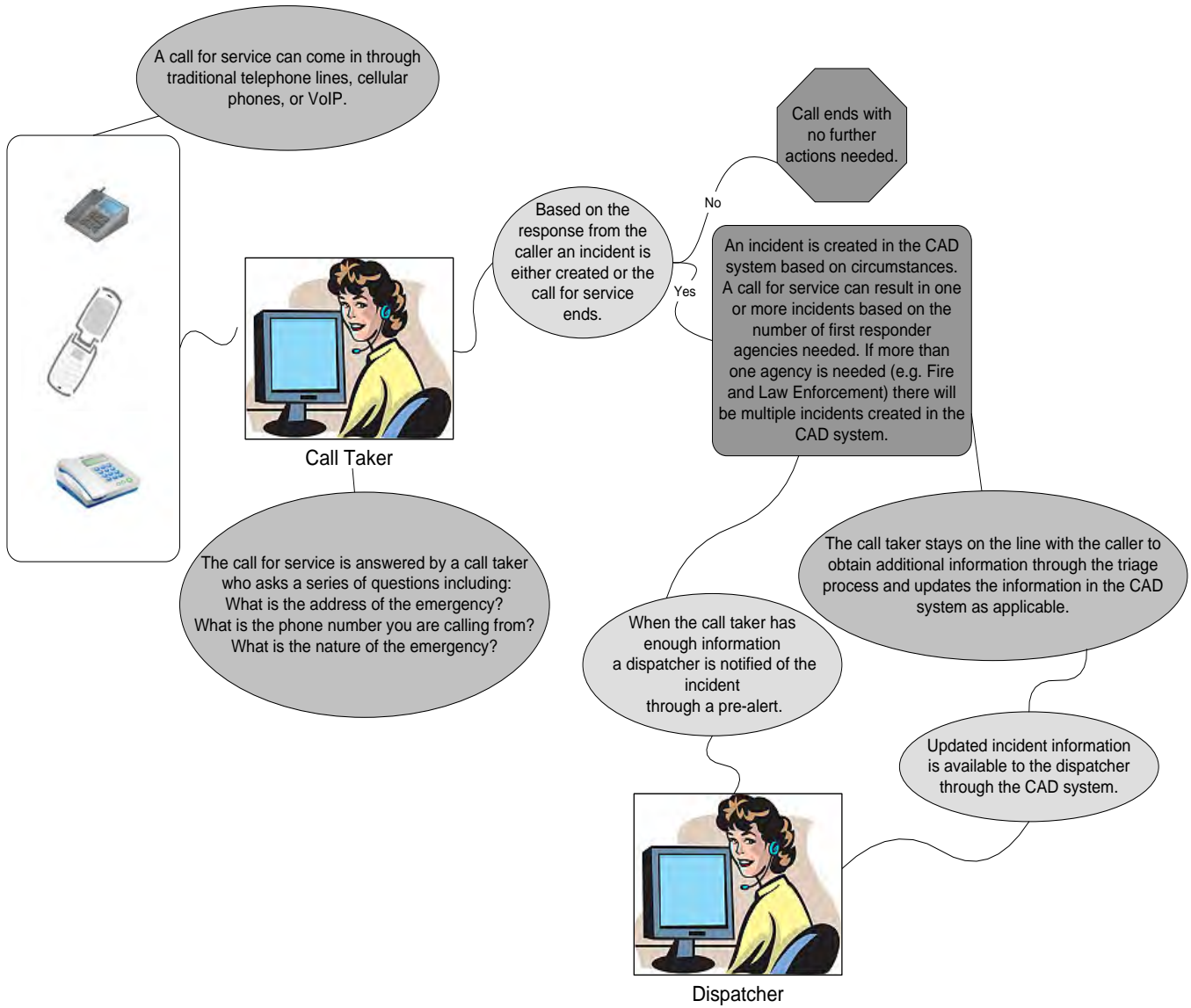
After the pre-alert, the call taker triages the call by asking specific questions of the caller. That process allows the call taker to determine specific facts and circumstances to better prioritize and process the call. Call takers are trained on the questions to ask for each type of call. The questions, and order of questions, are based on industry standards. A software application (ProQA) has been installed to assist the call takers in that process. That application interfaces directly with the CAD system. Based on answers to the triage questions, the incident type will be more specifically defined and updated in the CAD system. That additional information is made available to the dispatchers (and to the responding unit when dispatched) through the CAD system. Currently that software is used only for medical and fire services calls; however, the application has been recently updated for use in law enforcement calls as well.

Each work station has five computer monitors; with each monitor serving a distinct purpose in facilitating the processing of calls.

Each call taker workstation has five computer monitors that are easily viewable by the call taker. The first one displays the emergency phone system information as explained previously. The second monitor is the CAD system incident screen used to initiate an incident and record information on the incident. Two more CAD system monitors allow the call taker to identify available responding units and the status of all current incidents. The last monitor is a GIS screen that depicts the current location of responding units. The latter three monitors are primarily for the dispatch function which is addressed in the following section of this report. However, the information on those screen are sometimes beneficial to a call taker. For example, the call taker can use the GIS monitor to better define an incident location, or to inform a caller of the current location of a responding unit dispatched to a call.

The following exhibit provides a description of the call taking process.

EXHIBIT 1 Call Taking Process



The dispatch function is segregated into three sections; one each for fire, law enforcement, and EMS.

Dispatch Process: The dispatch function is located in the same large room as the call taking function. The functions are located on different sides of the room but are in close enough proximity such that verbal communications between the staffs can be made when necessary or appropriate. The dispatch function is physically segmented into three sections, one each for fire, law enforcement, and EMS. There are two workstations dedicated to dispatching of Fire Department units; five workstations dedicated to dispatching of Law Enforcement units; and two workstations dedicated to dispatching of EMS units. Under normal operations both Fire workstations and both EMS workstations are staffed with dispatchers, and three of the five law enforcement workstations are staffed with dispatchers. Fire dispatchers only receive dispatch requests (or “pre-alerts” as described above) requiring dispatching of a Fire Department unit; Law Enforcement dispatchers only receive dispatch requests requiring dispatching of law enforcement units (Sheriff’s Office or TPD); and EMS dispatchers only receive dispatch requests for EMS units.

Similar to call takers, each dispatcher works at an assigned workstation designed specifically for the dispatch function. Each workstation has five computer monitors to assist in the dispatch function. An overview of the typical dispatch process is as follows:

Dispatchers are initially made aware of an incident through “pre-alerts” submitted by call takers; the pre-alerts provide sufficient information to enable the dispatcher to dispatch an appropriate unit.

Step 1: Pre-alerts are received by the dispatcher from the call takers through the CAD system. As previously described, the pre-alert is basic information regarding an incident obtained by the call taker from the caller. It provides sufficient information such that the dispatcher can identify an appropriate responding unit to dispatch to the scene of the incident. Dispatchers are made aware of a pre-alert two different ways: (1) A unique ping noise on their headsets and (2) one of the five monitors at each workstation shows pre-alerts for which a responding unit has not been dispatched.

Step 2: The first available dispatcher for the type call (Fire, Law Enforcement, or EMS) selects the pending pre-alert (e.g., by double clicking that item on the applicable monitor) and the pre-alert information populates into a CAD system summary incident screen on a different monitor at the workstation. The dispatcher then clicks on a

For each incident, a responding unit is assigned to respond (“dispatched”) through both the CAD system and the radio system.

The status of each responding unit is updated in the CAD system as the unit’s status changes.

Multiple monitors and technology are available to each dispatcher to facilitate the dispatching function.

“dispatch” function key that opens an incident dispatch screen on that same monitor. Based on the basic information recorded in the pre-alert (e.g., incident type and location), the CAD system identifies and recommends the most appropriate available responding unit to respond to that incident. (This is possible as all responding units are included and tracked in the CAD system through interfaces with separate systems, including GIS and the Motorola “mobile system,” which is a component of the overall Motorola CAD system.) The dispatcher can select that unit (or alternatively a different responding unit if appropriate under the circumstances) through a simple keystroke, resulting in the unit automatically being notified through the mobile computers located in vehicles of the assignment to respond.

Step 3: The dispatcher then verbally calls the assigned responding unit through the Motorola radio system to request they respond to the incident and to confirm the responding unit’s receipt of the dispatched assignment through the CAD system. Once the assigned responding units confirms and acknowledges the assignment through radio transmission to the dispatcher, the dispatcher changes the status of the incident in the CAD system to “en route.” Alternatively, the responding units can change the status in the CAD system through the mobile computers installed in their vehicles.

Step 4: After the responding unit notifies the dispatcher it has arrived at the scene of the incident, the dispatcher changes the status of the incident to “Arrived on Scene.” Alternatively, the responding units can change the status in the CAD system through the mobile computers installed in their vehicles.

Step 5: After the incident has been resolved and the responding unit has completed its service, the unit’s status is changed back to “Available” (either by the dispatcher or the responding unit through their mobile computers).

As noted above, there are five monitors at each dispatch workstation. Those five monitors and their purpose/uses are as follows:

- One monitor is used to show pre-alerts pending selection by a dispatcher (described above) and the status of active incidents to which responding units are currently responding (e.g., en route or on scene).

- One monitor is used to track and dispatch a specific incident selected by the dispatcher (described above).
- One monitor is used to show the status of all on duty responding units (e.g., available for response, en route to an incident, arrived on scene, etc.).
- One monitor shows the available radio channels and activity on those channels as to recent transmissions. (Dispatchers can replay those transmissions as necessary.)
- One monitor is a GIS application that allows the dispatcher to view the locations of the incident and responding units.

Standard processes are modified for unique circumstances.

The preceding overview is general in nature for purposes of this report. Modifications to the described process are made based on the category of incident (fire, law enforcement, or EMS). Some of the more significant modifications include:

- For fire services calls, the dispatcher selects the most appropriate fire station to respond instead of a specific fire unit (e.g., tanker, ladder truck, etc.). The CAD system interfaces with a separate system that results in the selected fire station being “toned” (i.e., alarm set off) in addition to the information being dispatched through the CAD system to a printer at the Fire station.
- For law enforcement calls, the dispatcher must first determine which agency (Sheriff’s Office or TPD) should respond. The type and location of the incident determines which agency is the most appropriate to dispatch. For example, for a lower priority call (vehicle accident with no injuries) the Sheriff’s Office will generally be selected if the incident location is outside the City’s corporate limits whereas TPD would be selected for such incidents within those limits. For high priority incidents (e.g., ongoing robbery) the closest available law enforcement unit will be dispatched regardless of agency.
- For EMS calls, additional statuses reported for a responding unit in the CAD system include “en route to” or “currently at” a hospital or similar facility.

For certain incidents more than one agency is dispatched to the scene of the incident.

Priority levels are established and used to classify incidents; incidents requiring immediate dispatch are classified as a higher priority.

The CDA has a backup dispatch process in the event the CAD system is temporarily down and not working.

Multiagency Dispatches: For certain incident types, more than one agency is dispatched to the incident. The applicable pre-alert created by the call taker for such incidents will go to each of the applicable dispatchers. For example, in a vehicle crash involving injuries, the pre-alert will go to a law enforcement dispatcher, an EMS dispatcher, and a fire services dispatcher. As a result, units from three agencies will be dispatched (law enforcement, EMS, and fire) to that incident.

Incident Priority: Each emergency call is designated a certain priority level based on the type of incident as determined and coded into the CAD system by the call taker. There are five priority levels:

- Priority Level 1 – requires immediate dispatch (violent crime in progress, life threatening situation, etc.).
- Priority Level 2 – requires dispatch within 5 minutes from receipt of call (assaults, hazardous traffic situation, traffic crash without injuries, traffic obstructions, missing persons, etc.).
- Priority Level 3 – non-emergency calls for law enforcement (e.g., vehicle thefts, burglaries not in progress, traffic crashes but no hazards).
- Priority Level 4 – any call that may be referred to a duty officer or on-line reporting service and no responding unit is requested to respond (e.g., called in criminal event but no suspect identified such as a stolen bicycle).
- Priority Level 5 – non-emergency calls handled by the Leon County Sheriff's Bailiff Office.

For lower priority calls (i.e., such as levels 3 or 4), the dispatcher may intentionally delay dispatching the incident to a responding unit, or the dispatched responding unit may intentionally delay their response, to allow for more significant calls to be dispatched and/or worked or to allow for a nearby responding unit to be assigned when they complete their response to another call.

Backup Dispatch Process: In those events where the CAD system is temporarily shut down for any reason (e.g., system failure), the CDA has a backup process whereby call takers record pertinent information from emergency callers on a white card and deliver the cards to the applicable

dispatcher (as previously stated call takers and dispatchers are located in the same room). The dispatchers use the information recorded on the white cards to dispatch the incident to responding units through the radio system. As the dispatchers do not have information readily available through the CAD system and/or GIS as to the current status or location of applicable responding units in those circumstances, the dispatcher must work from manual tracking aides and memory (i.e., knowledge as to what units are or should be on duty and/or available) and/or broadcast the incident to all units through the radio system and request an appropriate unit to identify itself as responding to the incident.

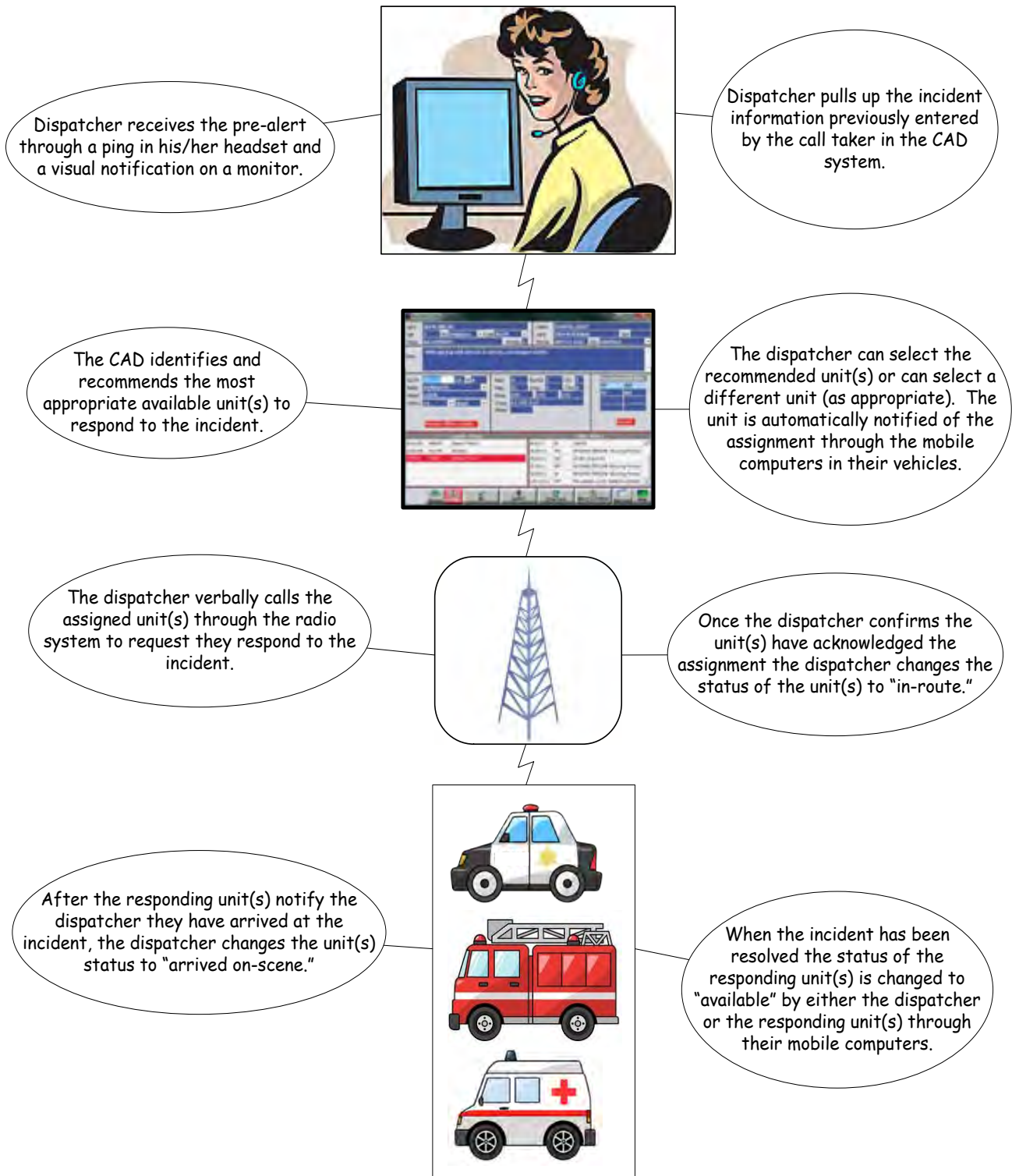
During a recent eleven-month period, the CDA dispatched 169,611 incidents through the CAD system based on emergency phone calls.

During the eleven month period November 1, 2013, through September 30, 2014, the CDA dispatched 169,611 incidents in the CAD system for which (1) the incidents were based on calls received by call takers through the emergency or administrative phone systems and (2) the responding agencies were dispatched and responded to the incidents. (NOTE: Incidents can be created in the CAD system and responding units dispatched based on radio transmissions made by field units to CDA dispatchers, such as TPD patrol officers or Sheriff's deputies. As those incidents do not involve CDA call takers, they were not included in the scope of this audit.) For those 169,611 incidents included in the scope of this audit:

- Fire Department units were dispatched 19,114 times.
- Law Enforcement (TPD or Sheriff) units were dispatched 121,629 times.
- EMS units were dispatched 28,868 times.

The following exhibit provides a description of the dispatch process.

EXHIBIT 2 Dispatch Process



Technology – Emergency 911 System

The action that initiates an emergency response is the call from an individual. As is done throughout the country, the CDA uses an emergency 911 system to allow individuals to immediately connect to a call taker at the CDA.

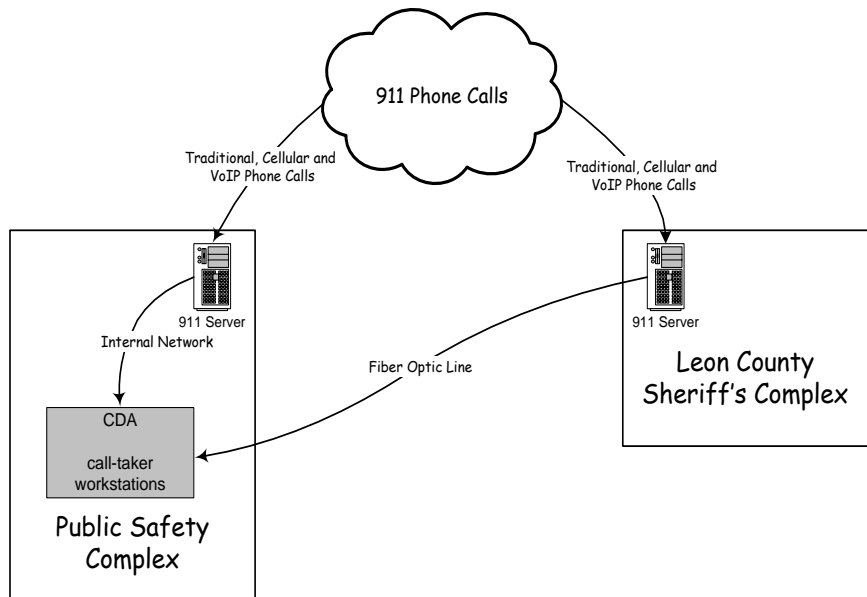
The CDA’s emergency 911 system is maintained by the Sheriff’s Office.

The 911 emergency phone system used by the CDA was acquired by Leon County (on behalf of all owners and the CDA) and installed during the summer of 2013. It was purchased from Cassidian Communications (now Airbus DS Communications) through CenturyLink. It was installed by AK Associates, a contractor of CenturyLink. Leon County has a contract with CenturyLink to maintain that system, and CenturyLink uses AK Associates to provide the maintenance services. Leon County delegated the administration and oversight of that maintenance contract to the Leon County Sheriff’s Office, which is responsible pursuant to the governing inter-local agreement for supporting the 911 emergency system.

Hardware for the 911 emergency system is installed at both the Public Safety Complex where the CDA is located and the Sheriff’s Office Complex. Each location has a server to receive emergency calls. Calls received at either of the two servers are routed to the CDA. The server at the Sheriff’s Office Complex routes calls to the CDA through connecting network lines. The following exhibit provides a description of how the emergency 911 system works.

System servers located at both the Sheriff’s Office Complex and the Public Safety Complex route 911 calls to the CDA.

**EXHIBIT 3
911 System**



Technology - Implementation of New CAD and Mobile System for the CDA

Computer Aided Dispatch (CAD) systems are now commonly used in addition to two-way radio systems to facilitate the emergency dispatch function.

Overview: Technology has allowed the public safety dispatch functions throughout the country to advance to the stage whereby computer systems and applications are now used to enhance the emergency dispatch process. Specifically, public safety agencies now use Computer Aided Dispatch (CAD) systems in addition to two-way radio systems to process emergency calls and to dispatch responding units to the related incidents. A critical component of an overall CAD system is an application that allows mobile computers installed in responding unit vehicles (patrol cars, fire trucks, ambulances, etc.) to interact with the CAD system.

Prior to the creation of the CDA, the Leon County Sheriff's Office and City of Tallahassee each used their own separate CAD systems to process calls and dispatch units. For law enforcement dispatch, the Sheriff's Office used the "Mike Lawrence CAD system" (an older CAD system) and the "InterAct MobileCop system" (mobile component). For EMS dispatch, the Sheriff's Office used the "Zoll RescueNet CAD system" (a mobile component was not used for EMS). The City used the Premier CAD system and Premier MDC system (mobile component), which are products of Motorola, Inc. Both the City and Sheriff's Office dispatch centers used a Motorola radio system in conjunction with their CAD systems.

The owners contracted with Motorola in December 2010 to acquire a new CAD system and necessary radio equipment for the CDA.

Upon the decision to consolidate the City and Sheriff's Office dispatch functions (see page 26 of this report) and based on a consultant's study and recommendation, the three applicable entities (City, County, and Sheriff's Office) entered into a contract with Motorola to acquire and install a new CAD system for the CDA. The consultant recommended the Motorola CAD system as the only system in place that was capable of meeting the requirements of all responding entities (TPD, Tallahassee Fire Department, Sheriff's Office, and EMS). The consultant also reported that the Motorola CAD system (that was used by TPD) was widely used throughout the nation including nine jurisdictions within Florida. The Motorola product purchased was the "PremierOne CAD and Mobile System." Additionally, the contract with Motorola provided for the acquisition and installation of necessary radio system equipment for the CDA.

Pursuant to the applicable inter-local agreement as noted on page 27 of this report, the City was the entity designated to administer and manage Motorola's installation of the new CAD system, related radio equipment, and the applicable contract. To assist the City as the entity responsible for system implementation, an owner project team was established to oversee and work with Motorola in the implementation of the system. Part of the project teams' role was verifying deliverables were provided and milestones met before contract payments were made to the contractor, working with Motorola to identify and address issues as they occurred, and observing system testing and related test results. The project team was comprised of the following staff:

The City is the owner entity designated to administer and oversee the installation of the new CAD system and radio equipment; however, to assist in those efforts a project team was created consisting of members from each owner agency and the CDA.

- Key managerial and technical staff from the City's ISS Department.
- Key technical staff from the Leon County Sheriff's Information Technology (IT) Section.
- Key managerial, supervisory, and operational staff from the CDA.
- Key managerial, operational, and administrative staff from TPD, Tallahassee Fire Department, Sheriff's Office, and EMS.

The contract was executed by the three owner entities and Motorola in December 2010. The total contract price was \$2,438,680. The City's share of that total was \$1,279,340 (52.5%) and the County's share, on behalf of both the Sheriff's Office and EMS, was \$1,159,340 (47.5%). Additionally, the total contract price of \$2,438,680 was allocated between the CAD system (\$1,293,025) and the radio equipment (\$1,145,655). Among other terms and conditions, the contract provided for:

- A "System Acceptance Test Plan" to be reviewed and approved by the owners (City, County, and Sheriff's Office). That test plan was to be designed to demonstrate the ability of the new system and equipment to meet and function in accordance with performance requirements. Testing was to be witnessed by the owners' project staff, with test results reviewed by owner project staff and either rejected or accepted.
- The system to be installed by Motorola staff.
- System training to be provided to owner staff by Motorola.
- Warranty provisions.

The contract price of \$2.4 million was allocated between the City and County; of that total \$1.3 million was for the CAD system and \$1.1 million was for the radio equipment.

- Ongoing system maintenance by Motorola at contractually established prices and in accordance with specified terms and conditions.
- Right of the owners to terminate the contract if Motorola fails to provide an operational system in accordance with the contract or fails to install the system in a timely manner, for which such failure is not due to an excusable delay. Also, in the event this provision is invoked, the owners may continue to use the Motorola system until a replacement system is installed.
- Liquidated damages that can be assessed Motorola in the event the system is not timely installed and final acceptance from the owners timely achieved.
- A performance bond insuring the owners for the full contract price in the event of default by Motorola.

In addition, the contract established deliverables and milestones for which partial contract payments would be made to Motorola as specified deliverables were provided.

The contract provided for the system to be installed and accepted by the owners no later than June 2013; to date (1) the radio system has been installed and accepted and (2) the CAD system has been installed but not accepted by the owners.

Based on the initial contract and subsequent change orders executed for that contract, Motorola was to initially complete the installation and achieve final acceptance of the new CAD system and radio system equipment from the owners by June 4, 2013. Regarding the CAD system, that completion date was amended several times pursuant to change orders, with the final completion date being established as September 30, 2014. Regarding the new radio equipment, the initial contract completion date was not amended, and the completion date for the radio equipment was met. While the CDA cutover to the new CAD system in September 2013 and continues to use that system, final acceptance of the system by the owners has not been achieved as of the close of audit fieldwork in December 2014. This is addressed in further detail on pages 53 through 75 of this report.

Technology - Implementation of New Records System for TPD

In December 2010, the City of Tallahassee contracted with Motorola to replace the TPD Records System (a Motorola system known as InfoTrack) with Motorola's new "PremierOne Records System." The decision was

The City also contracted with Motorola in December 2010 to install a new TPD Records System for \$499,855.

made to implement the new system concurrently with the implementation of the Motorola PremierOne CAD and Mobile System at the CDA. The initial contract price for the new record system was \$499,855.

The Motorola PremierOne Records System provides several capabilities, including:

- Case reporting and management to include, for example, officer reports, witness statement documents, and incident reports.
- Research and investigative support, including information on people, property, vehicles, and other items that is stored in relational databases to allow for efficient record searches and matches.
- Administrative modules (e.g., for managing personnel, training, equipment, etc.).
- Various other modules that can be implemented as needed (e.g., property and evidence, animal control, citations, and impounds).
- System generated managerial and informational reports.

The new TPD Records System was initially to be installed by December 2011.

The project team assigned to implement the new records system was comprised of the following City staff:

- Key managerial and technical staff from the City's ISS Department.
- Key managerial staff and records subject matter experts from TPD.
- Key operational staff (Patrol and Criminal Investigations) staff from TPD.

The contract established deliverables and milestones on which partial contract payments would be made to Motorola as specified deliverables are provided.

To date Motorola has not completed the installation of the new TPD Records System, three years after the initially planned completion date.

The initial contract provided for the new system to be fully implemented and functional by December 31, 2011. That completion date was amended several times with the final completion date being established as July 13, 2014. As of this audit, final completion for that system has not been achieved. This is addressed in further detail on pages 75 through 84 of this report.

Overview - Audit Issues and Concerns

No concerns or issues were identified in our audit to indicate that consolidation of the dispatch function within the Tallahassee-Leon County area was not appropriate.

Various issues and concerns are addressed in this audit.

Our audit did not identify any concerns or issues that indicate the consolidation of the dispatch function within the Tallahassee-Leon County area was not appropriate, or that the expected benefits from that consolidation will not be realized. Our audit did identify issues and concerns which have been proactively addressed by the CDA Board, CDA Director, and owner agencies (City, County, and Sheriff's Office). Many of those issues and concerns had been identified and were being addressed prior to the start of this audit.

In regard to the issues and concerns, we found there have been significant technology issues regarding the new CAD system which impacted the efficiency of CDA operations. We also determined resources assigned to address those impacts by Motorola, as well as other factors, have delayed completion of the new Records System at TPD. We identified areas where contractual provisions for both the new CAD system at the CDA and the new Records System at TPD should have been enhanced to better protect the interests of the applicable owners and the CDA. Our audit also identified overpayments to Motorola of approximately \$50,000.

Additionally, our audit showed the CDA is in the process of establishing formal policies and procedures with plans to obtain appropriate industry accreditation after completion and full implementation of those policies and procedures. We found the CDA has a formal quality assurance function to review emergency calls for fire, medical, and emergency calls involving missing children, and plans to apply that function to calls for all other law enforcement services in the near future. Actions are being taken by the CDA to address concerns identified by that quality assurance function. Areas were identified where the quality assurance process should be expanded. The CDA has a formal training program and requires CDA call takers and dispatchers to be certified in accordance with State statutes and to also obtain and maintain other pertinent certifications. Instances were identified where a few CDA employees were not certified as required. We determined a need for the CDA to improve records and methods used to track employee certifications.

Regarding staffing, we determined CDA staff worked significant overtime, in part, due to a relatively high turnover rate and resulting vacancies in call

taking and dispatcher positions.

We determined there was not an adequate method/process for tracking the opening of critical premises hazards and because of the lack of adequate records, we could not conclude that critical information (e.g., officer safety) is or is not generally being relayed to responding units for applicable incidents. Actions are planned and being taken to ensure critical premises hazards are opened and information relayed to dispatched service units for future incidents.

We calculated CDA response times. Also, response times of public dispatch agencies in other jurisdictions were obtained and reported in an appendix to this report. However, because of variations in methods and systems used by those other dispatch agencies, we did not make any conclusions based on those comparisons of the CDA's response times to those of the other jurisdictions. Recommendations were made to enhance the CDA's determination, analysis, and use of response times.

Each of the above conclusions and related issues and concerns are further discussed in the following sections of the report.

Technology Issues ***(Audit Objective No. 1)***

Within a few months of the CDA's cutover to the new Motorola PremierOne CAD and Mobile System in September 2013, there were several publicized instances where the CDA was temporarily unable to receive and/or process emergency calls because of technology issues. Our first audit objective was to identify and evaluate the technology issues that have adversely impacted the CDA's ability to efficiently and effectively receive and process emergency calls and dispatch service units (fire, law enforcement, and EMS) based on those calls and to identify actions taken to resolve those issues.

Our review showed the applicable instances were attributable to issues in two separate systems, with the first being the emergency 911 system and the second being the new Motorola PremierOne CAD and Mobile System. Most of the issues pertained to the Motorola PremierOne CAD and Mobile System. Our identification and evaluation of those issues are described in the following sections of this report.

Technology issues were attributable to two separate systems; the 911 emergency system and the new CAD system.

Emergency 911 Phone System Issues

Overview: As described in the background section of this report (see page 41), hardware for the 911 emergency system was installed at both the Public Safety Complex where the CDA is located and the Sheriff's Office Complex. Each location has a server to receive emergency calls. Calls received at either of the two location's servers are routed to the CDA. The server at the Sheriff's Office Complex routes calls to the CDA through connecting fiber optic network (network) lines.

Issue Descriptions. Two instances occurred in early calendar year 2014 which resulted in the CDA being unable to receive 911 emergency calls. Those instances and corrective actions taken to resolve the issues are described as follows.

Two instances occurred in early 2014 that temporarily precluded calls from processing through the emergency 911 phone system.

Instance No. 1 – January 24, 2014: The primary network line connecting the server at the Sheriff's Office Complex to the Public Safety Complex, which is located across town from the Sheriff's Office Complex, ran through an underground network line (fiber optic) with a path that parallels Interstate 10 in places. Because of concerns that planned construction near the interstate could sever that network line, Leon County Management Information System (MIS) staff determined it would be appropriate to temporarily "administratively" disable the connection through that path and rely on a secondary redundant network connection that runs through the City's traffic and electric utility network lines. When the construction near the interstate was completed, Leon County MIS staff planned to reconnect the primary network path. (Note: An "administrative" disconnection means the line is disabled through a software command rather than physically disabling the connection.)

The first instance occurred when actions were taken to redirect calls through a secondary network line because of concerns the primary line may be damaged during construction activities.

However, when the connection through the network line running parallel to the interstate was administratively disconnected on January 24, 2014, the County's network became unstable for an unknown reason. Part of that instability precluded the 911 server at the Sheriff's Office Complex from transmitting emergency calls received by that server to the CDA through the secondary redundant network line (i.e., City's traffic and electric utility network lines). Calls received through the 911 server located at the Public Safety Complex were not affected, so those calls continued to be transmitted to the CDA and answered by call takers.

Upon realizing the County's network had become unstable after the administrative disconnection of the network line paralleling Interstate 10, Leon County MIS staff removed that administrative disconnection (i.e., restored the connection through a software command) and subsequently "physically" disabled the connection. That action allowed emergency calls received on the Sheriff's Office 911 server to successfully transmit through the secondary redundant network line and restored the stability of the County's network.

Due to stability issues in the County's network, three emergency calls received through the Sheriff's Office server were not routed to the CDA.

However, when Leon County MIS staff took those actions a secondary issue occurred in that the 911 emergency system no longer recognized those CDA call takers who were logged into the system at the time the primary connection was administratively disconnected. As a result, when the administrative disconnection was removed (and the County's network stabilized) the affected CDA call takers were not able to answer 911 emergency calls. The CDA quickly determined there was a problem as the affected call takers realized calls were coming in (i.e., they heard the unique ping sound) but were unable to answer them. Call takers that had logged into the system after the incident were not affected and were therefore able to receive and answer emergency calls. To remedy that problem the County's maintenance contractor for the 911 emergency system signed each of the affected call takers back into the system using a temporary password. As a result of that action, the affected call takers were able to resume receiving and answering emergency calls.

The review of the events of this instance by the Sheriff's Office Information Technology (IT) section and the maintenance contractor (AK Associates) determined that the time elapsed from the start of the first issue (administrative disconnection) and resolution of the secondary issue (emergency system not recognizing CDA call takers logged in at the time of the first issue) totaled approximately 35 minutes.

Actions were taken immediately to address the issue upon determination of the missed calls.

A determination was also made during this review that there were three emergency calls which the 911 server at the Sheriff's Office Complex was unable to transmit to the CDA during the period the primary connection was administratively disabled. For those calls (1) the CDA was able to verify that the callers had called back and their second calls came through the CDA 911 server and were therefore answered and processed by the

CDA or (2) CDA staff called the numbers and obtained the applicable incident information from the callers as appropriate. The Sheriff's Office IT staff indicated there were no adverse impacts in those three instances, such as further harm to a person or property because of an untimely response.

Several actions were taken to preclude those issues from reoccurring. Specifically:

- The maintenance contractor determined that it will temporarily shut down the Sheriff's Office 911 server during future maintenance activities on the Sheriff's Office 911 emergency system infrastructure, such that all emergency calls will be automatically received and processed by the 911 server located at the Public Safety Complex.
- More significantly, a separate dedicated fiber network was installed November 17, 2014, connecting the Sheriff's Office 911 emergency system infrastructure to the 911 system infrastructure at the Public Safety Complex. The Sheriff's Office indicates that by installation of that dedicated network, the 911 emergency system should no longer be subject to issues or problems associated with other County network connections.

The Sheriff's Office IT and Leon County MIS staffs believe the corrective actions should preclude future incidents of the nature described above. As of the close of our audit fieldwork in December 2014, to our knowledge, there have been no further incidents such as that described above.

Instance No. 2 – February 27, 2014: In accordance with good internal control practices, during shift changes CDA telecommunicators working the current shift each sign off (log out of) the system and each CDA telecommunicator working the subsequent shift sign into (log into) the system using unique access codes (user identification and passwords). However, to ensure uninterrupted service to the public making emergency calls, at least one telecommunicator should be signed into the system at all times. Accordingly, the process of departing telecommunicators signing off and arriving telecommunicators signing in during a shift change should be staggered such that at least one telecommunicator is signed in during the transition.

Permanent corrective actions taken to preclude future instances included installation of a dedicated fiber network between the Sheriff's Office Complex and the Public Safety Complex where the CDA is located.

The second instance occurred because at least one telecommunicator did not remain signed into the system during a shift change and a voice mail option had inappropriately been assigned a call taker.

Additionally, voice mail options within a 911 emergency system should never be selected, as each call should be answered immediately (as soon as possible) due to the nature of the calls (i.e., emergency requests for assistance).

Contrary to the above preferred control practices, during a February 27, 2014, shift change, the following occurred.

- All departing telecommunicators signed off the system before a telecommunicator working the subsequent shift signed into the system.
- Although the Sheriff's Office IT staff is not sure how it happened, the access codes (user account) for the last departing CDA telecommunicator (call taker) logging out of the system had been assigned a voice mail option within the 911 emergency system. Sheriff's Office IT staff stated that option may have inadvertently been activated during periodic system maintenance.

Accordingly, when the affected telecommunicator was the last one to sign out of the system at the end of the applicable February 27, 2014, shift change, and none of the arriving telecommunicators had signed in at that point, the 911 emergency system malfunctioned in that it commenced sending all subsequent calls to a recorded voice mail of the system manufacturer (Cassidian Communications). As a result, emergency calls were not being answered and processed by the CDA (i.e., by the telecommunicators that started working the subsequent shift). The CDA realized there was a problem within 12 minutes when a caller who had been transferred to the Cassidian voice mail called the CDA on an administrative phone line (not part of the 911 emergency system) and reported he received the voice mail when he called 911.

Thirty-one calls were impacted due to this event.

Initially, the onsite maintenance contractor (AK Associates) researched the issue as a potential problem external to the 911 emergency system. However, when the issue was not resolved within a reasonable time frame the Sheriff's Office IT staff requested the maintenance contractor to shut down the CDA server for the 911 emergency system. When that server was shut down, the other 911 server located at the Sheriff's Office Complex started allowing emergency calls through to the CDA call takers. The duration of the event was approximately one hour and 45 minutes. A

Actions were taken to address the issue upon determination of the missed calls.

determination was subsequently made that 31 calls were impacted by this issue.

To preclude this event from occurring again in the future, the following corrective actions were taken:

Corrective actions included reprogramming the software to (1) require at least one telecommunicator to be logged into the system at all times and (2) send 911 calls to the administrative lines in the event the voice mail option is inadvertently checked again.

- The system was programmed such that at least one telecommunicator must be logged into the system at all times, such that all telecommunicators cannot log off at the end of a shift before at least one telecommunicator working the next shift has logged into the system.
- The system was reprogrammed so that in the event a call taker's access code is inadvertently activated for voice mail in the future, the system will automatically route the 911 calls to a CDA administrative line. Administrative calls are also to be answered by CDA call takers in a timely manner (i.e., "as soon as possible")

The noted corrective actions should preclude future incidents of the nature described above. We were informed that as of the close of our audit fieldwork in December 2014, no further incidents had occurred.

No future incidents have occurred and corrective actions taken were reasonable and appropriate.

Audit Conclusions and Recommendations: Due to technical issues impacting the newly installed 911 emergency phone system, there were two occasions where emergency calls could not be received and answered by call takers at the CDA. Based on available records and/or assertions from CDA and Sheriff's Office IT staff, there were three calls that were not answered in the first occasion and 31 calls that were not answered in the second occasion. Upon resolution of the issues and identification of the affected phone calls, the CDA indicated it was successful in contacting all but one of those callers and/or sending a service unit to the applicable locations to determine the circumstances. (The one call for which the CDA did not contact the caller came in on a deactivated cell phone which does not provide a number or location.) Based on those actions, a determination was made for all but one caller that no individuals or property was further harmed due to untimely responses resulting from the technical problems. Reasonable and appropriate corrective actions were taken to prevent similar technical malfunctions in the future. We were informed no incidents have subsequently occurred. Accordingly, no additional actions are recommended.

PremierOne CAD and Mobile System Issues

Overview: As previously stated in this report on pages 42 through 44, the owners executed a contract with Motorola in December 2010 for the acquisition of a new CAD system for the recently created CDA. That new system was the “PremierOne CAD and Mobile System.” The contract cost for the new system was \$1,293,025. The initial contract provided for Motorola to complete the installation and achieve final acceptance from the owners by June 2013. The new system was installed and placed into operation (cutover) on September 17, 2013. Change orders to the executed contract extended the date for final acceptance to September 30, 2014. However, due to ongoing system performance issues, final acceptance of the system has not been provided by the owners.

Due to ongoing system performance issues the City has not provided final acceptance of the new Motorola CAD system.

The initial contract established deliverables and milestones, that when provided and reached would allow Motorola to submit invoices for performance to date and receive corresponding payments by the City on behalf of all owners and the CDA. A description and the current status of those deliverables and milestones are represented in the following table.

Deliverable/Milestone		Payment Due Upon Completion		Deliverable Provided and Payment Made (<i>Date of Payment</i>)
1	Contract Execution	10%	\$129,302.50	Yes (<i>May 2011</i>)
2	Acceptance of Functional System Description, Interface Requirements Document, & Cutover Plan	15%	\$193,953.75	Yes (<i>February 2014</i>)
3	Delivery of Software for Training	15%	\$193,953.75	Yes (<i>April 2013</i>)
4	Delivery of Hardware	15%	\$193,953.75	Yes (<i>April 2013</i>)
5	Installation of Hardware	10%	\$129,302.50	Yes (<i>February 2013</i>)
6	Installation of Software	10%	\$129,302.50	Yes (<i>February 2013</i>)
7	Completion Live Cut to New System	20%	\$258,605.00	Yes (<i>February 2014</i>)
8	Owners' Final Acceptance	5%	\$64,651.25	NO (<i>Note A</i>)
	Total Paid To Date			\$1,228,374.25
	Total Contract Price			\$1,293,025.00
	Remaining Payments			\$64,651.25

Note A: Owners have not provided final acceptance of the system due to ongoing performance issues.

There have been significant system stability and functionality issues regarding the new CAD and mobile system.

Issue Descriptions: Since cutover to the new PremierOne CAD and Mobile System (system) in September 2013, significant system stability (performance) issues have occurred including slow system response and, in several instances, outages (“crashes”) where the system was temporarily not operational. In addition, functionality of the system has not always been adequate. Those functionality issues have at times resulted in inefficiencies in the dispatch process. The most significant and prevalent stability and functionality issues, the resulting impacts, the known or possible underlying causes (if identified by Motorola and Project staff), and actions taken or planned to resolve the issues are described in the following tables. **Table A** addresses the overall system stability issues. **Table B** addresses functional issues primarily impacting the mobile units installed in responding unit vehicles. **Table C** addresses functional issues impacting the CAD system as operated by the call takers and/or dispatchers at the CDA.

TABLE A
System Stability Issues

	Description	Impact	Known or Possible Cause	Actions to Address	Current Status
1.	<p><u>Slow system response</u>: The system does not process activity timely and/or respond timely to system commands. The most recent event occurred October 14, 2014. When these events occur, they have often been followed by a system outage (described in the following item).</p>	<p>CDA cannot process and dispatch calls in a timely manner resulting in potential delays in applicable agencies' responses to incidents.</p>	<p>1. <u>Database server memory capacity was not adequate</u>: The memory within the Motorola installed database servers was likely not adequate to ensure efficient and consistent processing of data. <i>(Also see item #3 below that is related.)</i></p> <p>2. <u>Dissimilar hardware - application servers</u>: Multiple (three) application servers were installed to allow the workload to be distributed among the servers for processing efficiency and to allow the workload to be absorbed by remaining application servers in the event a server becomes overworked and/or distressed (e.g., temporarily down). The system was programmed to automatically transfer the workload to healthy servers when the latter circumstances occur.</p> <p>One of the three application servers is larger than the other two. Motorola agreed the dissimilarity in the server sizes may have contributed to the system distress that resulted in slow system responses and temporary outages.</p> <p>3. <u>System failover issues – database servers</u>: The system is designed such that if the primary database server becomes distressed (e.g., not functioning properly or reaching its workload capacity), the system should “failover” (transfer the work) to a secondary database server. Instances occurred where the primary database server went into a state of distress and the</p>	<p>1. Motorola increased the memory in the database servers on March 27, 2014 (at no cost to the CDA).</p> <p>2. As of October 2014, Motorola was in the process of replacing the two smaller application servers with servers that are the same size as the larger application server (at no cost to the CDA). <i>(The replacements were completed February 4, 2015.)</i></p> <p>3. Motorola increased the memory in the database servers on March 27, 2014 (at no cost to the CDA). Motorola increased system monitoring efforts to help analyze causes.</p>	<p>This has occurred seven times since cutover, most recently October 14, 2014. At this point it is unknown if actions taken and planned to date by Motorola will completely resolve this issue.</p>

TABLE A
System Stability Issues

	Description	Impact	Known or Possible Cause	Actions to Address	Current Status
			<p>failover to a secondary database server did not properly occur. The failover problems were attributed by Motorola, in part, to issues with the servers' memory (capacity) and the proper mirroring of data between the database servers (necessary to allow continuity of operations when a failover occurs). <i>(This item is related to item #1 above.)</i></p> <p>4. <u>Inadequate storage area network (SAN) capacity</u>: The hard drive space available to each server may have been too small for the system.</p> <p>5. <u>System Center Operations Manager (SCOM) not properly configured</u>: The system application to monitor system performance did not function properly to identify and automatically report each system problem as intended by Project staff. As a result, distress in database servers was not properly addressed to ensure efficient and appropriate transfer of workload to other servers. This contributed to system failover issues <i>(see item #3 above)</i> that, in turn, resulted in slow system response and a temporary system outage in January 2014. (Note: Motorola and Project staffs believe another temporary outage likely occurred {in August 2014} because the SCOM was not disabled during a system upgrade. Those staffs indicate the system monitoring application should have been disabled during an upgrade and monitored manually until the upgrade was completed.)</p>	<p>4. Motorola installed additional SAN on March 26, 2014, to increase the storage area (at no cost to the CDA).</p> <p>5. City ISS staff and CDA management required Motorola to disable this monitoring software (SCOM) and to have Motorola staff manually monitor system performance on the application servers until the problem with the SCOM is identified and corrected. Motorola indicated plans are for SCOM to be turned off in any future upgrades. <i>(Motorola indicated the SCOM was subsequently properly configured. As a result, that application was re-implemented November 6, 2014. No subsequent issues have occurred.)</i></p>	

TABLE A					
System Stability Issues					
	Description	Impact	Known or Possible Cause	Actions to Address	Current Status
			<p>6. <u>Cloning calls locking up CAD workstations</u>: A functionality provided by the new CAD system allows call takers and dispatchers to “clone” an existing ongoing call to additional dispatchers and/or responding units. For example, if a call taker or dispatcher determines based on additional information gathered during an emergency call that an EMS unit needs to respond in addition to a law enforcement unit already dispatched, that call taker/law enforcement dispatcher can clone the call (CAD incident) to an EMS dispatcher. The EMS dispatcher would then dispatch an EMS unit to the incident. After a system upgrade to the new system in April 2014, workstations of call takers and dispatchers would sometimes temporarily lockup (freeze up and stop working) for periods up to three minutes after a call was cloned to another dispatcher or responding unit. In those instances, the cloned call also would not timely process to the additional dispatcher or responding unit (i.e., it would take up to three minutes before the cloned call would be received by the intended dispatcher or responding unit). This circumstance was attributed to a programming design issue.</p>	<p>6. Motorola corrected this issue in an upgrade in September 2014. <i>(This circumstance has not reoccurred since the correction.)</i></p>	
2.	<p><u>System outages</u>: All or part of the system freezes up and does not respond to commands and/or shuts down and is not operational. When total outages occur, the entire system has to be shut down and restarted (re-booted) to become operational again. Those remedial actions</p>	<p>CDA call takers must rely on a manual process to record information from callers and relay that information to dispatchers; all information must</p>	<p>(Note: The first six items below are also known or possible causes as identified for Issue #1 above - Slow system response).</p> <p>1. <u>Database server memory capacity was not adequate</u>: The memory within the Motorola installed database servers was likely not adequate to ensure efficient and consistent processing of data. <i>(Also see item #3 below that is related.)</i></p>	<p>1. Motorola increased the memory in the database servers on March 27, 2014 (at no cost to the CDA).</p>	<p>This has occurred nine times since cutover, most recently October 17, 2014. At this point it is unknown if actions taken and planned to date by Motorola will</p>

TABLE A
System Stability Issues

	Description	Impact	Known or Possible Cause	Actions to Address	Current Status
	<p>take from 30 minutes to 90 minutes to be completed. There have been nine total or partial system outages since system cutover in September 2013, with the most recent occurring October 17, 2014. <i>(Note: Subsequent to our fieldwork another outage occurred on December 26, 2014. That outage was attributed to “human error” on the part of Motorola staff when performing system maintenance.)</i></p>	<p>be dispatched to responding units solely through radio transmissions. In certain instances this manual process may lengthen the time to identify and dispatch the most appropriate unit.</p>	<p>2. <u>Dissimilar hardware - application servers:</u> Multiple (three) application servers were installed to allow the workload to be distributed among the servers for processing efficiency and to allow the workload to be absorbed by remaining application servers in the event a server becomes overworked and/or distressed (e.g., temporarily down). The system was programmed to automatically transfer the workload to healthy servers when the latter circumstances occur.</p> <p>One of the three application servers is larger than the other two. Motorola agreed the dissimilarity in the server sizes may have contributed to the system distress that resulted in slow system responses and temporary outages.</p> <p>3. <u>System failover issues – database servers:</u> The system is designed such that if the primary database server becomes distressed (e.g., not functioning properly or reaching its workload capacity), the system should “failover” (transfer the work) to a secondary database server. Instances occurred where the primary database server went into a state of distress and the failover to a secondary database server did not properly occur. The failover problems were attributed by Motorola, in part, to issues with the servers’ memory (capacity) and the proper mirroring of data between the database servers (necessary to allow continuity of operations when a failover occurs). <i>(This item is related to item #1 above.)</i></p>	<p>2. As of October 2014, Motorola was in the process of replacing the two smaller application servers with servers that are the same size as the larger application server (at no cost to the CDA). <i>(The replacements were completed February 4, 2015.)</i></p> <p>3. Motorola increased the memory in the database servers on March 27, 2014 (at no cost to the CDA). Motorola increased system monitoring efforts to help analyze causes.</p>	<p>completely resolve this issue. <i>(Note: Subsequent to our fieldwork another outage occurred on December 26, 2014. That outage was attributed to “human error” on the part of Motorola staff when performing system maintenance.)</i></p>

<p align="center">TABLE A System Stability Issues</p>					
	Description	Impact	Known or Possible Cause	Actions to Address	Current Status
			<p>4. <u>Inadequate storage area network (SAN) capacity</u>: The hard drive space available to each server may have been too small for the system.</p> <p>5. <u>System Center Operations Manager (SCOM) not properly configured</u>: The system application to monitor system performance did not function properly to identify and automatically report each system problem as intended by Project staff. As a result, distress in database servers was not properly addressed to ensure efficient and appropriate transfer of workload to other servers. This contributed to system failover issues (<i>see item #3 above</i>) that, in turn, resulted in slow system response and a temporary system outage in January 2014. (Note: Motorola and Project staffs believe another temporary outage likely occurred {in August 2014} because the SCOM was not disabled during a system upgrade. Those staffs indicate the system monitoring application should have been disabled during an upgrade and monitored manually until the upgrade was completed.)</p> <p>6. <u>Cloning calls locking up CAD workstations</u>: A functionality provided by the new CAD system allows call takers and dispatchers to “clone” an existing ongoing call to additional dispatchers and/or responding units. For example, if a call taker or dispatcher determines based on additional information gathered during an emergency call that an EMS unit needs to respond in addition to a law enforcement unit already dispatched, that call taker/law</p>	<p>4. Motorola installed additional SAN on March 26, 2014, to increase the storage area (at no cost to the CDA).</p> <p>5. City ISS staff and CDA management required Motorola to disable this monitoring software (SCOM) and to have Motorola staff manually monitor system performance on the application servers until the problem with the SCOM is identified and corrected. Motorola indicated plans are for SCOM to be turned off in any future upgrades. (<i>Motorola indicated the SCOM was subsequently properly configured. As a result, that application was re-implemented November 6, 2014. No subsequent issues have occurred.</i>)</p> <p>6. Motorola corrected this issue in an upgrade in September 2014. (<i>This circumstance has not reoccurred since the correction.</i>)</p>	

TABLE A
System Stability Issues

	Description	Impact	Known or Possible Cause	Actions to Address	Current Status
			<p>enforcement dispatcher can clone the call (CAD incident) to an EMS dispatcher. The EMS dispatcher would then dispatch an EMS unit to the incident. After a system upgrade to the new system in April 2014, workstations of call takers and dispatchers would sometimes temporarily lockup (freeze up and stop working) for periods up to three minutes after a call was cloned to another dispatcher or responding unit. In those instances, the cloned call also would not timely process to the additional dispatcher or responding unit (i.e., it would take up to three minutes before the cloned call would be received by the intended dispatcher or responding unit). This circumstance was attributed to a programming design issue</p> <p>7. <u>Failed network configuration change</u>: In an attempt to address the slow system response problem in August 2014, Motorola attempted a network configuration change called a “jumbo frame” that would increase the amount of data that is transmitted in an individual frame (data is broken down and transmitted in individual frames). However, when they attempted to install this configuration, the system went down.</p>	<p>7. The system was shut down and restarted without the jumbo frame configuration. Motorola is investigating the reasons why the configuration change did not work.</p>	

TABLE B
System Functionality Issues – Mobile Units

	Description	Impact	Known or Possible Cause	Action to Address	Current Status
1.	<p><u>Non-functioning law enforcement query tool:</u> One of several interfaces residing on the system application server allows law enforcement officers in the field to access and query State and Federal databases through their mobile devices. For an intermittent period that interface application did not work properly as the system either did not respond to officer queries or provided error messages in response to those queries.</p>	<p>Inability of an officer to access information such as driver license status, vehicle registrations, outstanding warrants, prior arrests, etc. could adversely impact their ability to properly, safely, and timely assess an incident. In instances where the query tool did not work, the affected units had to use a less efficient process involving radio transmissions to request CDA dispatchers to conduct such queries on the unit's behalf and to then relay the results.</p>	<p>Interface programming was incorrectly overwriting the file that performs the query transformation.</p>	<p>Motorola corrected the interface programming in March 2014.</p>	<p>Corrected. <i>(This issue has not reoccurred since the correction.)</i></p>
2.	<p><u>Multiple messaging adversely impacting mobile devices (Red X issue):</u> The system is designed to allow dispatchers to broadcast a single message to all units through their mobile devices simultaneously. An example is a "BOLO" (be on the lookout for a certain person, vehicle, etc.). After cutover to the new system, such messages were successfully received by units that were currently logged into the system at the time of transmission. However, for units that were logged out (e.g., not on duty) at the time of the message transmission, the mobile devices could not acknowledge receipt of the message. Accordingly, the system repeatedly sent the message to those units in an attempt to get acknowledgement of receipt from those units. Those repeated unsuccessful attempts caused the client applications on those mobile devices to stop working properly. When the affected units logged into the system after such an event, their mobile devices did not function</p>	<p>Affected field units were not able to use their mobile devices to access messages without logging out and then back into the system.</p>	<p>Programming design issue.</p>	<p>Motorola corrected this issue in an upgrade in May 2014.</p>	<p>Corrected. <i>(This issue has not reoccurred since the correction.)</i></p>

TABLE B
System Functionality Issues – Mobile Units

	Description	Impact	Known or Possible Cause	Action to Address	Current Status
	properly, often displaying a red “X” on the screen. (NOTE: This issue applied to TPD and not to the Sheriff’s Office or EMS units as those entities did not use this specific messaging function.)				
3.	<u>Automatic screen update feature not working:</u> The system was designed to provide an automatic update to the current status of all field units every 60 seconds; meaning every minute the screen monitor showing the status of field units was updated (refreshed) to show the units’ current status. This functionality within the mobile devices in field units does not always work. (NOTE: This issue applied to TPD and not to the Sheriff’s Office or EMS units as those entities did not employ this function.)	Field unit statuses include, for example, (1) available to respond to a call, (2) en route to a dispatched call, (3) at the scene of an incident to which dispatched, or (4) currently unavailable. That information assists field units and their supervisors in tracking the status of other units in an area (e.g., helpful if backup assistance is needed). Accordingly, when the screens on the mobile devices do not update properly, the affected field units and supervisors must rely on radio transmissions to determine the status of other units.	Programming design issue (relates to same design issue in previous item above).	Motorola corrected this issue in an upgrade in May 2014.	Corrected. <i>(This issue has not reoccurred since the correction.)</i>
4.	<u>Incorrect field unit logoff status:</u> In some instances, when field units logged off the system through their mobile devices, the system incorrectly continued to reflect them as logged in and available to respond to calls. (NOTE: This issue applied to TPD and not to the Sheriff’s Office or EMS units as those entities did not employ this function.)	CDA dispatchers could continue to select and attempt to dispatch those unavailable units (e.g., off duty) to incidents. Dispatchers only became aware the units were not available when the units did not acknowledge radio transmission sent by dispatchers to confirm the attempted dispatch. This could possibly delay the actual response to the incident.	Programming design issue	Motorola corrected this issue in an upgrade in March 2014.	Corrected. <i>(This issue has not reoccurred since the correction.)</i>
5.	<u>Screen customization feature not available for mobile units:</u> Although a feature intended to be part of the new system, field units currently are not able to customize the displays of information on their mobile devices. When an attempt was made to install the customization feature in a test environment, the applications within the applicable mobile device stopped working properly and had to be re-installed.	Field units are not able to customize the mobile device screens to best accommodate their needs.	Programming design issue	Currently using standard screens without customization features. As of November 6, 2014, Motorola was working on a permanent solution to correct this issue.	Not corrected as of October 2014.

TABLE B
System Functionality Issues – Mobile Units

	Description	Impact	Known or Possible Cause	Action to Address	Current Status
6.	<u>Field units not displayed in GIS:</u> When the CDA initially cutover to the new system in September 2013, one interface was not configured correctly to ensure all field units were displayed on the GIS/GPS screens for the CDA call takers and dispatchers.	Call takers, dispatchers, and unit supervisors were not able to use the GIS/GPS screen to view the current location of affected field units. Reliance had to be placed on radio transmissions to determine their current location.	Incorrect provisioning configuration (system setup) by Project staff. Project staff indicated Motorola did not provide adequate assistance and instruction in the configuration of the interface.	Motorola provided assistance and instruction to Project staff to correct the configuration in January 2014.	Corrected. <i>(This issue has not reoccurred since the correction.)</i>
7.	<u>Slow system log in times:</u> During the implementation and related testing of the new system prior to the cutover (go live) in September 2013, Project staff determined unexpected delays (up to seven minutes) in successfully logging on to the new system through mobile devices used by the Sheriff's Office. While the underlying problem was identified by Motorola immediately prior to the cutover, a solution was not determined and implemented until three months after the cutover. Accordingly, for the first three months, responding units of the Sheriff's Office experienced delays in gaining access to the new system when logging on after reporting to work.	Delays in gaining access to the system, in turn, delayed affected units ability to use the system.	Incorrect provisioning configuration (system setup) by Project staff. Project staff indicated Motorola did not provide adequate assistance and instruction in the configuration.	Motorola provided assistance and instruction to Project staff to correct the configuration in March 2014.	Corrected. <i>(This issue has not reoccurred since the correction.)</i>

TABLE C
System Functionality Issues – CAD

	Description	Impact	Known or Possible Cause	Action to Address	Current Status
1.	<p><u>Triage information not properly interfacing into CAD</u>: Information captured by call takers in the ProQA triage application did not always transfer over to the CAD screens observed by the dispatchers. In some instances none of the information transferred, in some instances part of the information transferred, and in other instances all the information transferred but was not reflected on the dispatchers’ screens.</p>	<p>Inconsistent and/or incomplete transfer of information from call takers to dispatchers may hinder the ability of the dispatcher to dispatch the most appropriate unit (or units) to an incident.</p> <p><i>(This was cited in the CDA Director’s internal report on the Merkel incident as a factor contributing to the delayed response in that event. Specifically, some of the data and answers to questions entered into ProQA by the call taker after the pre-alert had been sent to the EMS dispatcher did not transfer over into CAD. As those data and answers did not transfer, the dispatcher was not aware of the change in status from “man down” to “gunshot.” The call taker eventually saw this in his CAD screen and verbally informed the dispatcher of the change in circumstances {i.e., oral communication made across the room}).</i></p>	<p>Inadequate interface design.</p>	<p>Motorola developed a system patch to correct the issue in the new triage application (Paramount) implemented in early November 2014 to replace the ProQA triage application.</p>	<p>Corrected with system being monitored to ensure no future incidents.</p>
2.	<p><u>Cloning calls freezing up CAD workstations</u>: A functionality provided by the new CAD system allows call takers and dispatchers to “clone” an existing ongoing call to additional dispatchers and/or responding units. For example, if a call taker or dispatcher determines based on additional information gathered during an emergency call that an EMS unit needs to respond in addition to a law enforcement unit already dispatched, that call taker/law enforcement dispatcher can clone the call (CAD incident) to an EMS dispatcher. The EMS dispatcher would then dispatch an EMS unit to the incident.</p>	<p>Affected call takers and dispatchers were unable to use the CAD system during the lockup to continue processing emergency calls. New incoming calls had to be handled by unaffected call takers/dispatchers or the affected call takers and dispatchers had to rely on oral communications (between call takers and dispatchers) or radio transmission to conduct business.</p>	<p>Programming design issue.</p>	<p>Motorola corrected this issue in an upgrade in September 2014.</p>	<p>Corrected. <i>(This issue has not reoccurred since the correction.)</i></p>

TABLE C
System Functionality Issues – CAD

	Description	Impact	Known or Possible Cause	Action to Address	Current Status
	<p>After a system upgrade to the new system in April 2014, workstations of call takers and dispatchers would sometimes temporarily lockup (freeze up and stop working) for periods up to three minutes after a call was cloned to another dispatcher or responding unit. In those instances, the cloned call also would not timely process to the additional dispatcher or responding unit (i.e., it would take up to three minutes before the cloned call would be received by the intended dispatcher or responding unit).</p> <p>(Note: This issue is also included in Table A above as a contributing factor to slow system response and temporary system outages.)</p>				
3.	<p>Multi-Beat feature not working: A feature included in the purchased PremierOne CAD system is a system generated recommendation of a specific field unit to respond to a call. For example, for an EMS incident, the system should identify the closest available and appropriate EMS unit to respond based on the information recorded by the call taker (type and location of incident) and recommend that unit on the CAD screen to the dispatcher. The process is the same for a law enforcement call/incident, except for those areas served by both the Sheriff’s Office and TPD (e.g., within the City corporate limits). For those areas (multi-beats), the system is supposed to first provide a prompt for the dispatcher to select either a Sheriff’s Office unit or a TPD unit to respond to the incident. Based on the type and location of the incident, the dispatcher is to select the appropriate agency (Sheriff or TPD). After that selection is made, the system is to recommend a specific unit</p>	<p>Dispatchers must manually review the available units on the CAD and/or GIS screens to locate and determine the most appropriate unit to respond. Alternatively, the dispatchers must make a radio transmission to all units requesting a unit to identify it as available to respond to the incident.</p>	<p>Programming design issue.</p>	<p>Motorola developed a temporary “workaround” which allow the dispatchers to provide the prompt for either a Sheriff’s Office or TPD unit through additional steps (keystrokes and screens). A permanent solution was subsequently developed by Motorola and included in the system upgrade installed in early November 2014.</p>	<p>Corrected with system being monitored to ensure no future incidents.</p>

TABLE C
System Functionality Issues – CAD

	Description	Impact	Known or Possible Cause	Action to Address	Current Status
	<p>from the selected agency (Sheriff or TPD) to respond.</p> <p>The described features worked from the cutover in September 2013 through May 2014. However, since an update to the PremierOne CAD System was installed in May 2014, the system sometimes no longer provided a prompt for the dispatcher to select either a Sheriff’s Office unit or a TPD unit for those areas served by both agencies. As a consequence, absent the dispatcher’s designation of an agency, the system would not recommend a specific unit for response.</p>				
4.	<p><u>Ghost/phantom calls</u>: The CAD system inappropriately sometimes reassigns recently dispatched calls (for completed incidents) to a specific field unit as a “new” call for that unit. This appears to happen without any actions by call takers or dispatchers. This has occurred since August 2014.</p>	<p>Because affected field units are incorrectly shown as on a call, neither the dispatchers nor the system identifies those units as currently available to respond to an actual call. Those circumstances could potentially adversely impact response times for incidents if the field units incorrectly shown as not available are the most appropriate unit to respond to an actual call/incident.</p>	Unknown.	Motorola is investigating to determine cause.	Not corrected as of early November 2014.

The owners have been proactive in working with the contractor to address and resolve CAD system issues.

At the owners' request, Motorola supplied additional experienced staff to address system issues.

The owners submitted a letter to Motorola in June 2014 addressing concerns with the new system and the resulting adverse impacts.

Actions Taken to Address Known Technology Issues: In addition to the individual actions taken to address the specific issues identified in the preceding tables, we found the owners (through the City as the entity responsible for the implementation of the PremierOne CAD and Mobile System) have been proactive in working with and communicating with the contractor (Motorola) to address and resolve the issues. Specifically:

- In addition to enhancing owner (City, County, and Sheriff's Office) and CDA staff efforts and time on the project, the owners requested and Motorola supplied additional resources to the project. This included experienced program managers, system technicians, and a Motorola executive. That additional staff has been onsite at the CDA to work on the system performance issues.
- The owners increased the frequency of meetings involving owner, CDA, and Motorola project staff to determine and monitor actions to resolve the system performance issues.
- The owners informed Motorola in a June 24, 2014, letter that the new PremierOne CAD and Mobile System had been sold to the owners as an upgrade to the Motorola CAD and mobile system used by TPD prior to the establishment of the CDA, when it actually was a new system and not an upgrade. (Project staff indicated the determination it was a new system and not an upgrade was made in early calendar year 2012 when Motorola started training project staff for configuration and provisioning of the new system.) The letter also stated there had been significant system performance issues, ranging from poor performance to complete system failure (e.g., temporary outages), and provided that there had been other adverse consequences because the City, County, and Sheriff's Office had to devote unplanned resources (staff) to assist in troubleshooting system problems. Further, the letter stated that the PremierOne CAD and Mobile System issues had contributed to the delays in the implementation of the PremierOne Records System at TPD. The letter also requested certain financial considerations from Motorola as a result of the system performance issues and related impacts. Based on discussions with owner staff, Motorola did not submit a written response to the letter but did engage in discussions

with the owners on those matters. No agreement providing reimbursement to the owners was reached.

The owners provided Motorola a proposed contract amendment in October 2014 that would establish terms and conditions for satisfactory resolution of system performance issues and provide a course of action if issues are not timely resolved.

As of late February 2015, negotiations between the owners and Motorola were still ongoing.

We surveyed five other dispatch agencies that implemented the Motorola PremierOne CAD and Mobile System.

- Subsequent to the June 24, 2014, letter and resulting discussions with Motorola, the owners (through the City) developed and provided Motorola on October 16, 2014, a proposed contract amendment that would establish terms and conditions for satisfactory resolution of the system performance issues and provide a course of action in the event those issues are not timely resolved. Among other provisions, the proposed amendment provides that the PremierOne CAD and Mobile System must be operating properly without issues no later than June 30, 2015, or the owners may elect to procure a different CAD system from another supplier; and, if that option is elected, that Motorola will (1) continue to support the PremierOne CAD and Mobile System until a new system is installed and accepted by the owners and (2) refund the entire contract price to the owners. The proposed amendment also provides that if the owners retain the PremierOne CAD and Mobile System, Motorola would fund a system administrator to be hired by the owners for that system. (A system administrator position was not anticipated as needed when the system was initially acquired.) Correspondence dated December 2, 2014, from Motorola indicated that Motorola may not be agreeable to the terms of the proposed amendment. Motorola contended that based on certain contract provisions, the owners have granted "final acceptance" of the new system. However, the owners maintain that no formal "final acceptance" has been granted by the owners as provided in the contract and Motorola has not billed the owners for amounts due upon the granting of that final acceptance. (As of February 25, 2015, negotiations between Motorola and the owners were still ongoing.)

Survey of Other Dispatch Agencies: As part of our audit we identified and surveyed (by phone) five other dispatch agencies across the nation that also implemented a version of the Motorola PremierOne CAD and Mobile System. We asked questions to determine their experiences with the implementation and use of that system at their dispatch agencies. When available, we also reviewed information found online regarding the surveyed dispatch centers and their experiences. The experiences and responses varied, as shown in Table 2 below.

TABLE 2
Survey and Research of Other Dispatch Agencies

		Kent County Michigan Dispatch Authority (serves two dispatch centers)	Dakota Communications Center (serves 11 municipalities and related county; located in Minnesota)	City of Ventura, California Police Department Command Center	Metro Nashville Emergency Communications Center (Tennessee)	Will County Illinois 911 System (serves six dispatch centers)
1.	Annual Emergency Call or Incidents (most recent available data)	267,628	172, 356	82,000	Greater than one million	700,000
2.	Service Agencies Dispatched	Fire, Police, and Sheriff	Fire, Police, Sheriff, Medical	Police	Police, Fire, and Medical	Police, Sheriff, Fire, Medical, and Forestry
3.	System Implemented	CAD and mobile	CAD and mobile	CAD and mobile	CAD only (retained existing mobile system)	CAD and mobile
4.	Date System Implemented (Cutover Date)	December 2012	December 2011	2009	September 2010	November 2014
5.	Description of Experience with Implementation	“Rough start but all problems eventually resolved.”	Because of major system stability issues, the system was discarded subsequent to implementation; the dispatch center reverted back to the former CAD system.	Overall the implementation went well; only experienced normal and expected issues for a new system.	Good experience with no unexpected circumstances.	“OK” but experienced intermittent system slowness that cannot be explained; also one system interface does not work correctly.
6.	Experience System Stability Issues	YES – Temporary system outages and work stations freezing up; last outage a few months ago but outages are not as frequent as they once were.	YES – Slow system response times and complete system failures (outages).	NO	NO	YES – System intermittently slow (but no outages).
7.	Motorola work to resolve issues	YES – Motorola helped to resolve issues.	Not addressed, but based on dispatch agency meeting minutes, there was significant frustration with the system.	YES - all issues resolved within 4 months.	YES – Motorola worked well to address issues.	YES – But not as responsive as agency would like.
8.	System currently stable and working properly	YES – Not as many stability issues; but still an occasional	Not Applicable.	YES	YES	Not determinable at this point as just cutover to system in

		freezing up of workstations; last temporary outage occurred three months ago.				November 2014.
9.	Satisfied with the system	YES, but frustrated with some of the stability problems and length of time to resolve technical problems.	NO – System discarded.	YES	YES	Not sure at this point as just cutover to system in November 2014; however, so far the system is not as stable as the former system.
10.	Rating of system performance on scale of 1 to 10 (with 1 the lowest level of satisfaction and 10 the highest level of satisfaction)	5	System discarded.	8 to 9	9	6.5 (At this point)

As shown by the table, there were mixed results and reactions by the five surveyed agencies. Two of the agencies indicate their implementation went well and that, overall, they are satisfied with system performance. Two other agencies indicate that, while they are somewhat satisfied, there have been significant system performance issues. The last agency was dissatisfied with the system and discarded it after incurring significant performance issues and reverted back to its former CAD and mobile system. In conclusion, there are other dispatch centers within the country that have incurred significant performance (system stability) issues with their Motorola PremierOne CAD and Mobile System that are similar to the issues experienced by the Tallahassee-Leon County CDA. From the information available to us, we could not determine why some jurisdictions reported problems similar to those experienced by the CDA, while others did not. However, the different operating environments within the surveyed agencies likely impacted whether significant system performance issues occurred or did not occur. For example, different levels of activity (e.g., number of incidents processed) as well as different configurations, and functionality may have impacted whether system performance issues occurred in the surveyed agencies.

Our survey showed some other public dispatch agencies experienced similar system problems as the Tallahassee-Leon County CDA while other agencies did not.

Owner project staff reviewed implementation of the new Motorola CAD system by another customer.

[NOTE: The Motorola PremierOne CAD and Mobile System is a relatively new product. The first agency in the nation to implement the system was the City of Ventura, California Police Department Command Center in 2009. The second was the Metro Nashville Emergency Communications Center in 2010. Both were included in the surveyed agencies as shown in Table 2 above. As part of its risk assessment for implementation at the CDA, owner project staff traveled to Nashville, Tennessee in December 2012 to review the implementation of the Motorola PremierOne CAD System by the Metro Nashville Emergency Communications Center. As shown in the table, that agency, as well as the City of Ventura, did not experience significant technical or performance issues. Also, as previously noted in this report, the owners (City, County and Sheriff) executed the contract for the PremierOne CAD and Mobile System in December 2010. Implementation by other agencies that experienced significant technical issues as shown in the table occurred after the owners executed the contract with Motorola and commenced implementation of the new system at the CDA. Accordingly, it was not possible for the owners to have benefitted from additional reviews of other agencies' experiences with the new system prior to the acquisition of the new system. Our survey and research of the other agencies was done for informational purposes only.]

Enhanced testing may have identified the significant performance issues prior to cutover to the new system.

System Testing: As required by the contract, system testing was done throughout the implementation. Included in that testing was a final test on September 11, 2013, (six days prior to cutover) involving emergency calls to multiple responding units to ascertain whether the system would properly function. As asserted by City ISS Project staff and documented in project records, that testing did identify some performance and functionality issues but those issues were corrected prior to cutover. However, those and other tests done throughout implementation of the system did not identify the significant system stability and functional issues subsequently experienced by the CDA. Many of those issues did not surface until the system had been running for an extended period, thereby indicating the performance issues may be attributable to the capability of the new system to efficiently and effectively process the data load (data volume) under which the CDA operates.

We acknowledge that it is not practicable or reasonable to take a significant number of responding units out of service to allow "load testing" for an

extended period of time. Notwithstanding that circumstance, appropriate load testing in a simulated environment prior to cutover to the new system may have disclosed the potential for the significant performance issues that occurred after cutover.

System Selection: In the fall 2010 evaluation of what systems should be installed at the new Consolidated Dispatch Center (CDA), owner representatives (i.e., staff from the project team and affected owner departments) determined the former Motorola CAD system used by TPD for law enforcement and fire services had performed adequately and satisfactorily. The owner's representatives understanding at that time was the CAD system as used by TPD was being discontinued and replaced with a newer version of that system (PremierOne CAD System). It was the owner representatives understanding that the new version was an upgrade to the current system and not a new product (system). Accordingly, based on Motorola's proposal to implement the new version at the CDA and a third-party consultant's recommendation in 2008 to implement a Motorola CAD System as used by TPD (see page 42 of this report), the owner representatives recommended and the City Commission approved implementation of the PremierOne CAD System at the CDA.

Hindsight shows that a different process would have been more appropriate for the identification and selection of the most appropriate CAD system for the CDA.

Owner representatives determined subsequent to contract execution that the new PremierOne CAD system, in their opinion, should be more accurately described as a new system, and not an upgrade to the former CAD system as used by TPD. That determination was made in early 2012 when Motorola began providing training to owner project staff on how to configure and provision the PremierOne CAD system at the CDA. At that point, the contract had been executed and the system purchased. As indicated in Tables A, B, and C on previous pages of this report, significant stability and functionality issues occurred subsequent to the implementation of the PremierOne CAD system at the CDA.

In hindsight, had the owners been aware that the system was more than a typical upgrade to the former CAD system used by TPD, a different risk analysis and selection process would have been appropriate. Specifically, under those circumstances, we believe it would have been more appropriate for owner representatives to have considered additional systems for implementation at the CDA, and to have issued a formal request for

proposals (RFP) from vendors capable of providing such systems. We acknowledge that, if a RFP process had been followed, it is possible the Motorola PremierOne CAD and Mobile System may still have been selected based on information available at that time. Notwithstanding that circumstance, if a RFP process had been followed the owners could have, in essence, acknowledged and better addressed the risk associated with implementation of a “new” and relatively unproven system. Additionally, the owner’s would have been afforded the opportunity to identify and consider alternative systems for implementation.

Because of the significant system issues the owners have not provided final acceptance of the system.

Audit Conclusions and Recommendations: In summary, it can be concluded that the owners acquired in December 2010 a new system product for the CDA that had not been fully proven by Motorola through extensive experience acquired through multiple implementations. PremierOne CAD and Mobile System technical issues have adversely impacted the CDA’s ability to efficiently and effectively receive and dispatch emergency calls. In some instances, the system has temporarily “crashed” and the CDA had to use a backup process where call takers record pertinent incident information on white cards and deliver those cards to the dispatchers. As a result of the performance issues, the owners have not granted Motorola final acceptance of the system. The owners and Motorola have committed additional resources to address and rectify those issues. Notwithstanding those actions, resolution and correction of the issues has been difficult and time consuming.

Appropriate load testing in a simulated environment prior to cutover to the new system may have detected at least some of the technical issues adversely impacting system performance. Also, hindsight shows that if the owners had known that the acquired system was new and relatively unproven, an enhanced risk analysis would have been warranted and likely resulted in more systems being identified and considered through a competitive selection process.

The owners should continue working with Motorola to resolve remaining system issues.

As of the end of our audit fieldwork in mid-December 2014, there was indication many of the technical issues appear to have been resolved by Motorola as there have been no reoccurrences since corrective actions were taken for those issues. *(Note: On December 26, 2014, subsequent to our audit fieldwork, another system outage occurred. That outage was*

If system issues are not resolved in the near future, the owners should consider seeking contractual remedies.

Consideration should be given to using a qualified third-party consultant to assist in future implementations of critical systems.

A formal competitive selection process should be used for future systems.

attributed to “human error” on the part of Motorola staff when performing system maintenance.) We recommend the owners continue to work with Motorola to resolve remaining technical and performance issues. In the event the significant issues are not resolved in the near future and/or additional significant system stability or functional issues occur or reoccur, we recommend the owners negotiate a fair and appropriate contract amendment providing for (1) a deadline for resolution of remaining system performance issues; (2) restitution to the owners for any adverse financial impacts resulting from the system performance issues (e.g., cost of a system administrator position to manage the system after Motorola technical staff are no longer onsite); and (3) a remedy in the event the owners determine it is in the CDA’s best interest to discard the PremierOne CAD and Mobile System and acquire and install a replacement system, to include Motorola providing continued support of the PremierOne CAD and Mobile System until such time a replacement system is in place and operational.

Additionally, if the outcome of those efforts are not successful and system instability issues continue, the owners should consider exercising their right to submit a claim to the applicable surety company invoking the provisions of the contractually required performance bond that guarantees Motorola’s performance (i.e., to provide an acceptable system). Provisions of that bond provide for reimbursement to the owners if Motorola defaults on the contract.

In future circumstances where systems critical to the public’s health, safety, and welfare are being acquired and implemented, we also recommend the owners:

- Consider hiring a qualified third-party consultant to assist designated project staff oversee and administer the implementation and configuration of the system, to include assistance in the development and performance of adequate and appropriate testing of the system.
- Conduct enhanced determinations and risk analyses as to the systems (products) available and the proven performance (“track record”) of those available systems; and, use the information obtained in those determinations and analyses as part of the process in identifying and selecting the “best” system.

- Use a formal competitive selection process (e.g., RFP process) to identify and select the “best” system.

***TPD Records
System Delays***
(Audit Objective No. 2)

The City’s contract for the new TPD Records System provided for Motorola to complete installation and cutover by December 31, 2011.

Overview: The second objective of our audit was to determine the impact technology issues pertaining to the new CAD system implemented at the CDA, as described in the preceding section of this report, had on the implementation of the new Motorola Records System purchased for TPD. That objective also included a determination of any adverse financial impacts to the City as the result of any delays in implementation of the new Motorola Records System at TPD. The Records System is to be interfaced with the CAD system and used by TPD for various purposes, including research, investigations, and reporting.

As previously stated in this report on pages 44 and 45, the City executed a contract with Motorola in December 2010 for the acquisition of a new Records System for TPD. That new system, the “PremierOne Records System,” was to replace the existing TPD Records System, also a Motorola system known as “Infotrak.” The contract cost for the new system was \$499,855. The initial contract provided for the installation and implementation of the new system to be complete, and cutover from the old system to occur, by December 31, 2011. The initial contract established deliverables and milestones, that when provided and reached would allow Motorola to generate invoices for performance to date and corresponding payments by the City. Those deliverables and milestones are represented in the following table.

TABLE 3 PremierOne Records System Contract Deliverables and Milestones				
Deliverable/Milestone		Payment Due Upon Completion		
			Initial Contract Payments Including Equipment Cost with Payments	Adjusted Payments after Change Order Providing Payments for Equipment Pursuant to a Separate Lease-Purchase Agreement
1	Contract Execution	10%	\$49,985	\$30,000
2	Acceptance of Functional System Description, Interface Requirements Document, & Cutover Plan	15%	\$74,979	\$45,000
3	Delivery of Software for Training	15%	\$74,979	\$45,000
4	Delivery of Hardware	15%	\$74,979	\$45,000
5	Installation of Hardware	10%	\$49,985	\$30,000
6	Installation of Software	10%	\$49,985	\$30,000
7	Completion Live Cut to New System	20%	\$99,970	\$60,000
8	City's Final Acceptance	5%	\$24,993	\$15,000
	Total Contract Price		\$499,855	\$300,000

NOTE: Equipment Costs of \$199,855 to be paid in three annual installments starting in May 2013.

Change orders were executed that revised the contract completion date.

Change orders to the initial contract were subsequently executed. The first change order, executed in June 2011, extended the completion date to February 29, 2012, due to delays in the City's ability to schedule the initial kickoff meeting with the contractor and to accommodate changes in the terms for the City's financing of the applicable equipment. Regarding the latter, the City and Motorola executed an additional agreement in May 2011 whereby the City would acquire the equipment for the new system (valued at \$199,855) through a three-year lease- purchase agreement with Motorola. Upon execution of that agreement, the remaining contract balance of \$300,000 was to be paid upon the delivery/completion of the respective deliverables and milestones as shown above in Table 3.

Due to project delays, a second change order was executed in October 2012 that acknowledged a revised completion date of April 30, 2013.

As of October 10, 2014, deliverables represented by milestones one through six had been provided by Motorola and the City had made corresponding payments. Those deliverables and payments are shown in the following table.

Deliverable/Milestone		Payment Date and Amount	
1	Contract Execution	July 2011	\$30,000
2	Acceptance of Functional System Description, Interface Requirements Document, & Cutover Plan	September 2013	\$45,000
3	Delivery Software for Training	December 2011	\$45,000
4	Delivery of Hardware	December 2011	\$45,000
5	Installation of Hardware	December 2011	\$30,000
6	Installation of Software	December 2011	\$30,000
7	Completion Live Cut to New System	Not Paid As Cutover to New System Not Yet Occurred	
8	City's Final Acceptance	Not Paid as New System Not Yet Accepted	
	Total Paid as of October 2014		\$225,000
	Total Not Paid		\$75,000

NOTE: Equipment Costs of \$199,855 to be paid in three annual installments starting in May 2013.

In addition, the first annual payment for the equipment acquired under the lease purchase agreement had been made. That payment, in the amount of \$74,154 (representing principal of \$59,291 and interest of \$14,864) was made in May 2013.

Implementation Delays: As of December 2014, the City and contractor (Motorola) were still in the process of implementing the PremierOne Records system for TPD. The hardware, equipment, and software for that new system was delivered and installed by December 2011 (see Table 4 above). However, full implementation and cutover to the new system from the current system (Motorola "Infotrak") had not occurred, over three years after the initial intended completion date. Based on our discussions with City project staff and observations of records as provided by City staff, the delays in completing the implementation of and cutover to the new records system are attributable to several factors, including the following:

- **City Scheduling and Equipment Financing:** The City requested a delay in scheduling the initial kickoff meeting with the contractor, in part due to the need to complete terms for the City's financing of the applicable equipment. Those terms were completed and the equipment financed in May 2011, and resulted in the project completion date being extended by two months (December 2011 to February 2012).

As of December 2014 installation of the new Records System had not been completed.

Implementation delays are attributable to multiple factors.

- TPD Property and Evidence Interface: City staff requested Motorola to establish an additional interface between the new PremierOne Records System and the TPD Property and Evidence application.
- CAD Interface: Motorola did not timely complete an interface between the new PremierOne Records System and the former CAD system. As contractual terms provided for the new PremierOne Records System to be implemented and in use prior to the PremierOne CAD and Mobile System, that temporary interface was necessary to allow (1) incident information recorded in the former CAD System to be recorded in the Records System and (2) for mobile clients (e.g., police officers with laptops in their vehicles) to access information recorded in the Records System. By the time Motorola completed the design and testing of that temporary interface, the former CAD system was in the process of being replaced by the new PremierOne CAD and Mobile System, and the dispatch function at TPD was being transferred to and incorporated into the consolidated dispatch function at the City-County Public Safety Complex (i.e., Consolidated Dispatch Agency or CDA). Accordingly, Motorola expended time and resources in establishing an interface that will never be used.
- CopLogic Interface: CopLogic is an online application that allows citizens to report crime incident information to TPD. An interface between CopLogic and the PremierOne Records System is necessary to allow the inclusion of citizen information in TPD records. That interface still has not been completed. According to City project staff, the delay in completion of that interface is attributable to Motorola. According to City project staff, Motorola provided documentation to the CopLogic vendor so as to allow the vendor to redesign the CopLogic data files to properly interface with the new PremierOne Records System. However, according to City project staff, the documentation provided by Motorola was not adequate to allow the CopLogic vendor to properly redesign its data files. City project staff detected the problem in connection with the City's testing (quality assurance) process. Motorola is currently working to resolve the underlying issues. City project staff indicated some, but not all, of these issues have now been resolved.

Interface issues have delayed project completion.

- Automated Mobile Client Update Feature: Part of the functionality of the purchased PremierOne Records System was an automatic update for mobile clients (e.g., laptops in police vehicles) such that when the system is upgraded, the applications within those mobile clients will be automatically updated in the field (i.e., while in service). Accordingly, this feature would preclude police officers from having to temporarily take their vehicles out of service for an upgrade to be made, and thereby allow more officer time to be spent in serving the community. During the implementation process, testing showed this functionality did not work. While the functionality is now working, approximately a year elapsed before the underlying issues had been corrected.
- Uniform Crime Reporting (UCR) Requirement: TPD is required to periodically report crime statistics and data to the Florida Department of Law Enforcement (FDLE). The crime statistics and data to be reported are to be extracted from the TPD Records System. Accordingly, a functionality of the purchased PremierOne Records System is to generate statistics and data in a proper format for export and submission to the FDLE. When City project staff first reviewed and tested this functionality, they determined the system did not provide the capability for TPD staff to generate and review the statistics and data before submission to FDLE. The system only allowed TPD staff to submit the information without a review. While Motorola indicates this issue has subsequently been corrected to allow TPD to review the statistics and data before submission to FDLE, TPD project staff had not yet tested and validated the correction as of October 2014.
- Sealing and Expunging Data: Court orders are sometimes issued that require certain data in a police department's records to be sealed or expunged. Data that is "sealed" may be retained in the applicable records system but the data must be protected so that it is not disclosed to the public or other unauthorized persons. Data ordered "expunged" is to be deleted from the records. Testing of the PremierOne Records System identified issues with system functionality applicable to the sealing and expunging of data. Specifically:

*Functionality issues have
delayed project
completion.*

- Initially, the system allowed data to be “sealed” but did not provide the ability to seal a person’s identify within a record or to exclude sealed data from reports generated by the system. Those issues were subsequently addressed and corrected by Motorola through a system “workaround.”
- The system currently provides for expunged data to be removed from the primary database and placed on a separate database within the system. Because the data is still stored within the system it is not considered legally expunged. Motorola was still working to correct that issue.
- Data Conversion: A major ongoing issue impacting the timely implementation and cutover to the new PremierOne Records System is the conversion of data from the existing records system to the new PremierOne Records System. According to project staff, Motorola did not start the data conversion process in a timely manner. Specifically, the conversion efforts did not start until winter 2014, over three years after the contract for implementation was executed. Additionally, as explained by City project staff, the conversion process as initially started by Motorola was inefficient (e.g., slow and inadequate due to a lack of committed resources). Based on concerns expressed by City management and project staff, Motorola subsequently committed additional resources to the data conversion process. The conversion was still ongoing and had not been completed as of the end of our audit fieldwork in December 2014. (NOTE: One issue was identified through the City’s quality assurance process that remains to be resolved in regard to data conversion. Specifically, when information on a person is requested through the new PremierOne Records System, that system currently pulls up the “oldest” information on the person instead of the most recent information. To be effective and efficient for officers in the field, the system should provide the most recent information on a person.)
- Geofile Validation: This is a functionality being provided by the PremierOne Records System that allows system users, such as police officers or investigators recording or researching incident information, to enter, select, and verify the address of the applicable person or

Motorola’s delay in converting data from the existing TPD Records System to the new PremierOne Records System also is delaying completion of the project.

location. This functionality provides for a more efficient determination and recording of addresses and helps ensure accurate addresses are recorded and/or located when researching a case or incident. While this functionality worked in earlier versions (releases) of the product being tested at TPD, it was not working in the current version.

- Inability to Login after Product Upgrades: Currently, when the PremierOne Records System is upgraded (e.g., for a new version installed to correct identified problems and/or to improve functionality), system users are not able to log back into the system without intervention by Motorola. This issue must be addressed and corrected prior to the system going live so as to preclude the inefficiency of requiring, each time an upgrade is implemented, a third-party (Motorola) to make system adjustments before system users can re-access the system. The most efficient (and normal) process is for users to be able to log back into the system immediately after an upgrade is made, without any required third-party intervention.
- Subscription Email Function: This function allows a PremierOne Records System user (e.g., officer or investigator) to be informed by email each time another system user accesses specific information recorded in the system. For example, if a user is investigating a specific person and a second user subsequently records new information in the system about that person, an email can be automatically sent to the first user informing them of the new information. This functionality therefore facilitates increased awareness of new case/incident information among officers and investigators. This functionality still had not been established in the current version of the new PremierOne Records System.

Circumstances indicate Motorola did not dedicate adequate resources to the project.

City staff indicated that the project delays were primarily attributable to Motorola, although there had been a lack of City resources at specific times during the earlier phases of implementation. Most of the above-described instances indicate that Motorola likely did not dedicate adequate resources and efforts to the PremierOne Records System Project.

The project was further delayed due to the implementation of the new CAD and mobile system at the CDA.

The current planned completion date for the new Records System is the summer of 2015.

We determined the adverse financial impacts to the City as the result of the delays in completing installation of the new Records System.

Because the previously noted issues resulted in Motorola's inability to complete implementation prior to the implementation of the new dispatch system (PremierOne CAD and Mobile System), the City executed a third change order in May 2013 that again delayed the planned implementation of the new records system until July 2014. That delay was enacted so as to preclude an overlap in the completion and cutover to the new dispatch system (i.e., the City and Motorola determined implementing both systems concurrently in the fall of 2013 to be too risky due a finite amount of resources to address any resulting cutover issues).

Subsequent to the implementation and cutover to the new dispatch system, efforts to complete the implementation of the new TPD Records System resumed. Yet, as noted, the described issues continue to preclude completion and cutover to the new records system. City staff and Motorola now indicate that implementation and cutover are anticipated by the end of summer of 2015.

Financial Impact Attributable to the Delayed Implementation: As part of this audit we determined the financial impact to the City of the delays in the implementation of the Motorola PremierOne Records System. Those impacts are based on the assumption that Motorola should have been able to complete the implementation, with a successful cutover and final acceptance from the City, by December 31, 2012; which is two years after the initial contract for implementation was signed and one year beyond the initial contracted completion date of December 31, 2011. Accordingly, the estimated impact is based on the fees and costs applicable to the period January 1, 2013, through September 30, 2014. Those impacts are as follows:

- Continued fees (valued at \$265,800) paid by the City to a vendor for an application that allows officers to use their vehicle mobile units to interact (obtain and transfer information from and between) with the existing TPD Records System (Motorola Infotrak System). That separate application will no longer be necessary under the new PremierOne Records System as that system will be configured to interact directly with the mobile units.

- Lost investment earnings on funds paid to Motorola during the initial stages of the project that could have been deferred to later dates had the City known there would be significant delays. (Valued at \$3,100.)

In addition to those incremental costs totaling \$268,900, we determined based on information provided by TPD and the ISS department, that staff time devoted to the project that could have been spent on other projects or activities was valued at \$20,200.

Those direct (incremental) and indirect (staff time that could have been spent on other projects) costs incurred by the City as a result of the delays total \$289,100. That amount is offset by the following additional fees that were waived or costs that were avoided due the delayed implementation:

*Adverse financial impacts
were calculated as
\$148,531.*

- Maintenance fees in the amount of \$100,569 on the current “Infotrak” system that were waived by Motorola subsequent to May 31, 2012, pursuant to a change order executed for the contract with Motorola for implementation of the Motorola PremierOne Records System. (The \$100,569 covers the period January 1, 2013, through September 30, 2014.)
- A net increase in annual maintenance fees of approximately \$40,000 that would have been paid had the new system been implemented by December 31, 2012 (i.e., maintenance fees under the new Motorola PremierOne Records System will be more than the annual maintenance costs for the current “Infotrak” system).

Those fees waived and costs avoided totaled \$140,569. Accordingly, based on the assumption the new system should have been completed by December 31, 2012, the City incurred, as of September 30 2014, a net adverse financial impact in the amount of \$148,531 (\$289,100 less \$140,569) because of the implementation delays.

Audit Conclusions and Recommendations: Implementation of the new TPD Records System has been significantly delayed. Based on information obtained from knowledgeable City staff, that delay is attributable to several factors. The delay in implementation precludes the City from achieving the efficiencies that should be available from the new Records System. In addition, the delay has resulted in adverse financial impacts in the amount of \$148,531 as of September 30, 2014. We recommend that City

The City should monitor Motorola's efforts to complete the implementation and consider actions if those efforts are not successful.

management and project staff continue to monitor Motorola's efforts to resolve those issues delaying implementation and continue to work with Motorola to help facilitate installation and cutover to the new system. Also, the City should consider seeking financial restitution from Motorola for the adverse financial impacts incurred by TPD as a result of the delays. As a last resort, the City should consider legal actions for breach of contract in the event Motorola does not complete installation and achieve the City's final acceptance within a reasonable period.

***Contract Payments,
Compliance, and
Adequacy
(Audit Objective No. 3)***

Our third audit objective was to evaluate the contracts executed with Motorola for (1) the CDA's PremierOne CAD and Mobile System and Radio Equipment and (2) TPD's PremierOne Records System. Included as part of this objective was a determination of contract compliance regarding deliverables and payments for services, as well as the adequacy of contractual terms and conditions. Change orders that revised the initial terms and conditions of the contract were also reviewed.

Contract - Implementation of New CAD and Mobile System and Related Radio Equipment

Overview: As previously noted within this report, the owners executed a contract with Motorola in December 2010 for the acquisition of a new CAD system and radio equipment for the recently created CDA. The new CAD system was the "PremierOne CAD and Mobile System." The contract cost for the CAD and mobile system component was \$1,293,025. The contract cost for the radio equipment was \$1,145,655. The initial contract provided for Motorola to complete the installation and achieve final acceptance from the owners by June 2013. The new system was installed and placed into operation (cutover) on September 17, 2013. Final acceptance for the radio equipment was provided by the owners during the summer of 2013. Change orders to the executed contract extended the date for final acceptance of the CAD and mobile system component to September 2014. However, due to ongoing system performance issues described earlier in this report, final acceptance of the CAD and mobile system component has not been provided by the owners.

We evaluated the contract for the new CAD system for compliance and adequacy of terms and conditions.

We evaluated contract activity to determine whether required deliverables were provided and payments were made in accordance with contractual terms and conditions. We also reviewed the adequacy of the contracts terms and conditions as they pertain to the system performance issues described earlier in this report. Additionally, we identified and reviewed change orders that revised the initial contract terms and conditions to determine if the change orders were reasonable, justified, and properly approved and executed.

Contractual payments were made only after verification that related deliverables were provided.

Contract Deliverables and Payments: We found the City, on behalf of all owners and the CDA, paid for contract deliverables only after evidence was obtained that the respective deliverables had been provided and the related milestones met. The status of contract deliverables, milestones, and related payments are shown in the following tables.

TABLE 5 PremierOne CAD and Mobile System Contract Deliverables and Milestones				
Deliverable/Milestone		Payment Due Upon Completion		Deliverable Provided and Payment Made (<i>Payment Date</i>)
1	Contract Execution	10%	\$129,302.50	Yes (<i>May 2011</i>)
2	Acceptance of Functional System Description, Interface Requirements Document, & Cutover Plan	15%	\$193,953.75	Yes (<i>February 2014</i>)
3	Delivery of Software for Training	15%	\$193,953.75	Yes (<i>April 2013</i>)
4	Delivery of Hardware	15%	\$193,953.75	Yes (<i>April 2013</i>)
5	Installation of Hardware	10%	\$129,302.50	Yes (<i>February 2013</i>)
6	Installation of Software	10%	\$129,302.50	Yes (<i>February 2013</i>)
7	Completion Live Cut to New System	20%	\$258,605.00	Yes (<i>February 2014</i>)
8	Owners' Final Acceptance	5%	\$64,651.25	NO (<i>Note A</i>)
	Total Paid To Date			\$1,228,374.25
	Total Contract Price			\$1,293,025.00
	Remaining Payments			\$64,651.25

Note A: Owners have not provided final acceptance of the system due to ongoing performance issues.

TABLE 6				
Radio System Contract Deliverables and Milestones				
Deliverable/Milestone		Payment Due Upon Completion		Deliverable Provided and Payment Made (<i>Payment Date</i>)
1	Contract Execution	10%	\$114,565.57	Yes (<i>May 2011</i>)
2	Completion of Design Review	15%	\$171,848.36	Yes (<i>February 2013</i>)
3	Shipment of Console and Network Equipment	25%	\$286,413.93	Yes (<i>August 2013</i>)
4	Shipment of Portable Radios	5%	\$57,282.78	Yes (<i>August 2013</i>)
5	Completion of Installation of New Hardware	10%	\$114,565.57	Yes (<i>December 2013</i>)
6	Cutover to New Hardware	10%	\$114,565.57	Yes (<i>December 2013</i>)
7	Completion of Relocation and Installation of existing Equipment	10%	\$114,565.57	Yes (<i>December 2013</i>)
8	Cutover of Relocated Equipment	10%	\$114,565.57	Yes (<i>December 2013</i>)
9	Owners' Final Acceptance	5%	\$57,282.78	Yes (<i>December 2013</i>)
	Total Paid To Date			\$1,145,655.70
	Total Contract Price			\$1,145,655.70
	Remaining Payments			None
All radio system deliverables were provided and/or installed and verified (tested) as operational and acceptable.				

We identified concerns regarding certain contractual language.

Adequacy of Contractual Terms and Conditions: We evaluated contractual terms and conditions of the contract as they relate to system performance and completion. We found the terms and conditions, for the most part, to be appropriate. However, we identified the following areas where more appropriate terms and conditions and/or owner actions may have been appropriate, especially in view of the system performance issues described on pages 53 through 75 of this report.

- **Owners' Final Acceptance and Use of the System:** Upon the owners' determination that the new systems are operating as warranted and performance required of the contractor (Motorola) pursuant to the contract is complete, the contract provides the owners are to notify Motorola of their "Final Acceptance" of the systems through written notice. Pursuant to the contract, the owners may withhold five percent of the contract price as retainage until that Final Acceptance is granted. For the new PremierOne CAD and Mobile System, the owners still

have not granted Final Acceptance of the system due to the system performance issues described in previous sections of this report. Accordingly, those terms have resulted in the owners withholding \$64,651 from Motorola to date (see Table 5 above).

A separate section of the contract provides the following:

“The Owners agree that they will not use the SYSTEMS prior to the DATE of Final Acceptance for any purpose other than training or testing as is authorized in this AGREEMENT without the written consent of MOTOROLA, which consent will not be unreasonably withheld.”

The CDA began using the system immediately upon the cutover to the system on September 17, 2013. Notwithstanding the system performance issues described in previous sections of this report, use of the system continues as of the end of our audit. Project management indicated that because of an oversight of that contractual provision, the owners did not request or obtain written consent from Motorola to use the system for CDA operations prior to Final Acceptance, which has not been granted by the owners.

The owners should have established contractual provisions withholding a greater amount of the contract price until final acceptance was provided.

The above provisions and circumstances resulted in the following two concerns:

Concern No.1: The inadequate performance of a CAD system represents a significant risk to the safety, health, and welfare of the public. Withholding of funds prior to a determination that a new CAD system functions adequately and properly serves as an incentive for a contractor to ensure the system is installed timely and that the system performs as intended. We acknowledge that Motorola appears to be working diligently to resolve the system performance issues. However, we concluded it would have been more appropriate to withhold as “retainage” (pending Final Acceptance) significantly more than five percent of the contract price. A more appropriate percentage, in our opinion, would be in the range of 20 to 30 percent of the contract price.

Concern No. 2: The CDA commenced using the new PremierOne CAD and Mobile System on the date of cutover in September 2013. However, contrary to contractual provisions neither the owners nor the

The owners and/or CDA should have followed contractual provisions to obtain written consent from Motorola prior to use of the new CAD system for CDA operations.

CDA requested or obtained written consent from Motorola to use the system for operations although Final Acceptance had not been provided. It could be argued that such consent likely was constructively granted by Motorola, as it did not invoice the owners for payment of the remaining five percent of the contract price (see item 8 in Table 5) or object to the CDA's use of the system. However, requesting and obtaining written consent from Motorola would have eliminated any question as to the appropriateness of invoking other contractual provisions related to liquidated damages and work performance.

- Liquidated Damages: In accordance with good and common business practices, the owners included contractual provisions allowing for liquidated damages to be assessed Motorola in the event the system was not installed and operating adequately by a specified date due to delays attributable to Motorola. Those provisions are:

“Motorola agrees to provide to the OWNERS completed SYSTEMS, which meet all requirements of this AGREEMENT, on or before the final completion date set forth in the approved Project Schedules. Motorola and the OWNERS agree that timely completion of the SYSTEMS is of critical importance to the OWNERS, that the OWNERS will suffer damages if the SYSTEMS are not completed by such date, and further acknowledge that such damages will be difficult, if not possible, to calculate. In the event Motorola fails to complete the SYSTEMS on or before such completion date, Motorola shall pay to the OWNERS, as liquidated damages and not as a penalty, the amount of \$2,500 per day for every day the SYSTEMS remain incomplete beyond each scheduled final completion date.... Motorola’s liability for liquidated damages ... shall not exceed seven percent (7%) of the Contract Price, as awarded.”

Based on that provision and the contract price of \$1,293,025 for the PremierOne CAD and Mobile System, the maximum amount the owners could assess as liquidated damages is only \$90,512.

The amount provided for liquidated damages is not adequate.

Liquidated damages which can be assessed have not been assessed.

All owners did not participate in the execution of contractual change orders.

Concern No. 3: The maximum amount accessible as liquidated damages is not significant as it represents only seven percent of the contract price. A higher maximum may have been more appropriate (1) to allow for a more appropriate recovery for damages in the event the owners determine it appropriate to assess liquidated damages and (2) to serve as a greater incentive for the contractor to ensure an adequate system is timely installed and placed into operation.

Concern No. 4: As noted previously within this report (see page 84), the final completion date for the PremierOne CAD and Mobile System was extended to September 30, 2014. As also noted on pages 67 and 68 of this report, the owners are currently discussing and negotiating a possible resolution of the matter with Motorola (e.g., through a change order or contract amendment) that potentially could provide financial payment from Motorola to the owners as a result of the significant system performance issues experienced by the CDA and described in this report. Notwithstanding those circumstances, the owners may still invoke the liquidated damages provisions and assess Motorola an amount up to \$90,512 as an adequately performing system was not installed by September 30, 2014. To date that action has not been taken.

Change Orders: As of September 23, 2014, a total of nine change orders to the initial contract for the PremierOne CAD and Mobile System and related radio system equipment had been executed. Of those nine change orders, six resulted in additional services and related costs that totaled \$158,508; the other three change orders resulted in modifications to services or equipment but did not result in changes in costs.

Concern No. 5: Our review of those nine change orders showed six were executed by both a City and County/Sheriff's Office representative (i.e., designated City and County/Sheriff's Office project managers or their respective supervisor) and Motorola. However, the three remaining change orders were approved and executed only by the City and Motorola, with no documented approval or execution by a representative from the County and/or Sheriff's Office. Those three change orders included additional services for installation and

configuration of the new servers into a new rack at the Public Safety Complex and for additional functionality and interfaces for the Fire Department. Each of these change orders increased the project costs (total increases of \$92,287). As the initial contract was approved and executed by the City, County, and Sheriff's Office, there was no apparent authority for the City to approve and execute the three contract change orders without the documented involvement and approval of the County and the Sheriff's Office. In response to our inquiry on this matter, project representatives of the County and Sheriff's Office indicated they had discussed the applicable change orders with the City representatives prior to the execution of the orders and acknowledged their concurrence with the resulting changes. Notwithstanding that acknowledgement, good business practices provide that, without a formal documented process authorizing one party to execute on behalf of all parties, each change order and/or contract amendment should be executed by each party to the initial contract.

Concern No. 6: As noted above in the previous concern, nine change orders have been executed to the initial contract for the PremierOne CAD and Mobile System and related radio system equipment. Four of those nine change orders authorized additional costs in amounts ranging from \$28,674 to \$39,919. Two more change orders increased costs by \$8,646 and \$21,000, respectively. The remaining three change orders did not increase costs. Each of the nine change orders was executed by a City representative (and County or Sheriff's Office representative in most cases). Those City representatives were designated project managers or their supervisors. The City supervisor executing two of the change orders was the director for the City's ISS Department (i.e., City Chief Information Systems Officer, or CIO). We did not question the reasonableness of any of the executed change orders; however, we did determine there was no clear authority established as to the level of the City employee required to approve and execute those change orders. Under established City procedures for execution of change orders to City capital projects, change orders in excess of \$25,000 must be approved by the City's Procurement Services Division within the City's Department of Management and

An appropriate approval authority for executing change orders should have been established by the City for this project.

Administration (DMA), while change orders less than \$25,000 can be authorized by the applicable department director. We recognize the PremierOne CAD/Mobile and Radio System is not solely a City project; instead, it is a project for the benefit of both the City and County. Notwithstanding that circumstance, the City representative responsible for change order approval should have been formally established for this project.

Audit Conclusions and Recommendations: The City, on behalf of all owners and the CDA, paid for contract deliverables only after evidence was obtained that the respective deliverables had been provided and the related milestones met. Further, the owners, for the most part, executed a contract with terms and conditions that were in the best interests of the owners and CDA. Change orders that revised the initial contract terms and conditions were generally reasonable, justified, and properly approved and executed. However, concerns in areas relating to certain contract terms and conditions and to execution of change orders were identified. Those concerns are addressed above. To address those concerns we recommend:

Contract Terms and Conditions:

- In future contracts for installation and implementation of critical systems impacting the public's safety, terms should be included that provide for a significant percentage (e.g., 20% to 30%) of the contract price to be withheld until the owners have accepted the system as completely installed and working properly and adequately (e.g., operating without significant performance issues).
- In future contracts for installation and implementation of critical systems impacting the public's safety, all applicable contractual terms and conditions should be followed by the owners so as to protect the owners' (and public's) best interest (e.g., obtain or provide written consent or notice for specified actions as provided by contractual terms and conditions).
- In future contracts for installation and implementation of critical systems impacting the public's safety, contractual terms should be established that provide the owners the ability to assess liquidated damages in amounts that provide a greater (i.e., in relation to the current Motorola contract) incentive for the contractor to ensure a

We made recommendations to address our concerns.

properly performing system is timely installed and placed into operation.

- The owners should consider invoking the current liquidated damages provisions for Motorola's delays in completing an adequately performing system.

Change Orders:

- Appropriately authorized representatives from each entity (City, County, and Sheriff's Office) should approve and execute each subsequent change order (if any) to the existing contract.
- For those change orders executed to date only by the City and Motorola, documented concurrence and approval should be obtained from the County and the Sheriff's Office as to the additional services and costs.
- In future projects with a nature and characteristics similar to the contract with Motorola (e.g., other entities partnering with the City), we recommend the appropriate authority for approving change orders within the City be established. At a minimum, that approval authority should be the applicable department director, if not the City Manager or other appropriate member of the City's Executive Team.

These recommendations, if enacted, should help ensure the interests of the CDA and owners are properly and adequately considered and protected.

Contract - Implementation of New TPD Records System

Overview: As previously noted within this report, the City executed a contract with Motorola in December 2010 for the acquisition of a new Records System for TPD. That new system was the "PremierOne Records System." The contract requires payments totaling \$499,855. The new system was to be installed and placed into operation, with final acceptance provided by the City, by December 31, 2011. That date was amended through change orders to July 2014. As of early December 2014, due to delays explained on pages 77 through 82 of this report, installation of that system had not been completed and cutover had not occurred. The initial contract established deliverables and milestones, that when provided and

We evaluated the contract for the new TPD Records System for compliance and adequacy of terms and conditions.

reached would trigger the generation of Motorola invoices and partial payments by the City.

We evaluated contract activity to determine whether required deliverables were provided and payments were made in accordance with contractual terms and conditions. We also reviewed the adequacy of the contract terms and conditions as they pertain to contract performance and timely completion of the system. Additionally, we identified and reviewed change orders that revised the initial contract terms and conditions to determine if the change orders were reasonable, justified, and properly approved and executed.

Contractual payments were made only after verification that related deliverables were provided.

Contract Deliverables and Payments: We found the City paid for contract deliverables only after evidence was obtained that the respective deliverables had been provided and the related milestones met. The status of contract deliverables, milestones, and related payments are shown in the following table.

Deliverable/Milestone		Payment Date and Amount	
1	Contract Execution	July 2011	\$30,000
2	Acceptance of Functional System Description, Interface Requirements Document, & Cutover Plan	September 2013	\$45,000
3	Delivery of Software for Training	December 2011	\$45,000
4	Delivery of Hardware	December 2011	\$45,000
5	Installation of Hardware	December 2011	\$30,000
6	Installation of Software	December 2011	\$30,000
7	Completion Live Cut to New System	Not Paid As Cutover to New System Not Yet Occurred	
8	City's Final Acceptance	Not Paid as New System Not Yet Accepted	
	Total Paid as of October 2014		\$225,000
	Total Not Paid		\$75,000
	Total Equipment Costs (See NOTE)		\$199,855
	Total Contract Price		\$499,855

NOTE: Equipment Costs of \$199,855 to be paid in three annual installments. The first installment has been paid.

Concerns were identified as to the adequacy of contractual terms.

Adequacy of Contractual Terms and Conditions: We evaluated contractual terms and conditions of the contract as they relate to contract performance and timely completion of the system. We found that the contract with Motorola for the PremierOne Records System was executed as an addendum to an existing contract between the City and Motorola for maintenance and support of Motorola systems previously installed and operating at the City (i.e., former CAD system used at TPD and current Infotrak Records System being used at TPD). That existing contract (for maintenance and support) contained terms providing the City could purchase from Motorola new Motorola product releases (e.g., the PremierOne Records System).

We found the terms and conditions, for the most part, to be appropriate in regard to an implementation plan, scope of work to be done, and equipment specifications. However, neither the contract addendum nor the “parent” maintenance and support contract provided certain terms and conditions critical to the protection of the interests of the City.

Concern No. 1: The contract addendum and parent contract did not require Motorola to provide a surety or performance bond insuring the City for the value of the contract in the event of a lack of performance by Motorola. Requiring surety or performance bonds for new projects of this nature is a good and common business practice. For example, had such a surety or performance bond been required, and Motorola was not able to successfully meet its contractual obligation, the City would have been insured and could have filed a claim for damages.

The contract did not provide for a surety or performance bond and did not provide for liquidated damages.

Concern No. 2: The contract addendum and parent contract did not provide for the ability of the City to assess Motorola liquidated damages in the event Motorola does not complete the installation and obtain the City’s final acceptance in a timely manner. Such provisions are a good and common business practice (1) to provide an incentive for the contractor to timely complete the project and (2) to protect the interest of the City in the event a contractor does not complete the project in a timely manner. As there are no liquidated damages provisions, the City must seek an alternative recourse to recover additional costs resulting from Motorola’s delays in project completion.

(NOTE: We acknowledge that the contract, as amended by a change order, contained certain financial considerations to the City in the event Motorola did not timely complete installation and cutover of the new system. Specifically, in the event the PremierOne Records System is not timely installed, the contract was amended to provide free maintenance of the current TPD Infotrak Records System. That provision has been enacted as Motorola has not completed installation of the new Records System in a timely manner. Notwithstanding that contractual provision, the incorporation of provisions for liquidated damages is a good business practice that would have provided the City another option for recovery.)

Change Orders: As of October 2014, three change orders to the initial contract for the new PremierOne Records System (system) had been executed. The following describes those change orders:

- The first change order was executed in January 2012 and revised the initial contract to provide for the financing of certain system equipment rather than purchasing the equipment outright from Motorola. The change order also extended the required project completion date from December 31, 2011, to February 29, 2012 (two months). The change order justified and explained that extension as attributable to the City's delays in scheduling the project kickoff event with Motorola and in completing the financing terms of the applicable equipment. The change order was authorized and executed by the City Manager and Motorola. It was also approved by the City Attorney's Office as to form.
- The second change order was executed in November 2012 and revised the contractual provisions addressing Motorola's requirement to provide maintenance services on the existing TPD records system (Infotrak) free of charge in the event the new system was not completed on time as specified in the contract. Specifically, pursuant to the initial contract as revised by the first change order addressed above, Motorola agreed to provide ongoing maintenance services to the Infotrak system free of charge if the project was not completed by February 29, 2012. Those services were to be continued free of charge until the date the new system was operational, at which time Motorola would commence the provision of ongoing maintenance services for the new system at

Three change orders were executed.

contractually established fees. The second change order revised that contractual provision to provide that, although the new system was not operational and was then planned to be completed by April 30, 2013, the City would continue to pay for the Infotrak maintenance through May 31, 2012 (i.e., provided the City would pay for the maintenance on the existing system for an additional three months). Explanation justifying the City's payment for those services for an additional three months was not provided in the change order. In response to our inquiry on this matter, ISS project staff indicated that Motorola, TPD, and ISS project staff mutually agreed to the change based on the different causes for the project's delay. Unlike the initial change order, this change order was not authorized and executed by the City Manager or her designee but authorized and executed by the ISS manager who supervised the ISS project manager assigned to this project. There was no evidence it had been reviewed by the City Attorney's Office as to form.

- The third change order was executed in October 2013 to further extend the contractual completion date to July 13, 2014. This extension was granted because (1) delays in Motorola's conversion of data in the existing records system (Infotrak) to the new system had, in turn, significantly delayed project implementation, and (2) because of those delays, continued efforts to implement would (at that time) conflict with ongoing efforts by the City and Motorola to complete implementation of the new PremierOne CAD and Mobile System for the CDA. Accordingly, to avoid anticipated complexities and resource concerns if the City and Motorola simultaneously completed implementation of both the new Records System and the new CAD system, a determination was made to further extend the required implementation of the new Records System. Similar to the second change order, this change order was also authorized and executed by the ISS manager who supervised the ISS project manager assigned to this project and not by the City Manager or her designee. There was no evidence it had been reviewed by the City Attorney's Office as to form.

Adequate justification for certain changes was not documented.

Concern No. 3: Both the second and third change orders represented significant changes to the basic provisions of the initial contract, in regard to extending the required completion date and in the City's agreement to

pay maintenance fees beyond specified dates. Based on applicable contractual provisions, the second change order resulted in the City paying Motorola an additional \$12,850 that it otherwise would not have been paid. Adequate justification of the revised contract provisions in that second change order was not documented. In response to our request for justification for the second change order, the ISS manager stated that the City was partially responsible for certain project delays at that time due to a required additional interface needed to the TPD Property and Evidence application. The development of that interface delayed the project. Accordingly, the ISS manager indicated he agreed to extend the City's payment for the applicable maintenance services for an additional three months as described above.

Appropriate authorities did not approve two of the change orders.

Established City policies and procedures for executing change orders to capital projects require that change orders be authorized by the applicable department director or higher authority. Because of that requirement we question the authority of the ISS manager (opposed to the ISS Director) to approve the second and third changes orders. Additionally, because of the significant impact of those two change orders on contractually-required project completion dates, we question why the applicable ISS manager authorized and executed those change orders without documented concurring approval from the City Manager or her designee (e.g., Director of the Department of Management and Administration). Because of their significance, we also question why approval was not sought and obtained from the City Attorney's Office as to the form and content of these change orders.

Recommendations were made for future contracts and change orders.

Audit Conclusions and Recommendations: The City paid for contract deliverables only after evidence was obtained that the respective deliverables had been provided and the related milestones met. Further, for the most part, a contract was executed with terms and conditions that were in the City's best interest. Change orders were executed when appropriate to initial contract terms and conditions. However, concerns in areas relating to certain contract terms and conditions and to the execution of change orders were identified. Those concerns are addressed above. To address those concerns we recommend:

- Applicable City management ensure that contracts for future projects contain provisions (1) requiring a surety/performance bond guaranteeing the contractor's performance and (2) the ability of the City to assess liquidated damages in the event the contractor does not complete the project in a timely manner.
- For future change orders, applicable City management ensure (1) the purpose and justification for each change order is properly and adequately documented within the change order, (2) appropriate approvals are obtained from the City Attorney's Office, and (3) the appropriate authority (e.g., City Manager or her designee and department head) approves and executes the change orders.

***Maintenance and
Support
Agreements
(Audit Objective No. 4)***

Overview: Our fourth audit objective was to determine if payments for maintenance and support of the various Motorola systems used by the City and the CDA were proper, reasonable, and in accordance with governing contractual provisions.

For the three-year period November 1, 2011, through October 31, 2014, the City paid annual maintenance costs to Motorola for the CAD and Records Systems used at TPD and/or the CDA. (Payments for the CAD system were made by the City on behalf of all owners.) One annual payment was generally made to cover all systems. The three annual payments totaled \$1,026,114.

Overpayments: Each of the annual payments was properly supported by maintenance and support agreements that provided detail as to what services were covered and the associated costs. While the three annual payments were for the most part substantiated and proper, we identified the following two instances where a portion of the costs charged and paid were not appropriate based on controlling contractual provisions. Specifically:

Instance No. 1: The City's contract with Motorola for the implementation of the new PremierOne Records System provides that if Motorola does not by December 31, 2011, (1) deliver and achieve full and final acceptance regarding the capture and reporting of crime statistics in accordance with State requirements (Florida Uniform Crime Reporting or UCR) and (2) deliver and achieve full functionality of the property and evidence module,

For the most recent three-year period, payments of \$1,026,114 were paid by the City for maintenance of Motorola systems.

then Motorola will provide maintenance of TPDs existing Records System (Infotrak) at no cost to the City until the date acceptance and functionality is achieved. Based on an executed change order to the contract, the deadline for delivering and achieving that acceptance and functionality was extended to February 29, 2012. A subsequently executed change order further extended the completion date to April 30, 2013, and provided that Motorola would commence providing maintenance of the City's existing system (Infotrak) at no cost to the City effective June 1, 2012.

At the time of this audit (fall 2014), Motorola had not completed the implementation of the PremierOne Records System, thus the acceptance and functionality regarding uniform crime reporting and property and evidence module functionality had not been achieved and delivered. The delay was attributable to various factors, including Motorola not being able to timely convert the records maintained in the existing system to the new PremierOne Records System. Because of that delay, planned completion of and conversion to the new system was extended further, in part, to preclude the conversion to both that system and the PremierOne CAD and Mobile System concurrently. Specifically, project management decided bringing both systems up at the same time would be difficult to manage and may result in additional risks. Accordingly, the new PremierOne Records System is presently not planned to "go live" (i.e., become operational) until January 2015. (See pages 75 through 84 of this report for additional discussion on the delays.)

Two instances occurred where the City was invoiced incorrect amounts by Motorola, resulting in overpayments totaling approximately \$50,000.

Because of these circumstances, and in accordance with the previously described contractual provisions, Motorola stopped charging the City for maintenance and support of the existing Records System (Infotrak). Specifically, maintenance fees of \$55,996 and \$58,796 were waived by Motorola for the two recent annual periods (November 1, 2012, through October 31, 2013, and November 1, 2013, through October 31, 2014). However, we noted that those fees were not waived for the appropriate portion of the prior annual maintenance agreement covering the period November 1, 2011, through October 21, 2012. Specifically, as provided by the executed change order described above, the fees applicable to the period after June 1, 2012, should not have been charged the City. As the fees of \$51,402 for that annual period had been paid by the City in December 2011, the City was, therefore, due a credit of \$21,417,

representing the fees applicable to the period June 1, 2012, through October 31, 2012 (five months of the billing year). No such credit was provided the City.

In response to our inquiry on this matter, Motorola acknowledged the error and refunded the City the \$21,417.

Instance No. 2: The owners' contract with Motorola for the implementation of the new PremierOne CAD and Mobile System provided that Motorola maintenance and support for CAD and mobile services would continue under the existing maintenance agreement until the date of the cutover (go live) to the new system. After the cutover, the maintenance and support services for the new system would go into effect pursuant to a new maintenance and support agreement. The contract provided that costs for the annual maintenance and support services are to be prorated based on the two agreements (one for the former system and one for the new system) covering the year in which the cutover occurs. The traditional annual maintenance period runs from November 1 through October 31 of the subsequent year. Based on the cutover date of September 17, 2013, this means that the maintenance costs for the annual period November 1, 2012, through October 31, 2013, should have been prorated at 11 months under the former agreement and one month under the new agreement (i.e., Motorola prorates costs based on "whole" months).

*The City has been refunded
the overpayments.*

As was done in former years, the City prepaid in February 2012 the maintenance costs covering the former system for the annual period November 1, 2012, through October 31, 2013. The amount prepaid for those annual maintenance services was \$326,040. That equates to a monthly cost of \$27,170.

In regard to the new system, the City (on behalf of all owners) was invoiced and paid \$337,269 in March 2014 for maintenance services covering the 13-month period October 1, 2013, through October 31, 2014. After adjustments for specific contractual provisions in which certain maintenance services were to be provided free of charge for the first 12 months, the monthly costs applicable to the first year under the new system were \$25,617.

Based on the cutover date of September 17, 2013, (from the former CAD system to the new PremierOne CAD and Mobile System) and the

contractual provisions and calculations described in the previous paragraph, the City should have paid a total of \$324,487 for the period November 1, 2012, through October 31, 2013. The calculations for that amount are shown in the following table.

TABLE 8			
Maintenance Costs Due for Year of Cutover			
	<u>Period</u>	<u>Monthly Rate</u>	<u>Total</u>
Former System	11 months	\$27,170	\$298,870
New System	1 month	\$25,617	\$25,617
TOTAL			\$324,487

However, because the City was not credited for an appropriate amount of the annual amount prepaid in February 2012 for the former system, the City overpaid Motorola for the maintenance services in the amount of \$27,170, as shown in Table 9 below.

TABLE 9				
City Overpayment of Maintenance Costs for Year of Cutover				
	<u>Period Paid</u>	<u>Period Covered</u>	<u>Monthly Rate</u>	<u>Total Paid</u>
Former System	12 months	11-1-2012 through 10-31-2013	\$27,170	\$326,040
New System	1 month	10-1-2013 through 10-31-2013	\$25,617	\$25,617 (NOTE A)
Total Paid				\$351,657
Total Due (See Table 8)				\$324,487
OVERPAYMENT				\$27,170
<i>NOTE A: This was included in the payment of \$337,269 for the 13-month period 10-1-2013 through 10-31-2014.</i>				

Project managers should enhance efforts to ensure amounts billed and paid are in accordance with governing contractual provisions.

In summary, Motorola did not properly or accurately prorate the maintenance costs for the annual period in which the cutover occurred, resulting in an overcharge to and overpayment by the City in the amount of \$27,170. In response to our inquiry on this matter, Motorola acknowledged the error and refunded the City that amount, plus an additional \$1,202 (for a total of \$28,372) based on Motorola's independent calculation of the overcharge.

(Note: In addition to the two overpayments noted above, we identified an instance where Motorola did not properly credit the City \$2,500 for maintenance services purchased by the City pursuant to a different City contract for radio equipment. In response to our inquiry on that matter, the City Radio Shop within the ISS department obtained the \$2,500 credit due from Motorola.)

Audit Conclusions and Recommendations: For the most part, Motorola invoiced and the City (on behalf of the City and all owners) paid proper and correct amounts for maintenance and support of Motorola systems installed at the City and CDA. However, we identified two instances where Motorola overbilled and the City overpaid amounts totaling \$49,789. We recommend project managers assigned to manage and oversee projects of this nature ensure that amounts billed by and paid to contractors are in accordance with contractual provisions governing fees for services.

Policies and Procedures, Training, and Staffing

(Audit Objective No. 5)

The CDA is in the process of developing and implementing formal policies and procedures.

The fifth objective of the audit was to evaluate the CDA's policies and procedures, quality assurance and training processes, and staffing. Each of those areas is addressed separately in succeeding sections of this report.

Policies and Procedures

Overview: Our review showed the CDA is in the process of establishing comprehensive standards (formal policies and procedures) for the call taking and dispatch functions and for CDA administrative functions. The CDA's goal is to implement policies and procedures which meet the requirements of industry standards, primarily the Commission on Accreditation for Law Enforcement Agencies (CALEA) Standards for Public Safety Communications. There are also additional entities that have established standards or best practices relating to the call taking and dispatch functions. Those additional entities include the (1) International Academies of Emergency Dispatchers, or IAED; (2) Association of Public Safety Communication Officials, or APCO; (3) Commission for Florida Law Enforcement Accreditation, or CFA; and (4) Commission on Accreditation of Ambulance Services, or CAAS.

CDA management intends for policies and procedures to comply with industry standards; and, to ultimately obtain CDA accreditation from applicable industry organizations based on those policies and procedures.

CDA management indicated that the CDA policies and procedures are being developed primarily to comply with CALEA standards, as those are the most comprehensive standards (e.g., cover administrative functions in addition to call taking and dispatching activities). Additionally, modeling CDA policies and procedures after CALEA will inherently ensure compliance with many of the standards and best practices established by the other entities. Once the CDA completes its policies and procedures, it plans to apply for accreditation from CALEA. CDA management indicates that CALEA certification (accreditation process) will likely take a couple of years. CDA management indicated that after CALEA certification is obtained, the CDA will pursue accreditation from APCO (primarily telecommunicator training standards) and the Accredited Center of Excellence (ACE) through the IAED. The CDA has already achieved a partnership accreditation through the Center for Missing and Exploited Children (i.e., Amber Alert).

The CDA management committee is approving policies and procedures prior to submittal to the CDA Board for final approval.

Pursuant to the governing interlocal agreement, the CDA created a management committee to advise the CDA Board in various areas, including the establishment of policies and procedures. As previously noted in this report, the management committee is comprised of the Tallahassee Police Chief, the Tallahassee Fire Chief, an appointee of the Sheriff, and the EMS Director. Proposed policies and procedures drafted by CDA management are to be reviewed and approved by the management committee. After the management committee approves a proposed policy or procedure, the inter-local agreement provides the proposed policy is to be presented to the CDA Board for review and final approval.

As of mid-November 2014, 40 policies had been approved by the management committee and placed into operation; additional policies are being developed.

As of mid-November 2014, we determined that CDA management had developed 40 policies and procedures for which approval had been obtained from the management committee. However, those 40 policies and procedures had not been presented to the CDA Board for approval, although the policies and procedures had been placed into operation. As of that time (mid-November 2014), the CDA had identified an additional 36 areas in which policies and procedures were needed and indicated others would likely be developed in the future. CDA management indicated it plans on submitting completed policies and procedures to the CDA Board for its review and approval starting in the first quarter of calendar year 2015, and to have all policies and procedures developed, completed, and

approved by both the management committee and the CDA Board by the end of summer 2015.

For those areas for which a policy or procedure has not yet been developed and placed into operation, CDA management indicates that the CDA is following applicable policies and procedures of the City (Human Resources and TPD) or the Sheriff’s Office. Areas for which formal policies and procedures have not been completed as of the date of our review included, for example, premises hazards, training, and fire dispatching. Regarding call taking and dispatch operations prior to the establishment of the CDA, both TPD and the Sheriff’s Office followed Commission for Florida Law Enforcement Accreditation (CFA) standards; in addition, TPD followed CALEA standards.

Table 10 below shows the status of policies and procedures established and under development by the CDA as of mid-November 2014.

CDA management intends to complete all policies and procedures and obtain CDA Board approval by the end of summer 2015.

TABLE 10
Status of Formal CDA Policies and Procedures

	<u>NO.</u>	<u>POLICY TITLE</u> <u>(1)</u>	<u>STATUS</u>	<u>EFFECTIVE DATE</u>
1	101	Organizational Purpose	Issued (2)	4-28-2014
2	102	Member Roles	Draft (3)	NA
3	103	Chain of Command	Issued (2)	4-28-2014
4	120	Accreditation Management	Issued (2)	10-31-2014
5	133	Special Assignments	Draft (3)	NA
6	140	Director Notification	Issued (2)	8-14-2014
7	141	Complaint Investigation Process	Draft (3)	NA
8	215	Written Directives	Issued (2)	4-28-2014
9	232	Jurisdictional Policy	Draft (3)	NA
10	270	Confidential Information	Issued (2)	10-31-2014
11	322	Leave	Issued (2)	8-31-2014
12	328	CISD (Critical Incident Stress Debriefing)	Issued (2)	10-31-2014
13	329	Fitness for Duty	Issued (2)	10-31-2014
14	341	Performance Evaluations	Draft (3)	NA
15	351	Grievance Procedures	Draft (4)	NA
16	362	Appearance	Issued (2)	3-1-2014
17	365	Discipline	Issued (2)	7-30-2014
18	372	Attendance	Issued (2)	10-31-2014
19	380	Rules of Conduct	Issued (2)	4-23-2014
20	381	Reporting for Duty/Shift Change	Issued (2)	4-28-2014
21	382	Personal Conduct	Issued (2)	3-27-2014
22	385	Computer Usage	Issued (2)	10-31-2014
23	410	Employment	Issued (2)	8-31-2014
24	450	Temporary Employment	Issued (2)	10-30-2014
25	460	Home Addresses and Phone Numbers (CDA)	Issued (2)	10-31-2014
26	521	Telecommunicator Certification	Issued (2)	4-28-2014
27	614	Disposal of Sensitive Information	Issued (2)	10-31-2014
28	615	Quality Assurance	Issued (2)	10-31-2014
29	620	Call Taking	Issued (2)	3-1-2014
30	622	Referrals	Issued (2)	3-1-2014
31	623	External Resources	Issued (2)	8-14-2014
32	627	Difficult Callers	Draft (3)	NA
33	628	Missing Persons	Issued (2)	3-1-2014
34	629	Call Taking – Emergency Rule	Issued (2)	4-28-2014
35	634	Towed Vehicles	Draft (3)	NA
36	635	Alarm Response	Issued (2)	3-1-2014
37	636	Vehicle Pursuits Law Enforcement	Issued (2)	4-28-2014
38	641	CDA Access	Issued (2)	4-28-2014
39	642	Evacuation	Draft (3)	NA
40	652	Telecommunications for the Deaf	Issued (2)	4-28-2014
41	654	Audio Recording	Issued (2)	3-1-2014
42	660	Radio Dispatching Law Enforcement	Issued (2)	3-1-2014
43	670	Fire Dispatching	Draft (3)	NA
44	671	Fire Notifications	Issued (2)	10-31-2014
45	672	Fire Airport Instructions	Issued (2)	10-31-2014
46	690	Social Media Usage	Issued (2)	4-28-2014
47	692	Telecommunication Device for the Deaf Testing	Issued (2)	9-30-2014

48	TBD	Fire Volunteers	Draft (3)	NA
49	TBD	Fire Response to Medical Calls	Draft (3)	NA
50	TBD	Motobridge Florida Interoperability Network (6)	Development (5)	NA
51	TBD	Tactical Dispatch Plan	Development (5)	NA
52	TBD	Premises Information	Development (5)	NA
53	TBD	Electronic Tracking Devices	Development (5)	NA
54	TBD	Teletype FCIC/NCIC/JIS (7)	Development (5)	NA
55	TBD	Driver and Vehicle Information Database	Development (5)	NA
56	TBD	Callout Procedures	Development (5)	NA
57	TBD	Cellular Phone Tracing	Development (5)	NA
58	TBD	Emergency Operations	Development (5)	NA
59	TBD	Homeland Security	Development (5)	NA
60	TBD	B.O.L.O.S. (8)	Development (5)	NA
61	TBD	Fiscal Management	Development (5)	NA
62	TBD	Performance Measures	Development (5)	NA
63	TBD	Agency Liability	Development (5)	NA
64	TBD	Records Retention	Development (5)	NA
65	TBD	Supervisor’s Daily Log/Shift Summary	Development (5)	NA
66	TBD	Shift Bids	Development (5)	NA
67	TBD	Working Conditions	Draft (3)	NA
68	TBD	Human Resources Policy	Draft (3)	NA
69	TBD	Compensation	Draft (3)	NA
70	TBD	Mandatory Overtime	Development (5)	NA
71	TBD	Recognition and Awards	Development (5)	NA
72	TBD	Pre-Employment	Development (5)	NA
73	TBD	Recruitment	Development (5)	NA
74	TBD	Alcohol and Drugs	Draft (3)	NA
75	TBD	Training	Development (5)	NA
76	TBD	Personnel Early Intervention Program	Draft (3)	NA
NA - Not Applicable as policy and procedure not completed.				
TBD – Policy and procedure number to be determined by the CDA.				
Note (1): To date 76 policies and procedures have been identified for development; additional ones are forthcoming.				
Note (2): Although in place, “issued” policies and procedures have not yet been presented to and approved by CDA Board.				
Note (3): Policy and procedure drafted and being reviewed by CDA staff.				
Note (4): Policy and procedure drafted but not issued or placed into operation until approval obtained from CDA Board.				
Note (5): Policy and procedure being developed or in planning stages.				
Note (6): This relates to a dispatch application.				
Note (7): This relates to querying governmental crime information centers for pertinent information.				
Note (8): This relates to dispatching “be on the lookout for” designated persons or items messages.				

The delay in completing formal policies and procedures is, in part, attributable to the distraction resulting from system performance issues.

Concern No. 1: The CDA has not completed development and implementation of all necessary formal policies and procedures and has not obtained CDA Board approval of the policies and procedures which have to date been developed and implemented. This is attributable, at least in part, to the CDA being a relatively new agency and to the technical issues described previously in this report that have consumed resources (e.g., CDA management and staff time) that likely would have been devoted to completion of formal policies and procedures. Notwithstanding these circumstances, the development, review, approval, and effective implementation of formal policies and procedures is an important tool in

ensuring the efficient and effective operation of the CDA's call taking, dispatch, and other operational (as well as administrative) functions.

Audit Conclusions and Recommendations: In summary, the CDA is in the process of developing and implementing formal policies and procedures for the operation and administration of the CDA. As of mid-November 2014, 76 planned policies and procedures had been identified with 40 of those placed into operation (although formal CDA Board approval had not yet been obtained). CDA management indicated additional policies and procedures (i.e., in addition to the 76) are forthcoming to provide complete and thorough coverage for all CDA activities and functions. CDA management plans to complete and place into operation all appropriate policies and procedures by the end of summer 2015. CDA management stated that approval of all policies and procedures will be requested from the CDA Board. CDA management also expressed the intent to obtain accreditation from appropriate agencies following the implementation of all necessary policies and procedures. We recommend those efforts be continued. *(NOTE: On January 7, 2015, after the end of our audit fieldwork in December 2014, the CDA requested and obtained the CDA Board's approval for 45 of the policies developed as of that date.)*

Additional resources were recently committed to help CDA management in the completion of remaining policies and procedures.

(NOTE: Subsequent to the tragic November 2014 incident in which a Leon County Sheriff's Deputy was killed while responding to a call dispatched by the CDA, the City Manager, through the TPD and Tallahassee Fire Department, assigned 10 additional staff from those departments to assist CDA management in review of policies developed for CDA operations. That additional support should benefit the CDA in completing the development of remaining policies and procedures. Positions from the Sheriff's office and EMS have also been dedicated as liaisons to the CDA and to assist in policy development and review within the purview of their assigned roles.)

Quality Assurance

Overview: As provided by industry standards and good business practices, the CDA has established a quality assurance process for the call taking function. That process, as currently implemented, provides for the following:

Qualified staff is assigned to perform the QA function.

- Four qualified CDA staff designated to perform the quality assurance (QA) function. CDA management requires that staff performing the QA function must have at least 18 months experience as a telecommunicator (call taking and dispatching) and must have experience supervising 911 telecommunicators. In addition, QA staff must be certified in the QA function through the International Academies of Emergency Dispatch (IAED). To obtain the IAED QA certification, staff must be certified in fire, law enforcement, and EMS dispatch through the IAED; attend a quality assurance certification course for fire, law enforcement, and EMS; have attended a CPR course within the last two years; and successfully pass the IAED Quality Assurance Exam for each of the three disciplines (fire, law enforcement, and medical services). The CDA requires QA staff to be certified in all three disciplines. Plans are for every supervisor to be QA certified, and qualified staff will rotate every two years, with staff serving in the QA function for two years returning to the telecommunicator supervisory function and new staff being assigned to the QA function.

A special software application is used in the QA process.

- Use of a software application (“Aqua”) to extract calls from the system for review by QA staff. Specifically, the Aqua application extracts calls from the triage application (ProQA/Paramount) that interfaces with the PremierOne CAD System. As previously described within this report (see page 33), that triage application provides guidance to call takers with respect to the questions to ask callers in emergency circumstances. The guidance (questions and decision trees) was established by the IAED.
- Selection of a sample of calls that are to be reviewed and graded within 72 hours of the call. The results (graded calls) are to be provided to the applicable shift supervisors for their review. Appropriate actions (e.g., consultations with callers) are to be taken as appropriate. Calls are selected in a judgmental and systematic manner by the QA supervisor such that the work of all call takers are represented as appropriate (as explained below the dispatch process is not subject to QA reviews). Additionally, because the provision of pre-arrival instructions to callers is rare (instructions for CPR, childbirth, etc.), all fire and medical calls with pre-arrival instructions are reviewed.

Calls are sampled and graded using specific criteria.

- Grading of sampled calls. Sampled calls are graded to determine whether the call taker (1) asked the correct questions in the correct order based on the circumstances; (2) obtained necessary information and properly recorded that information in the CAD system; (3) made appropriate and correct determinations based on the obtained information and circumstances (e.g., assigned correct code as to specific type of emergency); and (4) delivered an appropriate level of customer service (e.g., calm, pleasant, and reassuring when appropriate).

The formal QA process addresses call taking but not dispatching.

Industry standards require the quality assurance function to address both the call taking and dispatch functions. The CDA's formal QA process currently involves review of the call taking process and not the dispatch process. CDA management indicated that the call taking process is the area most prone to error due to the judgments required of call takers when processing emergency calls. According to the QA coordinator, QA staff do review individual dispatches (through the CAD system and/or through radio transmission) as appropriate (e.g., when requested by supervisors or management if there are concerns or questions regarding a specific incident). However, given that the CDA is a new agency with new systems and procedures, we believe that the QA process should be expanded to include the work of dispatchers on an ongoing and systematic basis. CDA management agreed with our assessment and indicated their plans are to expand the QA coverage to address the dispatch function. The lack of QA coverage of the dispatch process is addressed further below as a concern.

Currently, only medical and fire services calls and missing children calls are reviewed; most categories of law enforcement calls are currently not reviewed.

Additionally, the QA process currently only addresses emergency calls, coming in through either the emergency 911 phone system or through administrative phone lines, that (1) were dispatched to the Tallahassee Fire Department or Leon County EMS or (2) involved missing children incidents that were dispatched to TPD or the Sheriff's Office. To date, calls dispatched to law enforcement (TPD and Sheriff's Office) for other than missing children incidents have not been reviewed as part of the CDA's formal QA process. This is also addressed and explained below as a "Concern."

Quality Assurance Goals and Results: The CDA established goals for the call taking function that are measured by the QA process. Separate goals were established for emergency medical and emergency fire services calls (see “Concern” below regarding law enforcement calls). The established goals are by category and represent the minimum percentage of calls that must meet the applicable standards for the CDA to be accredited through the IAED in this area. There are seven categories. IAED accreditation will be based on evaluations of those categories. The applicable categories and related descriptions are as follows.

Goals were established for the call taking function which are measured by the QA process.

- 1) Case Entry – Measures the gathering of basic information to include location of the incident, caller’s name, and caller’s phone number.
- 2) Chief Complaint Code – Measures the accuracy of the code assigned to specify the incident type. Each type of medical or fire call has a distinct complaint code.
- 3) Key Questions – Measures whether the call taker asked the most appropriate (key) questions and in the order they should be asked. Answers to the key questions help in the determination of the incident type and related chief complaint code. Key questions asked by the call taker also help gather additional information to assist dispatchers and service units in responding properly and efficiently to the incident.
- 4) Pre-Arrival Instructions – Measures the appropriateness of the instructions (i.e., in regard to specific techniques) provided to a caller in a situation in which assistance, such as CPR, child birth techniques, Heimlich maneuver, etc., is needed prior to the arrival of the dispatched responding unit. CDA staff indicated that pre-arrival instructions are not frequently required for emergency medical calls and are even less frequent for fire services calls. Examples of fire services calls requiring pre-arrival instructions include water rescue, suicide by hazardous materials, and a tunnel fire.
- 5) Post-Dispatch Instructions – Measures the appropriateness of the instructions given to a caller that should be provided by the call taker before the 911 call is disconnected. For example, in many emergency medical incidents a caller will be instructed to ensure the patient does not eat or drink anything before the responding unit arrives.
- 6) Final Dispatch Code – Measures the correctness of the final coding of the incident. This coding is more specific than the chief complaint

Goals were established for seven areas.

code in that it further specifies through a sequence of letters and numbers the nature and severity of the incident. For example, a structure fire may be selected as the chief complaint code, but additional coding will designate the incident as located in a hotel with multiple persons endangered.

- 7) Customer Service – This measures the quality of the customer service provided and includes evaluations of voice volume and tone, speech, and sensitivity.

The goals for each category are represented in the table below.

CATEGORY		EMS GOAL (Medical Calls)	EFD GOAL (Fire Calls)
1.	Case Entry	95%	95%
2.	Chief Complaint Code	95%	95%
3.	Key Questions	90%	90%
4.	Pre-Arrival Instructions	95%	95%
5.	Post-Dispatch Instructions	90%	90%
6.	Final Dispatch Code	90%	90%
7.	Customer Service <i>(Note)</i>	100%	100%
	OVERALL AVERAGE	90%	90%
<i>Note: The IAED has not established a “minimum percentage” goal for the customer service category; however, the CDA established a goal of 100%.</i>			

For the eleven-month period November 1, 2013, through September 30, 2014, a total of 169,611 incidents were created in the CAD by CDA call takers based on emergency calls received at the CDA. Of those incidents, 28,868 (17%) were for medical services and 19,114 (11%) were for fire services. Of those incidents, QA staff reviewed the calls for 1,393 (4.8%) medical incidents and 699 (3.7%) fire incidents. The quantity of calls reviewed exceeded the quantities suggested by applicable industry guidance (i.e., IEAD). The QA results for the eleven-month period are shown in the following tables.

Regarding calls for medical services:

Goals were established for both medical and fire services calls.

TABLE 12				
QA Results for Medical Calls (11/1/2013 through 9/30/2014)				
CATEGORY		GOAL (Medical Calls)	RESULTS (1) (Medical Calls)	Goal Met?
1.	Case Entry	95%	87.81%	No
2.	Chief Complaint Code	95%	91.86%	No
3.	Key Questions	90%	96.08%	Yes
4.	Pre-Arrival Instructions	95%	54.48%	No
5.	Post-Dispatch Instructions	90%	92.25%	Yes
6.	Final Dispatch Code	90%	91.93%	Yes
7.	Customer Service	100%	99.14%	No
OVERALL AVERAGE (2)		90%	91.08%	Yes
NOTE (1): Based on QA staff's review of 1,393 calls.				
(2): This is a weighted average.				

As shown by Table 12, during the eleven-month period ended September 30, 2014, the CDA met its goals for medical calls in the Key Questions, Post-Dispatch Instructions, and Final Dispatch Code categories, and the overall average score. The CDA did not reach goals in the Case Entry, Chief Complaint Code, Pre-Arrival Instructions, and Customer Service categories. However, for two of those four categories the CDA was very close to achieving its goals (i.e., results all within five percentage points of the respective goal).

*For the period reviewed,
the overall goal for
medical calls was met.*

The one category where the CDA missed its goal significantly was Pre-Arrival Instructions. For that category, the QA score was 54.48%, whereas the goal was 95%. As noted previously, pre-arrival instructions (e.g., lifesaving techniques) are generally not applicable to most calls. For the eleven-month period, that category was applicable in only 160 of the 1,393 calls reviewed (i.e., 11%). Regarding the reasons for the significant underachievement of the goal for that category, we determined the infrequency of those calls likely resulted in the low scores (e.g., call takers have less experience in those calls). An example of noncompliance provided by the CDA was an instance where the call taker ends a call when an incident no longer appears to be an emergency, but before the dispatched responding unit arrives on scene, when protocol required the call taker to stay on the line with the caller until the responding units arrives [e.g., a call is received indicating that a person is choking but the person stops choking (blockage is cleared) before the EMS unit arrives on scene, but the call taker ends the call prior to the arrival of the EMS unit].

Additionally, the CDA missed the goal for the Case Entry category by more than five percentage points (i.e., approximate difference of seven percentage points). CDA management indicated reasons for that performance included instances where (1) the call takers asked “leading questions” in an attempt to assess the circumstances instead of allowing the caller to describe the circumstances and (2) call takers asked two questions simultaneously instead of one question at a time. Additionally, CDA management indicated there have been some revisions to the process whereby information is gathered by call takers, and call takers made more mistakes during the transition to those revised processes (e.g., change in the line of questions or manner in which information is verified).

In regard to calls for fire services:

TABLE 13				
QA Results for Fire Services Calls (11/1/2013 through 9/30/2014)				
CATEGORY		GOAL (Fire Calls)	RESULTS (1) (Fire Calls)	Goal Met?
1.	Case Entry	95%	85.54%	No
2.	Chief Complaint Code	95%	93.33%	No
3.	Key Questions	90%	94.12%	Yes
4.	Pre-Arrival Instructions	95%	N/A (2)	N/A (2)
5.	Post-Dispatch Instructions	90%	93.20%	Yes
6.	Final Dispatch Code	90%	89.93%	No
7.	Customer Service	100%	98.81%	No
	OVERALL AVERAGE (3)	90%	91.22%	Yes
NOTE (1): Based on QA staff's review of 699 calls.				
(2): Pre-Arrival instructions for fire services calls are infrequent; none of the calls reviewed during this period required pre-arrival instructions.				
(3): This is a weighted average.				

For the period reviewed, the overall goal for fire services calls was met.

As shown by Table 13, the CDA met its goal for fire services calls in the Key Questions and Post-Dispatch Instructions categories and overall average score. The CDA did not reach goals in the Case Entry, Chief Complaint Code, Final Dispatch Code, and Customer Service categories. However, for three of those four categories the CDA was within two percentage points of the respective goals. For the fourth category (Case Entry) the CDA was within 10 percentage points of the goal. In regard to that category, CDA management provided the same explanation as described above for medical calls.

Actions are being taken in those areas where individual goals were not met.

Actions being taken by the CDA for the areas where performance goals are not being met include (1) providing one-on-one training to applicable call takers, (2) continuing education in applicable areas of underperformance (e.g., through training sessions and providing staff pertinent articles and videos), (3) and addressing underperformance in periodic employee evaluations.

In addition to the overall results shown and discussed in the previous paragraphs and tables, we analyzed the results of the QA process by month for the same eleven-month period, November 1, 2013, through September 30, 2014. This analysis was completed to determine if the process showed improvements since the CDA initially opened. That analysis is included in Tables 14 and 15 that follow.

TABLE 14
QA Results for Medical Services Calls by Month (11/1/2013 through 9/30/2014)

	Case Entry	Chief Complaint Code	Key Questions	Pre-Arrival Instructions	Post-Dispatch Instructions	Final Coding	Customer Service	Total
Goal	95%	95%	90%	95%	90%	90%	100%	90%
November 2013	86.89%	87.89%	95.00%	50.00%	95.44%	98.42%	99.47%	91.77%
December 2013	79.20%	89.94%	84.34%	25.00%	95.83%	94.86%	98.57%	87.17%
January 2014	84.82%	92.03%	91.81%	45.00%	86.43%	87.78%	98.36%	88.34%
February 2014	80.94%	88.07%	94.87%	32.14%	88.17%	91.87%	99.31%	87.72%
March 2014	85.14%	94.68%	95.85%	54.21%	91.26%	92.00%	98.81%	90.63%
April 2014	91.05%	96.33%	98.15%	57.67%	93.99%	91.38%	99.67%	93.18%
May 2014	94.02%	93.50%	96.93%	56.00%	90.16%	92.68%	99.76%	92.05%
June 2014	90.58%	89.09%	96.17%	43.75%	90.41%	90.13%	99.21%	90.28%
July 2014	93.66%	91.39%	97.90%	50.00%	93.69%	94.40%	98.89%	93.28%
August 2014	87.34%	94.11%	96.34%	86.25%	92.52%	92.40%	98.77%	92.41%
September 2014	85.46%	90.03%	96.16%	68.75%	96.48%	88.53%	98.98%	90.73%

NOTE: Highlighted percentages indicate the goal was met or exceeded during the month for the respective category.

TABLE 15
QA Results for Fire Services Calls by Month (11/1/2013 through 9/30/2014)

	Case Entry	Chief Complaint Code	Key Questions	Pre-Arrival Instructions	Post-Dispatch Instructions	Final Coding	Customer Service	Total
Goal	95%	95%	90%	95%	90%	90%	100%	90%
November 2013	80%	96.21%	96.21%	None	73.57%	97.14%	99.36%	88.63%
December 2013	74.08%	81.39%	87.53%	None	83.82%	92.11%	98.97%	83.78%
January 2014	72.56%	90.38%	87.77%	None	93.85%	81.54%	98.92%	85.22%
February 2014	74.55%	94.40%	90.94%	None	92.73%	87.05%	98.31%	87.93%
March 2014	88.10%	94.81%	93.53%	None	91.93%	90.15%	98.93%	91.70%
April 2014	87.23%	91.47%	95.62%	None	92.77%	94.89%	99.66%	92.40%
May 2014	91.08%	94.08%	94.94%	None	93.78%	89.11%	98.32%	92.60%
June 2014	91.04%	94.15%	97.47%	None	96.39%	89.44%	99.18%	93.70%
July 2014	91.05%	93.19%	95.50%	None	94.19%	90.97%	98.18%	92.98%
August 2014	89.12%	94.78%	97.88%	None	96.10%	93.53%	98.40%	94.28%
September 2014	88.02%	95.28%	96.05%	None	98.36%	88.62%	99.60%	93.27%

NOTE: Highlighted percentages indicate the goal was met or exceeded during the month for the respective category.

An analysis of activity over an eleven-month period indicated improvements in performance since the CDA Director was hired.

Table 14 indicates improvements were made in the overall call taking function for medical calls such that for each of the last seven months of the eleven-month period, the overall score for medical calls was over the 90% threshold. Similarly, Table 15 for fire services calls indicates improvements were made in the overall call taking function for the last seven months of the eleven-month period as the overall score for each month during that period exceeded the 90% threshold. CDA managerial staff attributed these improvements in performance to an enhanced emphasis placed on training by the CDA Director upon his hire in February 2014.

Concern No. 1: As described above, the CDA implemented a quality assurance process of the call taking function for medical, fire services, and missing children calls. A process for reviewing law enforcement calls not involving missing children had not been established as of the date of our audit fieldwork in November 2014, with the reason being the QA application (Aqua) used by the CDA was designed to interface with the ProQA software application which was, in turn, only used for medical and fire services calls at the CDA. Accordingly, rather than establish and implement a separate manual process for ongoing review of law enforcement calls not involving missing children, CDA management decided to postpone the implementation of a formal law enforcement QA function until such time that a new updated triage application (Paramount)

Actions are being taken to start review of all categories of law enforcement calls as part of the QA process.

was implemented that could be used for law enforcement calls in addition to medical and fire services calls. That new triage application was installed at the CDA in October 2014, and was currently being used for medical and fire calls as of the end of our audit fieldwork in November 2014. After appropriate staff training, the CDA plans to start using that new application to triage law enforcement calls by the first quarter of calendar year 2015. When that occurs, the CDA also plans to start reviewing law enforcement calls as part of the QA process. Incidents created based on law enforcement calls totaled 121,629 over the eleven-month period November 1, 2013, through September 30, 2014, representing 72% of all CAD incidents created from emergency calls (169,611) during that period. Because of the relatively large number of law enforcement calls, it is important that all categories of those calls be reviewed as part of a formal QA process. *[NOTE: According to Sheriff's Office staff, prior to the creation of the CDA, the Leon County Sheriff's Office conducted formal QA reviews of EMS calls in accordance with IAED standards; however, QA reviews of law enforcement calls received at the Sheriff's Office were performed only upon a special request to review a specific call in that category (similar to the CDA). Prior to the creation of the CDA, TPD's QA function reviewed both law enforcement and fire services calls as well as related dispatches; however, that process was less formal than the current CDA process as calls were not systematically selected, IAED standards were not applied, and review results were not measured against performance goals (such goals were not formally established)].*

The formal QA process should be expanded to address the dispatch function on a systematic and ongoing basis.

Consideration should be given to also expanding the QA process to address call taker and dispatcher response times.

Concern No. 2: The CDA's current QA process did not include a formal evaluation of the dispatch function. Given the CDA is a new agency with new systems and procedures, the QA process should be expanded to include the work of dispatchers. This would allow the CDA to more quickly identify and correct performance issues, as well as to ensure compliance with industry standards that provide for evaluation of the dispatch function.

Concern No. 3: Consideration should be given to also expanding the QA process to review the reasonableness of time taken by call takers and dispatchers to process calls and dispatch service units to related incidents. Such determinations could be used to help ensure response times are

reasonable and appropriate and to help call takers and dispatchers improve their performance when needed.

Concern No. 4: The CDA has, for the most part, met its overall goals regarding the call taking function for emergency medical and emergency fire services calls as measured by the formal QA process. However, those QA results show that improvements in certain areas are needed, most importantly in regard to providing pre-arrival instructions when appropriate for medical services calls, and to a lesser degree, in regard to case entry. Reasons for the underperformance in those areas as well as ongoing actions to improve performance as provided by the CDA are described above.

Areas were identified by the QA process where improvements are needed.

We recommend the CDA continue plans to include all categories of law enforcement calls in the QA process and to address those areas of underperformance identified by that process. The QA process should be expanded to other areas.

Audit Conclusions and Recommendations: Our review showed the CDA has established an appropriate QA process to review the call taking processes for medical and fire services calls and missing children calls dispatched to TPD and the Sheriff's Office, and is in the process of expanding that process to include all categories of law enforcement calls. Results from the QA process reviews are used to provide feedback to applicable supervisory staff and call takers to allow for needed improvements and corrections. The QA process is performed in accordance with IAED guidelines and by staff that are certified in the QA function and experienced in the call taking function. The QA process evaluates and measures several critical aspects of selected calls. Goals are established with QA review results measured against those goals. Activity since the CDA began operations in fall 2013 show improvements in most areas measured by the QA process.

Because of the prevalence of law enforcement calls/incidents (72% of all emergency calls), it is important the CDA complete the expansion of the QA process to all categories of those calls as planned. Also, given the newness of the CDA and its systems and processes, the QA process should be expanded to address the work of dispatchers. Consideration should also be given to expanding the QA process to review response times of call takers and dispatchers. To ensure the CDA achieves the full benefits intended by the QA process, it is also important that areas (categories) of underperformance identified through that process continue to be addressed and improved.

Accordingly, we recommend the CDA continue ongoing efforts to add all categories of law enforcement calls to the QA process (i.e., after the new triage application is applied to law enforcement calls), add the dispatch function and response times to the QA process, and improve in areas where call takers and dispatchers are not meeting established goals and performance expectations. *[NOTE: It is important the CDA apply the new triage software application to the call taking function for law enforcement calls, as call takers must currently rely on memory or a card system (plastic booklet) to triage those calls. Applying the new application to law enforcement calls should make the call taking process more efficient and enhance the CDA's ability to reduce response times.]*

Training and Required Certifications

Overview: To work as a call taker or dispatcher at the CDA, an individual is required by Section 401.465, Florida Statutes, to obtain certification from the Florida Department of Health (FDOH) as a “public safety telecommunicator.” Each quality assurance staff (see page 108 in the report) is also required to be a certified public safety telecommunicator. To obtain certification, an individual is required to complete an approved public safety telecommunication training program consisting of at least 232 hours and then pass an examination approved by the FDOH which measures the individual’s competency and proficiency in the subject material of the public safety training program. Persons employed as an emergency public safety telecommunicator or state-certified firefighter before April 1, 2012, may work as a public safety telecommunicator after passing the noted FDOH examination without completing the public safety telecommunication training program. Additionally, a sworn state-certified law enforcement officer may work as a public safety telecommunicator without becoming certified if the officer performs as an emergency public safety telecommunicator on an occasional or limited basis and passes the noted FDOH examination. Pursuant to Section 401.465, Florida Statutes, an individual may work at the CDA as a trainee under the direct supervision of a certified emergency public safety telecommunicator for a period not to exceed 12 months if enrolled in an approved public safety telecommunication training program. The statute also requires certified

Pursuant to State statute, CDA telecommunicators must complete a 232-hour course in specific subjects and pass a State approved examination.

individuals to obtain at least 20 hours of training (continuing education) every two years to renew their certification.

As allowed by State statute, the CDA created an internal public safety telecommunication training program approved by the Florida Department of Health. The curriculum of that training program meets the framework established by the Florida Department of Education. The curriculum is comprehensive and addresses numerous aspects and areas including, but not limited to:

- Ethics and professionalism.
- Team concepts.
- Knowledge of criminal acts, personal gain, negligence of duty, duty to act, agency values, and confidentiality.
- How criminal and civil law affects telecommunication agencies.
- Legalities of the Health Insurance Portability and Accountability Act (HIPPA).
- Call classification and prioritization.
- Telephone techniques and call handling.
- Interpersonal skills; friendly and accurate customer service.
- Communication equipment functions and terminology.
- Functions of crime centers (i.e., to be queried for information).
- Operation of the telephone system.
- Providing services for the hearing impaired through “Telecommunication Devices for the Deaf (TDD).”
- Operation of the radio system.
- Referring calls to resources external to the CDA.
- Techniques for using a calm and controlled voice; active listening; giving and following instructions; calming techniques; cultural diversity.
- Multi-functional dexterity.
- Decision-making skills.
- Obtaining and organizing information for dispatch.
- Utilizing available resources properly.
- Understanding geographical jurisdictions and how they impact operations.
- Understanding hazardous materials emergencies and circumstances.

The CDA created an internal training program that was approved by the Florida Department of Health.

The CDA internal training program is comprehensive.

- Understanding types of calls (fire, medical, and law), emergencies, and responses.
- Understanding primary and secondary responding unit concepts and multi-casualty incidents.
- Proper interview questions for crisis calls.
- Identifying and understanding responding unit safety issues and the telecommunicator role in the responding unit's safety.
- Understanding and managing stress.
- Disaster preparedness and emergency operations plans.
- Role of the telecommunicator in disasters.

In addition to the above curriculum, individuals are trained in the CDA's Computer Aided Dispatch (CAD) system and the associated triage application (formerly ProQA and now Paramount) used at the CDA.

After a trainee completes the formal training program (232 hours classroom training) and obtains the FDOH certification as an emergency public safety telecommunicator, he/she must complete additional time doing on-the-job training under the direct supervision of a certified telecommunicator. The amount of on-the-job training varies based on the trainee's ability and past experience but generally lasts several months.

Training is conducted by CDA staff, most of whom are certified trainers, meaning they have been certified to conduct telecommunication training by the Association of Public Safety Communications Officials (APCO). APCO is an industry organization that establishes training standards for individuals that train telecommunicators. By completing the APCO training program and becoming certified, trainers are better equipped to present information on the telecommunicator process to benefit newly hired individuals. There are currently eight APCO-certified trainers at the CDA. In addition to the CDA's own staff, the CDA uses trainers from other agencies (e.g., International Academies for Emergency Dispatchers or IAED) to assist in the training.

The CDA should complete its plans for all trainers to be APCO-certified.

Concern No. 1: The formal statutorily required training (232 hours) is taught by nine CDA staff, of which eight are APCO-certified and one is not certified. The noncertified trainer teaching part of that statutorily required training was formerly certified through APCO but that certification lapsed. Training in other areas (e.g., continuing education) is taught by those nine

staff (eight of which are APCO-certified) and by 13 additional CDA staff, none of whom are APCO-certified. The non APCO-certified trainers are selected to provide training based on their experience and demonstrated knowledge in applicable areas. While we do not dispute the capabilities of those non-certified trainers, it would be to the CDA’s benefit to require all trainers to be certified through APCO. In response to our inquiry on this matter, CDA management agreed with this assessment and indicated they had already planned to require all trainers to be APCO-certified in the future.

The CDA requires telecommunicators to obtain and maintain a total of nine certifications.

Additional Required Certifications: In addition to becoming certified through the FDOH as a public safety communicator, the CDA requires each telecommunicator to be trained and certified through examination in other related areas. Training in those areas is provided as part of the 232 hours of training for the FDOH certification. Those certifications and certifying agency/authority are shown in the following table.

TABLE 16 Other Required Certifications		
<u>Certification</u>		<u>Agency Providing Certification (Training)</u>
1.	Emergency Medical Dispatch (EMD)	IAED (1)
2.	Emergency Fire Dispatch (EFD)	IAED (1)
3.	Emergency Police Dispatch (EPD)	IAED (1)
4.	Incident Command System (<i>relates to management of critical incidents involving significant events such as hazardous material spills, natural disasters, etc.</i>)	Federal Emergency Management Agency (FEMA)
5.	Community Emergency Response Teams (CERT) (<i>relates to responses to significant events such as hazardous material spills and natural or man-made disasters</i>)	Federal Emergency Management Agency (FEMA)
6.	Amber Alert (<i>relates to missing children</i>)	National Center for Missing and Exploited Children
7.	Cardiopulmonary Resuscitation (CPR)	Leon County Emergency Medical Services (EMS) using American Heart Association Standards
8.	Florida Crime Justice Information System Access (<i>certification allows a telecommunicator to access secured state and national crime information</i>)	Florida Department of Law Enforcement
Note (1): International Academies for Emergency Dispatchers		

New CDA telecommunicators are required to complete the applicable training and obtain these other certifications before their training is considered complete and they are allowed to work as telecommunicators at the CDA. CDA management indicated this requirement for the additional

certifications will be incorporated into one of the formal written policies and procedures currently being developed for CDA Board approval.

Specialty certifications may also be obtained.

Other specialty certifications are available and may be obtained by CDA telecommunicators, such as APCO training certifications and certifications to conduct quality assurance (QA) reviews for the medical, fire, and police disciplines through IAED. However, those other certifications are not required for an individual to serve as a CDA telecommunicator. Training for those other specialty certifications is in addition to the 232-hour classroom training requirement for public safety telecommunicators. Another specialty certification not formerly required of telecommunicators is the TERT (Telecommunicator Emergency Response Taskforce) certification, which pertains to emergency responses to natural and manmade disasters. CDA management indicated plans are for all CDA telecommunicators to become TERT-certified.

Many of the certifications require continuing education.

Continuing Education Requirements: CDA telecommunicators are required to complete continuing education to retain many of the required certifications. The FDOH requires 20 hours of continuing education in appropriate topics every two years for a certified individual to retain certification as a public safety telecommunicator. For other certifications, the CDA telecommunicators are required to complete a set number of continuing education hours, while other certifications only require completion of a specific course for recertification. Some certifications have no continuing education requirements. Much of the continuing education applies to and can be counted for several certifications. The continuing education requirements for required certifications are shown in the following table.

TABLE 17		
Continuing Education for Required Certifications		
<u>Certification</u>		<u>Continuing Education Requirements</u>
1.	FDOH Public Safety Telecommunicator	20 hours every two years.
2.	Emergency Medical Dispatch (EMD)	48 combined hours covering all disciplines every two years.
3.	Emergency Fire Dispatch (EFD)	
4.	Emergency Police Dispatch (EPD)	
5.	Incident Command System	No continuing education is required and no recertification is necessary.
6.	Community Emergency Response Teams (CERT)	No continuing education is required and no recertification is necessary.
7.	Amber Alert	No continuing education is required and no recertification is necessary.
8.	Cardiopulmonary Resuscitation (CPR)	4 hours training every two years.
9.	Florida Crime Justice Information (CJIS) System Access	No continuing education required; but individuals must recertify by taking an online course on FDLE's website every two years.

Continuing education is also required for specialty certifications as shown in the following table.

TABLE 18		
Continuing Education for Specialty Certifications		
<u>Certification</u>		<u>Continuing Education Requirements</u>
1.	IAED Certification in Quality Assurance	In addition to the 48 combined hours for all three disciplines shown in Table 17 above, individuals must evaluate at least 50 calls and complete the CPR course every two years to retain certification in QA. (Individuals with only the medical quality assurance certification have to evaluate 30 calls in addition to the 48 hours and CPR course completion every two years.)
2.	APCO Certified Training Officer	12 hours each year.
3.	TERT	No continuing education is required and no recertification is necessary.

Certification Status of CDA Staff: As part of our audit, we ascertained the certification status of CDA call takers, dispatchers, and quality assurance staff. Our test population was comprised of 90 current employees and 30 former employees that performed the noted functions. From that population we selected and reviewed the certification status of a sample of 56 current and 18 former employees. Our test included a determination of whether the CDA could demonstrate each of the sampled current and former employees was certified in each of the nine required areas (FDOH certification as a public safety telecommunicator and the eight additional required certifications). Our test showed the majority of

Our tests show most CDA telecommunicators were certified as required.

required certifications were documented. In addition, through other testing we verified telecommunicators obtained the required continuing education to maintain their certifications.

Concern No. 2: We identified the following instances where telecommunicators did not maintain the required certifications or the CDA could not demonstrate telecommunicators had each of the required certifications.

- One current telecommunicator who was working as a CDA call taker and dispatcher was not currently certified through the State FDOH as a public safety telecommunicator. That employee's FDOH certification expired in February 2011. The employee worked as a telecommunicator prior to the creation of the CDA. In response to this audit determination, CDA management stopped this individual from working as a telecommunicator until the certification was renewed. That certification was renewed December 29, 2014.
- Four current CDA staff did not have a current CJIS Access certification. Two of those four employees worked in the QA (Quality Assurance) section and two worked as call takers and dispatchers. The two employees in the QA section occasionally fill in as call takers and dispatchers when needed. Because those four employees did not have a current certification, they were unable to access FDLE's website for applicable information, such as an individual's (e.g., suspect's) prior criminal history records, in the event the responding unit requested that information. Should such information be requested (i.e., while working in dispatch role), these employees would have to request another telecommunicator with current access certification to access and provide that information, thereby delaying the provision of the requested information to the responding unit. In response to this audit determination, three of the four employees renewed their certifications. The fourth employee subsequently terminated employment with the CDA.
- The CDA did not provide records demonstrating five current telecommunicators and six former telecommunicators had 15 required certifications. The certifications not documented included Incident Command System (1 instance), Amber Alert (7 instances), CPR (1

Instances were identified where a few telecommunicators were not properly certified or evidence was not available to show they were properly certified.

instance), CERT (1 instance), and CJIS Access (5 instances). While these telecommunicators may have been properly certified in the noted areas, without the necessary records (e.g., copies of certifications or information from certifying entities), the CDA cannot demonstrate those telecommunicators were certified in accordance with CDA requirements. *(NOTE: Prior to the release of this report, the CDA located and provided documentation for four of the certifications addressed in this paragraph. CDA staff indicated that the applicable individuals had worked as telecommunicators prior to the creation of the CDA, but the CDA had not obtained copies (or evidence) of their certifications from their former agencies prior to our tests in this area and related audit inquiry.)*

The CDA did not maintain adequate records to track and ensure telecommunicators maintained all required certifications.

Furthermore, we determined that the CDA did not have an adequate method or system for documenting and verifying each telecommunicator maintained all required certifications. Specifically, while centralized records were maintained to demonstrate several of the required certifications were obtained and kept current (e.g. IAED and CPR), similar records were not maintained for the FDOH and other required certifications.

Audit Conclusion and Recommendations: The CDA established a formal eight to nine month training program that new telecommunicators must complete before serving the CDA (and public) as a call taker or dispatcher (without supervision). The process includes approximately two months of classroom training followed by several months shadowing a trainer at both an emergency call taking workstation and a dispatching workstation from which all fire, law, and medical responding units are dispatched. All training is conducted at CDA facilities. Classroom training includes sessions mandated by Section 401.465, Florida Statutes (232-hour course) and training on the triage application used by the CDA to document, triage, and relay information from emergency callers to dispatchers and responding units. Proper use of the CAD and radio systems is also included in that training.

The CDA has a formal training program.

Upon successful completion of the required training and examinations, a telecommunicator will have received nine certifications including emergency dispatch certifications for fire, medical, and police. In addition

Recommendations were made to ensure the best qualified staff performs training and to ensure all telecommunicators are certified as required by State statute and the CDA.

to passing examinations for many of the certifications, telecommunicators are required to obtain continuing education specific to certain certifications in order to renew those certifications on a periodic basis (typically every two years).

The training program is comprehensive and approved by the FDOH. Furthermore, we determined the majority of telecommunicators maintain the required certifications, including the completion of required continuing education. However, as noted above, we identified concerns regarding the certification of instructors and the methods and records for ensuring all telecommunicators maintain the required certifications required by State statute and the CDA. To address those concerns, we recommend:

- The CDA complete plans to require all trainers that provide formal training to newly hired telecommunicators, including the 232-hour course required by State statute and other areas, to be certified through APCO in the training function.
- CDA management ensure telecommunicators identified through our testing as not properly certified obtain the required certifications. *(This action was completed subsequent to our audit fieldwork.)*
- Documentation (e.g., copies of certifications and/or assertions from applicable certifying entities) be obtained to demonstrate the certification of all telecommunicators.
- A centralized record keeping system be established, implemented, and maintained to track the certification status of all CDA telecommunicators.

CDA Staffing

We reviewed staffing levels, experience, turnover, and hours worked.

Overview: As part of the audit, we analyzed CDA staffing for the call taking and dispatching functions. Specific positions included in our analysis included telecommunicators working as call takers and dispatchers and the related direct supervisors (shift supervisors). For those positions we determined:

- Current staffing levels, including regular and temporary positions.
- Levels of experience.
- Turnover rates.
- Hours worked, including overtime.

Additionally, we compared starting salaries of the CDA telecommunicator positions with those of other jurisdictions located in the State of Florida.

Staffing Levels: The CDA is authorized to employ 80 telecommunicator positions (regular fulltime positions) and 15 shift supervisors. As of November 1, 2014, there were 74 individuals working as telecommunicators at the CDA. Of those 74 employees, 66 were regular employees and 8 were temporary employees. Also, as of that date, there were 15 shift supervisors, each of whom was a regular employee. Accordingly, as of November 1, 2014, the CDA had 14 unfilled authorized telecommunicator positions, although 8 temporary employees had been hired to help address those vacancies. The vacancies and their impact are addressed further in the following paragraphs regarding staff turnover and overtime.

The CDA was understaffed because of vacancies in telecommunicator positions.

Experience Levels: We calculated the experience levels of CDA telecommunicators and their shift supervisors. For the 74 current telecommunicators the average length of service (experience) was 7.6 years. For purposes of our calculations, experience includes time worked at the CDA and at the Sheriff’s Office or TPD dispatch functions prior to the creation of the CDA. The ranges of service for those 74 telecommunicators are shown in the following table.

TABLE 19 Experience Levels of Current Telecommunicators	
Experience Level	Number of Telecommunicators
Less than 1 year	11
1 - 3 years	18
3 - 5 years	8
5 - 8 years	12
8 - 10 years	5
10 - 15 years	8
15 - 20 years	3
20+ years	9
AVERAGE 7.6 years	Total 74

Staff experience levels appear to be reasonable.

For shift supervisors the average length of service (experience) was 15.2 years. For purposes of our calculations, experience includes time worked at the CDA and at the Sheriff’s Office or TPD dispatch functions prior to

the creation of the CDA. The ranges of service for those 15 shift supervisors are shown in the following table.

TABLE 20 Experience Levels of Shift Supervisors	
Experience Level	Number of Supervisors
3 - 5 years	1
5 - 8 years	3
8 - 10 years	1
10 - 15 years	4
20+ years	6
AVERAGE 15.2 years	Total 15

There was nothing to indicate these were not reasonable experience levels for a public dispatch agency.

Staff Turnover: We identified and evaluated turnover of CDA telecommunicators and shift supervisors during the 13-month period October 1, 2013, through October 31, 2014. For perspective, we calculated turnover rates for those positions and compared those rates to industry turnover rates and to turnover rates for the City of Tallahassee government.

Staff turnover rates are significantly higher than industry standards.

For the 13-month period analyzed, 28 telecommunicators and one shift supervisor terminated employment with the CDA. Of those 29 employees, 25 were regular fulltime employees and 4 were temporary employees. Also, of those 29 employees 23 resigned, 4 were dismissed, and 2 retired. The average length of service for those 29 terminated employees was 3.8 years. The levels of experience for those 29 terminated employees at the time of termination are shown in the following table.

TABLE 21 Experience Levels of Terminated Employees	
Experience Level	Number of Terminated Employees
Less than 1 year	9
1 - 3 years	13
3 - 5 years	1
5 - 8 years	2
8 - 10 years	1
20+ years	3
AVERAGE 3.8 years	Total 29

Staff turnover contributed to the position vacancies.

Based on those terminations and an average of 89 filled positions, the turnover rate for the CDA during the 13-month period was approximately 33%. Based on our research of industry material, the national turnover rate for telecommunicators ranges from 17% to 19%. For additional perspective, the City of Tallahassee's turnover rate for regular employees (excluding temporary positions) was 6% for the same period (and 17% if temporary employees are included). The CDA's high turnover rate has contributed to multiple vacancies as addressed above under "Staffing Levels."

In response to our inquiry regarding the relatively high turnover rates, CDA management indicated a number of telecommunicators resigned once they completed the required training program and became State-certified (see pages 118 through 126 of this report for training and certification). Management indicated those individuals may be seeking different employment opportunities after becoming trained and State-certified. That theory appears to be supported to some extent by the information in Table 21 above, which shows 9 telecommunicators terminated employment with less than one year of experience at the CDA. CDA management indicated that exit interviews currently are not conducted for terminating employees. Information collected during such interviews may facilitate a more definitive determination as to the reasons for the high turnover rate.

CDA staff worked significant overtime.

Overtime: For the 13-month period October 1, 2013, through October 31, 2014, we calculated the amount of overtime worked by CDA telecommunicators. We determined CDA telecommunicators employed during that period (some of whom terminated prior to end of that period) worked 185,357 hours, of which 28,127 hours (15%) represented overtime. The overtime was worked by 90 of the 102 individuals that worked as telecommunicators during the 13-month period. While this resulted in an average overtime of 276 hours per employee, we found that three of the employees each worked more than 1,000 hours of overtime during that period; i.e., 1,144, 1,585, and 1,820 hours respectively. For those three employees, that equates to average weekly overtime of 20 to 31 hours. We also determined 14 of the employees worked between 500 and 1,000 hours overtime during the 13-month period.

Similarly, for the same 13-month period we determined the 16 shift supervisors (one retired prior to the end of that period) worked 38,577 hours, of which 4,789 hours (12%) represented overtime, or an average of 299 hours per employee.

Total payroll for the CDA during the 13-month period was \$3,718,929. Of that amount, \$846,048 was for overtime, representing 23% of total payroll.

We acknowledge that certain employees likely often volunteer to work overtime for purposes of increased compensation, and that the ability to work overtime and earn additional compensation may be an incentive for employees to work as a telecommunicator. Notwithstanding that scenario, given that the CDA must operate 24 hours each day and seven days each week and given the high turnover rate and resulting staff vacancies, the significant overtime can also be attributed, at least in part, to the need for current staff to work extra hours to ensure the CDA is adequately staffed.

Without consideration for potential differences in workloads and position responsibilities, we found CDA starting salaries are comparable to other jurisdictions.

Starting Salaries: For purposes of this audit, we also compared starting salaries for CDA telecommunicators to starting salaries for telecommunicators of other State of Florida public dispatch centers. That comparison is shown in the following table. While that comparison shows that the CDA's starting salary is comparable to the other entities, we acknowledge that there may be differences in telecommunicator workloads (number and/or types of calls processed and dispatched) and assignments and responsibilities among the listed dispatch centers. For example, in some dispatch centers telecommunicators may work only as a dispatcher or only as a call taker whereas CDA telecommunicators work both functions on a rotating basis. (Note: It was not practicable for our survey to address potential differences between the workloads and responsibilities of the CDA positions and those of the surveyed agencies.)

TABLE 22	
Starting Salary for Telecommunicators	
(Sorted lowest to highest)	
<u>Jurisdiction</u>	<u>Starting Salary</u>
Orange County Sheriff	\$21,126
Pensacola Police	\$24,586
Escambia County Sheriff (1)	\$25,397
Escambia County Fire & EMS	\$25,979
Gainesville Police	\$27,319
Alachua County Fire, EMS & Sheriff	\$27,319
Orlando Police	\$27,976
Tallahassee/Leon County CDA	\$29,058
Polk County Fire, EMS & Sheriff	\$29,322
Lakeland Fire and Police	\$30,763
Orange County Fire & EMS	\$34,123
Note 1: Escambia County Sheriff increases the salary to \$27,934 once the telecommunicators graduate from their training program.	

Concern No.1: Current staff were required to work a significant number of hours of overtime to ensure the CDA is adequately staffed because of a significant number of vacancies that are attributable, at least in part, to relatively high turnover in the telecommunicator positions. Significant overtime has the potential to increase stress and fatigue, which in turn, increases the risk of mistakes in the call taking and dispatch functions. Exit interviews are not conducted to ascertain the reasons for departing employees.

To reduce overtime and lessen the likelihood of mistakes and fatigue, efforts should be enhanced to fill vacancies.

Audit Conclusion and Recommendations: Without consideration for potential differences in workloads and responsibilities, the CDA pays a comparable starting salary to call takers and dispatchers (telecommunicators). Current staff is reasonably experienced. However, that current staff is working significant overtime to ensure the CDA is adequately staffed because of the significant number of vacancies that are attributable, at least in part, to relatively high turnover in the telecommunicator positions. Significant overtime has the potential to increase stress and fatigue, which in turn, increases the risk of mistakes in the call taking and dispatch functions. We acknowledge that CDA management has enhanced recruitment efforts to hire telecommunicators to fill vacancies and reduce overtime accordingly, including attending career

fairs and using various media outlets in advertising positions. In addition to continuing those ongoing efforts to attract and retain trained telecommunicators, we recommend the CDA conduct exit interviews with terminating employees and take appropriate actions based on useful information obtained through those interviews.

Premises Information *(Audit Objective No. 6)*

Premises hazards were established within the CAD system to provide critical information to the responding units.

A sixth audit objective added during the audit was to evaluate and determine the adequacy of the CDA process for informing dispatched service units of detailed information contained in premises hazards (warnings) maintained within the CAD system.

Overview: One functionality available in the CDA's CAD system allows critical information applicable to a specific premises (address/location) to be recorded and "flagged" within the system. Information recorded varies, but includes, for example, (1) details that responding units should be made aware of for first-responder safety purposes (e.g., the existence of a threatening or dangerous individual residing at the premises or hazardous materials located at the premises), (2) access codes for locked entrances, (3) codes to allow alarms to be turned off, or (4) a potentially dangerous animal (dog) at a premises. Within the CAD system, premises hazards are categorized by type. For example, those potentially impacting the responding units' safety are shown as "Officer Safety" warnings or "Hazardous Materials" warnings. Other types that may or may not impact the safety of responding units or the ability of the responding units to efficiently and effectively render first responder services include "Gate Code," "Alarm Code," "Animal," etc. Critical information about a specific premises is typically obtained by responding service units (e.g., law enforcement officers, firefighters, or EMS responders) based on their experiences with individuals and/or at certain locations. That information is provided to the public dispatch agency for recording in the CAD system.

After applicable information is recorded for a premises, the system will show a premises hazard anytime that location or a nearby location is associated with an incident created in the CAD system. For example, if a CDA call taker answers an emergency call for a specific location (premises), the premises hazard for that location or a nearby location (e.g., adjacent house or building) will automatically be reflected as a "flag" on

the CAD incident screen created for that incident. The existence of the premises hazard in those circumstances also is reflected on the premises hazard “tab” shown on the incident screen used by the applicable CDA dispatcher who selects and dispatches a service unit to respond to the applicable incident; and, on the incident screen of the mobile device contained in the vehicle of the service unit dispatched to the applicable incident.

To see the specific details pertaining to the hazard type, the call taker must click on the specific hazard (flag) as shown on the call taker’s incident screen (i.e., a one-step process). For the dispatcher and responding unit, a two-step process must be followed. Specifically, to see the specific details pertaining to the hazard type, the dispatcher and/or responding unit must first click on the hazard “tab” as shown on their incident screen which results in the “flag” being shown, and then click on the “flag.”

CDA protocol: For any incident for which there was a premises hazard, we were advised that CDA protocol required the dispatcher to click on the premises hazard “tab” to first determine the premises hazard type as shown on the associated “flag.” If the flag indicates an “Officer Safety” premises hazard, we were advised that CDA protocol required the dispatchers to click on and open the premises hazard “flag” and relay the details to the responding units dispatched to the incident location. However, if the premises hazard type was other than Officer Safety, the dispatchers were required to open the “flag” and report the details to the responding units only when the hazards were relevant to the particular incident. For example, when a law enforcement officer is dispatched to an incident involving a physical altercation in a parking lot and the premises hazard type is an alarm code for a nearby building, the dispatcher is not required to open the Alarm Code premises hazard “flag.”

CDA protocol provided for dispatchers to open premises hazards for applicable incidents and relay the information to the responding units dispatched to those incidents.

The CDA’s protocol, when followed, serves to help ensure the safety of responding units and/or to facilitate the responding units ability to efficiently and effectively respond to the incident. We determined that this protocol was not addressed in the CDA’s written policies and procedures. CDA management did provide evidence that this protocol is addressed in formal training provided newly hired call takers and dispatchers (telecommunicators).

Concern No. 1: As part of our audit we attempted to obtain CAD system data that would allow us to determine whether premises hazards were opened as required by the described CDA protocol. For example, one analysis we planned to conduct was to determine if “Officer Safety” premises hazards were opened for incidents to which those hazards were applicable. However, as explained in the following paragraphs, owner staff have not been successful in extracting data from the CAD system to allow for these analyses. Owner staff indicated they have requested Motorola’s assistance in extracting the necessary information but that information has not been provided to date.

Based on available data, we were able to determine that of the 112,831 incidents with attached premises hazards of some type, 2,062 (approximately 2%) were opened by the call taker, dispatcher, or responding service unit such that the specific details of the hazards were viewed. There was no documentation showing the premises hazards (flags) had been opened and the specific details viewed for the remaining 110,769 incidents. Records currently are not available to show the type or types of premises hazards pertaining to the 112,831 incidents.

Because we did not have sufficient data (premise hazard type) to analyze those 112,831 incidents, it was not possible to conclude whether (1) the related premises hazards were pertinent to the incidents and thereby required to be opened based on CDA protocol or (2) how many of the incidents involved “Officer Safety” premises hazards (always required to be opened based on CDA protocol) and whether those incidents had been opened or not opened.

Based on the circumstances as described, we can conclude there was not an adequate method/process or adequate records available to determine whether established protocol has been followed regarding reporting critical information to responding units for incidents where there was an Officer Safety or other pertinent premises hazard. Accordingly, the CDA cannot demonstrate that dispatchers have always communicated critical information to responding units when appropriate.

Concern No. 2: Some of the existing premises hazards may be outdated and/or no longer applicable as there has been no recent review to update and/or purge hazards no longer applicable.

Our analysis showed records were not available to demonstrate whether premises hazards were being opened and information relayed in accordance with CDA protocol.

Some premises hazards may be outdated and/or no longer applicable.

The existing functionality with the CAD system to automatically open a premises hazard on the responding units' monitors was intentionally not enabled.

Concern No. 3: We determined the new PremierOne CAD and Mobile System installed at the CDA had the capability to automatically provide an audible alert on the dispatched responding service unit's mobile devices (i.e., computers) when an incident involving a location with a premises hazard was dispatched. However, that functionality was not configured in the system installed at the CDA. In response to our inquiry on this matter, CDA and owner project staff indicated the decision was made by responding agencies to not enable that functionality, as the responding units preferred to rely on the dispatchers to relay the applicable information through radio transmissions after the dispatchers opened the hazard (flag) and viewed the related information.

Actions Being Taken: CDA management has indicated the following actions are being taken to address the above-described concerns:

- The CAD system functionality providing for an audible alert on the dispatched responding service unit's mobile devices was enabled.
- For incidents at/near premises with an attached critical premises hazard (e.g., officer safety), the CDA plans to implement an updated version of the CAD system that will require the dispatcher to acknowledge the existence of that premises hazard before the incident can be dispatched. That updated version is currently being developed by Motorola and is not yet available.
- Similar to the previous item, the planned update to the CAD system (when available) will color code premises hazards so as to distinguish the level of criticality (e.g., "Officer Safety" will be color-colored to indicate the highest level of criticality).
- An ongoing process is being established to purge or update premises hazards that are no longer applicable or that are outdated.
- Formal written procedures addressing premises hazards will be completed as previously planned and provided to each call taker and dispatcher.
- Training on premises hazards will be enhanced.
- The quality assurance process (see pages 107 through 118 of this report) will be revised to incorporate reviews to ensure premises hazards are properly opened and applicable detail information provided to responding units.

Corrective measures have been planned and/or taken.

We recommend the planned corrective measures be completed.

In addition, owner staff is continuing to work with Motorola to obtain historical data that will allow for a meaningful analysis and determination as to whether critical premises hazards (e.g., “Officer Safety”) were properly opened by call takers or dispatchers.

Audit Conclusion and Recommendations: The CDA did not have an adequate method/process or maintain adequate records to demonstrate that established protocol has been followed regarding reporting critical information to responding units for incidents where there was an officer safety or other pertinent premises hazard recorded in the CAD system. Management indicated some of the premises hazard data may be outdated and should either be updated or removed from the CAD system. Corrective actions, as described above, have and are being taken to ensure premises hazard information is current, the hazards are opened by dispatchers, and the relevant hazard information is provided to responding units. We recommend those actions be completed. In addition, we recommend the CDA establish a method/process to track whether established protocol has been followed for premises hazards.

We recommend efforts be continued to get applicable data from Motorola for a historical analysis.

Furthermore, owner staff is currently working with Motorola to extract data from the CAD system which will allow for a meaningful historical analysis and determination as to whether critical premises hazards (e.g., “Officer Safety”) were properly opened by call takers or dispatchers. We recommend those efforts be continued and when the requested data is provided, the noted analysis completed and determination made.

Response Times
(Audit Objective No. 7)

The seventh objective of our audit was to determine and evaluate “response times” relating to emergency calls processed by the CDA and to compare those times to other jurisdictions. For purposes of this audit, the total response time for an incident is defined as the length of time between the start of an incident (phone rings at the CDA) and the time at which the applicable dispatched responding unit arrives on the scene of the incident. That total response time has been segregated into the components described in subsequent paragraphs within this section of the report.

There are multiple methods for calculating response times and multiple variables that can be measured in different ways to calculate response times.

The multiple methods and variables in calculating response times limit the usefulness of comparisons to other jurisdictions.

We determined response times relating to emergency calls processed by the CDA.

Overview: It is important to note that there are multiple methods for calculating and determining response times and multiple variables that impact those calculations and determinations. Which methods are used and how the different variables are measured/used significantly impacts the calculated response times for an entity. Some methods may exclude certain categories of calls that are included by other methods. For example, some methods may only include high priority calls/incidents while other methods also include lesser priority incidents. Similarly, some methods may only include incidents where the source of the incident was a 911 emergency call while other methods also include incidents created by a field service unit (e.g., law enforcement officer) while performing routine patrol duties. In addition, the methods for determining “start” and “completion” times may differ among the entities. For purposes of this audit we used a method and measured variables in a manner that we believe provides the most meaningful information as to performance by the CDA, and to some degree, the responding service units. However, because of the differences in methods, the number of variables, and the lack of knowledge as to how other public dispatch agencies calculated their response times, we determined it was not reasonable to conclude using this information whether the Tallahassee-Leon County CDA and the related service entities performed better or worse than other entities for which response times were reported. This matter is addressed further within this section of the audit report.

While CDA management has a process to periodically calculate response times for CDA activities, we determined it appropriate for this audit to calculate response times independent of that CDA process. Accordingly, to accomplish our final audit objective, we first obtained data from the emergency and administrative phone systems and the CAD system with the assistance of staff from the Sheriff’s Office IT and City ISS departments. We analyzed that data and determined, for purposes of this audit, the most meaningful response times for analytical and managerial purposes would be incidents occurring during the 13-month period October 1, 2013, through October 31, 2014, that met the following criteria:

- The incident resulted from an emergency call received on either the 911 system or the administrative phone system and was processed by a CDA call taker.

Response times were determined for “Priority 1” calls only.

- The incident was created in the CAD system and was processed in that system by a call taker and dispatcher such that a responding unit was dispatched.
- The responding unit completed the dispatch and arrived at the scene of the related incident (versus did not complete the dispatch and did not arrive at the scene of the incident because of changes in the initial circumstances while the responding unit was en route to the scene).
- The incident was a “Priority 1” call, meaning that the circumstances required immediate dispatch (violent crime in progress, life threatening situation, etc.). *(See page 38 of this report for a description of the different incident priorities.)*
- The entity responding to the incident was the “primary” responding agency in those incidents where more than one agency was dispatched (i.e., multiagency dispatches).

CAD System: After identifying the population of incidents based on the noted criteria, we analyzed the applicable incidents in that population for reasonableness and validity. That analysis showed there were certain incidents for which the response times were abnormal. Specifically, for certain incidents:

- The time elapsing between the point in time a Priority 1 incident was created in the CAD system by the call taker and the point the initial notification (e.g. a “pre-alert”) was submitted by the call taker to a dispatcher should typically not exceed five minutes (averages are less than two minutes). However, we found 3% of the Priority 1 incidents for which that time exceeded five minutes, with times for some incidents exceeding an hour. Our analysis of those incidents with the assistance of Sheriff’s Office IT staff and TPD staff showed the abnormal times were, in most instances, attributable to an incident being started in the CAD system by a call taker before the applicable emergency call was received by that call taker. For example, if the call taker answered one call and immediately created an incident for that call but subsequently determined there was no emergency for which a response was needed, that CAD incident would remain available and be used by that call taker for a subsequent call. Including those incidents in our determinations of response times would inappropriately inflate

Adjustments were made for abnormalities.

the response times. Accordingly, we excluded those incidents from our determinations of average response times.

- For Priority 1 incidents, the time elapsed, as reported in the CAD system, between the point in time a responding unit was dispatched to the point the responding unit arrived on scene should typically not exceed 20 minutes (averages are five to eight minutes). However, we found 3% of the incidents for which that time exceeded 20 minutes, with times for some incidents exceeding an hour. Our analysis of those incidents with the assistance of Sheriff's Office IT staff and TPD staff showed the abnormal times were in most instances attributable to either a dispatcher or a responding unit not recording the arrival in the CAD system at the time the responding unit actually arrived on scene. Instead, in most of those instances (based on notes within the CAD system and/or the reported incident completion times), the arrival time was reported as approximately the same time the incident was closed (completed) by the responding officer. In those instances, it appears the dispatcher or responding unit recorded the arrival time at the same time they recorded the completion of the incident in the CAD system. Including those incidents in our determinations of response times would inappropriately inflate the response times. Accordingly, we excluded those incidents from our determinations of average response times.

After adjusting for the above noted abnormalities, we determined the population of Priority 1 incidents within the CAD system for the applicable 13-month period consisted of:

- 13,027 EMS incidents (*EMS is generally the primary agency responding to multiagency incidents*).
- 2,156 Fire services incidents.
- 2,952 Sheriff's Office incidents.
- 6,408 TPD incidents.

For those incidents we calculated response times as follows:

Responses times were calculated for the different components that comprise the response process.

Component #1: Time elapsed from the point in time the incident was created in the CAD system by the call taker to the point the call taker submitted the related pre-alert to the dispatcher. (As noted on page 33 of this report the pre-alert represents the submission of incident information by a call taker to a dispatcher thereby enabling the dispatcher to dispatch a responding unit to the incident.)

Component #2: Time elapsed from the point in time the pre-alert was received by the dispatcher to the point the dispatcher dispatched a responding unit.

Component #3: Time elapsed from the point in time of the dispatch to the point the first responding unit arrived on scene (location of incident).

Response Time #1: Time elapsed from the point in time of the incident creation to the point a responding unit was dispatched (sum of components #1 and #2).

Response Time #2: Time elapsed from the point in time of the pre-alert to the point the first responding unit's arrival on scene (sum of components #2 and #3).

Response Time #3 (Total Response Time): Time elapsed from the point of incident creation to the point the first responding unit arrived on scene (sum of components #1, #2, and #3).

Responses times were calculated for each of the four service agencies.

We then calculated the averages for each of those components and response times for each of the four applicable agencies. Those calculated average response times for the Tallahassee-Leon County CDA and related service units for the 13-month period October 1, 2013, through October 31, 2014, are shown in the following table.

TABLE 23				
Average CDA and Service Unit Response Times (Minutes and Seconds)				
October 1, 2013, through October 31, 2014				
	Emergency Medical Services	Tallahassee Fire Department	Leon County Sheriff's Office	Tallahassee Police Department
Number of Priority 1 Incidents	13,027	2,156	2,952	6,408
Component #1 - Start to Pre-alert	01:10	01:15	01:40	01:36
Component #2 - Pre-alert to Dispatch	00:41	00:34	01:49	01:42
Component #3 - Dispatch to On Scene	08:25	06:40	06:13	05:17
Response Time #1 - Start to Dispatch	01:51	01:49	03:29	03:18
Response Time #2 - Pre-alert to On Scene	09:06	07:14	08:02	06:59
Response Time #3 - Start to On Scene	10:16	08:29	09:42	08:35

Call answering times were also determined.

Call Answering Times: An additional component of the overall response time for an incident is the time elapsed between the point a phone call is received at the CDA and the point that the call is answered by a CDA call taker. Because the individual calls captured in the phone systems cannot be directly correlated to individual incidents recorded in the CDA's CAD system, we were unable to add this component to Table 23 above. However, for all phone calls (911 system and administrative system) received at the CDA during the 13-month period October 1, 2013, through October 31, 2014, we obtained the data from the applicable system and independently calculated the average times to answer the calls. Those average times are shown in the following table.

TABLE 24		
Average CDA Times to Answer Calls		
October 1, 2013, through October 31, 2014		
Phone System	Number of Calls (Note 1)	Average Ring Time before Answered
Emergency 911 System	182,065	Six seconds
Administrative Phone System	312,659	Eight seconds
<i>Note 1: This includes all calls regardless of whether or not an emergency incident was created in the CAD system.</i>		

Comparison to Other Jurisdictions: For purposes of this audit, we gathered information on response times of other jurisdictions for comparative purposes. Response times of other jurisdictions were obtained from the Florida Benchmark Consortium and through a survey conducted by the Office of the City Auditor. The Florida Benchmark Consortium is an intra-state consortium that reports various performance measures of participating local governments that self-report that data.

Response times were obtained for other jurisdictions.

Because response times of other jurisdictions are not always determined and reported in the same manner described above, we adjusted, to the extent practicable, our determinations of CDA response times to allow for a more meaningful comparison to other jurisdictions. Specifically, response times for EMS and fire services incidents of other jurisdictions, as reported by the Florida Benchmark Consortium, were measured by determining the response time that was equal to or less than 90% of the entity's calls (meaning 90% of the entity's responses were equal to or less than that time). Accordingly, for the population of incidents used for our audit determination of response times as explained in the previous section of this report, we determined the applicable 90th percentile for comparison purposes. Response times reported by the Florida Benchmark Consortium for law enforcement were not reported at the 90th percentile (i.e., reported as averages), so no adjustment was necessary to our calculations for those calls.

Response times of other governmental entities are included in Appendix A to this report. The data for the other entities was not audited or validated by our office. Also, the methods by which the response times were determined for the other entities, as shown for the other entities in Appendix A, are not known. Multiple methods may have been used to calculate and determine response times. For example, certain calls may be excluded or included depending on decisions made by the entity, or the methods for determining "start" and "completion" times may differ among the entities.

CDA response times were recalculated using different parameters to demonstrate the variations in response time determinations.

To demonstrate the impact that different methods have on response time calculations, we recalculated the response times shown above using different parameters. Specifically, instead of including only incidents that resulted from emergency phone calls received on the 911 system or

administrative phones at the CDA, we included all incidents regardless of the source, such as incidents initiated by responding agencies. We also included incidents that were initiated as Priority 1 incidents in addition to including incidents that were “final coded” as Priority 1 incidents (initial calculations only included incidents “final coded” as Priority 1 incidents). As shown in the following table, those changes in parameters significantly impacted (reduced) the calculated response times.

	Emergency Medical Services		Tallahassee Fire Department		Leon County Sheriff's Office		Tallahassee Police Department	
	Initial	Recalculated	Initial	Recalculated	Initial	Recalculated	Initial	Recalculated
Component #1- Start to Pre-alert	01:10	01:04	01:15	00:50	01:40	01:23	01:36	01:28
Component #2 - Pre-alert to Dispatch	00:41	00:35	00:34	00:27	01:49	01:30	01:42	01:42
Component #3 - Dispatch to On Scene	08:25	07:19	06:40	06:30	06:13	03:16	05:17	03:11
Response Time #1 - Start to Dispatch	01:51	01:39	01:49	01:17	03:29	02:53	03:18	03:10
Response Time #2 - Pre-alert to On Scene	09:06	07:54	07:14	06:57	08:02	04:46	06:59	04:53
Response Time #3 - Start to On Scene	10:16	08:58	08:29	07:47	09:42	06:09	08:35	06:21

Furthermore, in comparing response times it should be noted that individual local governmental entities vary significantly in regard to (1) the type services provided (e.g., some EMS responders do not provided transport services whereas Leon County EMS does provide those services), (2) the number of agencies dispatched (e.g., while the CDA is a consolidated dispatch agency, other dispatch agencies may dispatch to only a single agency), (3) the amount of resources and number units available to respond, and (4) the size of the geographical areas served, all of which impact response times.

Because of variations in how response times may be determined, we did not make any conclusions as to whether the CDA performed better or worse than other jurisdictions.

Accordingly, it was not possible to conclude whether the Tallahassee-Leon County CDA and the related service entities performed better or worse than the other entities included in Appendix A. A more meaningful comparison, in our opinion, will be a comparison of response times for the CDA and related responding agencies (TPD, Tallahassee Fire Department, Sheriff's Office, and EMS) over specific periods of time (e.g., annually). As data for the CDA is currently only available for 13 months, such comparisons currently are not feasible.

(NOTE: No comparisons were made to response times relating to calls received at TPD or the Leon County Sheriff's Office prior to the creation of the Tallahassee-Leon County CDA, as information was captured by those entities and their respective systems in a different manner than the CDA. For example, the "start time" for an incident was a later point in the call taking process compared to the "start time" used by the CDA. Also, incident information was captured differently such that, in some instances, there were multiple incidents and response times recorded for an event under the former systems, whereas there is a single incident and response time under the CDA's system and process. More importantly, the time it took one of the former dispatch agencies [TPD or the Sheriff's Office] to transfer a call to another agency [e.g., TPD transferring a call to the Sheriff's Office or vice versa] was not captured under the former dispatch processes. Accordingly, meaningful and complete comparisons are not possible.)

Audit Conclusion and Recommendations: We independently calculated various components of "response times" for the CDA and applicable responding agencies for the 13-month period October 1, 2013, through October 31, 2014. Various adjustments to data were made in our determinations for known or likely abnormalities. We also compared our audit determinations to "response times" for other jurisdictions. **However, for the reasons described above, it was not reasonable to conclude using this information whether the Tallahassee-Leon County CDA and the related service entities performed better or worse than the other entities.**

The CDA should enhance the determination and evaluations of response times and use the additional information to improve performance.

The CDA does have a process to periodically calculate response times for CDA activities for monitoring and oversight purposes. Response times currently measured on a regular basis include the following:

- Average call answering time.
- Stratification of call answering time (classifying answering times into time intervals).

Additional response times are measured on an “as requested basis” such as call answering time by day of week, time of day, shift, etc.

CDA management indicated those calculations/measurements currently done are required by industry standards set forth by the National Fire Protection Association (NFPA) and IAED. We recommend that the CDA consider enhancing that process to provide additional information on a regular ongoing basis (e.g., weekly and/or monthly) that would also be useful for management oversight purposes. Several potential useful enhancements include ongoing measurements of:

- Average call answering times segmented by:
 - Day of week.
 - Time of day.
 - Shift.
- Average response times segmented into components such as those identified in this report, and further segmented by:
 - Day of week.
 - Month of year.
 - Time of day.
 - Shift.
 - Telecommunicator (call taker and dispatcher).
 - Incident type.
 - Responding agency.
- Stratification of response times (e.g., classifying response times into time intervals) and evaluation of specific calls that exceed predetermined benchmarks.

Such enhanced analyses should be used by the CDA and responding agency management in determining and evaluating performance and in identifying areas where improvements should be made.

Other

Adequate records had not been maintained for portable radios and related chargers.

Adequate records should be maintained to track all applicable CDA equipment.

As previously noted on page 43 of this report, the contract for the new Motorola CAD and mobile system provided for the acquisition of necessary communications equipment. As explained in the following paragraph, we determined the CDA had not established adequate records tracking and accounting for the 23 portable radios and related chargers (i.e., 13 individual chargers and 2 multiunit chargers) received in connection with that acquisition.

On October 7, 2014, we visited the CDA to observe the 23 radios and related chargers acquired from Motorola. While some radios and chargers were available and observed during that site visit, CDA staff indicated that other radios and chargers were in the custody of CDA staff (in their vehicles, residences, or other places). CDA staff acknowledged they had no records to demonstrate the individual staff to which custody of the radios and chargers had been assigned.

In response to our inquiry on this matter, CDA staff indicated that one of the two initial interim directors of the CDA did maintain a record of the portable radios and the staff initially assigned custody of those radios. However, that record had not been updated or forwarded to the CDA after the current CDA director was hired in February 2014. Accordingly, adequate accountability of the portable radios had not been maintained.

To rectify this issue, CDA staff established records to track the radios and chargers. We subsequently reviewed those records and observed the radios and chargers to verify the completeness and accuracy of those records. We recommend the CDA ensure that adequate records are maintained on an ongoing basis for all applicable CDA equipment.

Conclusion

No issues or concerns were identified that indicate consolidation was not appropriate.

There have been significant technical issues that impacted the efficiency of CDA operations.

Completion of the new TPD Records System has been delayed due to several factors.

Certain contractual terms should have been enhanced to better protect the interest of the applicable owners and the CDA.

Overpayments to Motorola totaling \$50,000 were identified by the audit.

This audit was conducted to address several areas and concerns pertaining to the Tallahassee-Leon County CDA. Major contracts for implementation of systems at the CDA and Tallahassee Police Department (TPD) were reviewed as part of this audit. Seven specific audit objectives were established to address those areas, concerns, and contracts.

Our audit did not identify significant concerns or issues that indicate the consolidation of the dispatch function within the Tallahassee-Leon County area was not appropriate, or that the expected benefits from that consolidation will not be realized. Our audit did identify issues and concerns which have been proactively addressed by the CDA Board, CDA Director, and owner agencies (City, County, and Sheriff's Office). Many of those issues and concerns had been identified and were being addressed prior to the start of this audit.

In regard to issues and concerns addressed in our audit, we found there have been significant technology issues regarding the new Computer Aided Dispatch System (CAD system) which impacted the efficiency and effectiveness of CDA operations. Some of those issues, as well as other factors, have significantly delayed completion of the new Records System at TPD. We identified areas where contractual provisions for both the new CAD system at the CDA and the new Records System at TPD should have been enhanced to better protect the interest of the applicable owners and the CDA. Our audit also identified overpayments to Motorola of approximately \$50,000, which have subsequently been recovered.

Additionally, our audit showed the CDA is in the process of establishing formal policies and procedures with plans to obtain appropriate industry accreditation after completion and full implementation of those policies and procedures.

We found the CDA has a formal quality assurance function to review call taker performance in processing emergency calls for fire, medical, and emergency calls involving missing children, and plans to apply that function to all other calls for law enforcement services in the near future. Actions are being taken by the CDA to address concerns identified by that quality assurance function. The CDA should consider expanding the quality assurance process to other areas including dispatcher performance

Enhancements were needed regarding CDA policies, quality assurance, training and employee certifications, and staffing.

Records were not adequate to show critical information was generally provided to responding units for applicable incidents.

Response times were calculated and compared to other jurisdictions; however conclusions cannot be drawn from those comparisons.

The owners should continue working with Motorola to resolve remaining system issues. If those issues are not resolved in the near future, the owners should take appropriate actions.

and response times, and should complete current plans to apply that process to all categories of law enforcement calls.

The CDA has a formal training program and requires CDA call takers and dispatchers to be certified in accordance with State statutes and to also obtain and maintain other pertinent certifications. Instances were identified where a few CDA employees were not certified as required. We determined a need for the CDA to improve records and methods used to track employee certifications.

We determined that the CDA has experienced higher than normal turnover and that staff is working significant overtime to ensure the CDA is adequately staffed because of vacancies that are, in part, attributable to that high turnover.

We determined there was not an adequate method/process for tracking the opening of critical premises hazards and because of the lack of adequate records, we could not conclude that critical information (e.g., officer safety) is or is not generally being relayed to responding units for applicable incidents. Actions are planned and being taken to ensure critical premises hazards are opened and information relayed to dispatched service units for future incidents.

We calculated CDA response times and gathered information on response times of public dispatch agencies in other jurisdictions. However, because of variations in methods and systems used by dispatch agencies to calculate response times, it was not possible to draw any conclusions based on comparison of the CDA's response times to the times reported by other jurisdictions.

We made recommendations for the issues and concerns addressed by this audit. Those recommendations included:

- CAD System: The owners (City, County, and Sheriff's Office) should continue to work with Motorola to resolve remaining technical and performance issues. In the event those issues are not resolved in the near future and/or additional significant issues occur or reoccur, the owners should negotiate a fair and appropriate agreement with Motorola providing for (1) a deadline for resolution of remaining system issues, (2) restitution to the owners for any adverse financial

impacts resulting from the system issues; and (3) a remedy in the event the owners determine it is in the CDA's best interest to discard the PremierOne CAD and Mobile System and acquire and install a replacement system, to include Motorola providing continued support of the PremierOne CAD and Mobile System until such time a replacement system is in place and operational. Additionally, if the outcome of those efforts are not successful and system instability issues continue, the owners should consider their right to submit a claim to the applicable surety company invoking the provisions of the contractually required performance bond that guarantees performance (i.e., to provide an acceptable system).

Consideration should be given to using qualified third-party consultants and conducting enhanced risk analyses for future system acquisitions and implementations.

For future situations where systems are being implemented that impact the public's health, safety, and welfare, the applicable system owners should consider hiring a qualified third-party consultant to help ensure the system is adequately designed, properly implemented, and properly and adequately tested at the expected activity levels and load volumes prior to use of the system. Additionally, enhanced risk analyses should be conducted for such systems and competitive procurement methods applied as appropriate based on the results of those enhanced analyses.

The City should monitor Motorola's efforts to complete the implementation of the new TPD Records System and consider actions if those efforts are not successful.

- TPD Records System: City management and project staff should continue to monitor Motorola's efforts to resolve those issues delaying implementation of the new TPD Records System and continue to work with Motorola to help facilitate installation and cutover to the new system. Also, the City should consider seeking financial restitution (in the amount of \$148,531) from Motorola for the adverse financial impacts incurred by TPD as a result of the delays. As a last resort, the City should consider legal actions for breach of contract in the event Motorola does not complete installation and achieve the City's final acceptance in a reasonable period.
- Contracts: Future contracts for implementation of major new systems should include enhanced terms providing for stronger financial incentives and/or penalties (e.g., withholdings and liquidated damages) in the event the contractor does not timely complete installation of an acceptable system. Performance bonds should be required for each contract. The owners should comply with all terms and conditions to

Enhanced terms providing for stronger financial incentives and/or penalties should be included in future contracts.

ensure the owners' and public's interests are protected. Consideration should be given to assessing liquidated damages for the current contract with Motorola for the new CAD system. Change orders should be reviewed and approved by each applicable party and executed by an appropriate City representative and authority. Justification for change orders should be documented.

Efforts should be enhanced to ensure proper payments for maintenance and support.

- Maintenance and Support Agreements: To preclude future overpayments, project managers should ensure amounts billed and paid to contractors are in accordance with governing contractual provisions.

Efforts should be made to complete formal policies and procedures and to expand the quality assurance function to appropriate areas.

- CDA Policies and Procedures: The CDA should continue efforts to ensure comprehensive formal policies and procedures are established and implemented by the end of the summer of 2015 as planned.

- Quality Assurance: The CDA should complete plans to review all categories of law enforcement calls as part of the formal quality assurance process. Efforts to address areas of underperformance identified by the quality assurance process should be continued. The quality assurance process should be expanded to address the dispatch function and processing times.

Better records are needed to ensure call takers and dispatchers maintain each required certification.

- Training and Staff Certifications: A centralized system should be established to track the certification status of all CDA staff. CDA management should ensure call takers and dispatchers maintain each required certification. The CDA should continue efforts to require all trainers to be certified in the training function.

Exit interviews should be conducted and recruitment efforts continued to reduce vacancies and reduce overtime and staff turnover.

- Staffing: The CDA should conduct exit interviews with terminating employees and take appropriate actions based on useful information obtained through those interviews. To help alleviate potential stress and fatigue and lessen overtime worked by current staff, ongoing recruitment efforts to reduce the number of vacancies in call taker and dispatcher positions should be continued.

- Premises Hazards: Corrective measures planned and being taken to ensure critical premises hazards are opened by dispatchers and applicable information communicated to responding units in accordance with CDA protocol should be completed. Those actions, some of which have now been completed, include (1) providing an

Planned actions to ensure critical premises hazards are opened and information provided to responding units should be completed.

audible alert on the responding unit's mobile devices, (2) system changes that will require the dispatcher to acknowledge a premises hazard before dispatching a unit to an incident involving a location to which a hazard has been attached, (3) color-coding premises hazards as to level of criticality, (4) purging and updating current hazards as appropriate, (5) establishing a formal policy and procedure for premises hazards, (6) enhancing training on premises hazards, and (7) incorporating use of premises hazards as part of the formal quality assurance review process.

In addition, we recommend the CDA establish a method/process to track, on an ongoing basis, whether established protocol has been followed regarding reporting critical information to responding units for incidents. Furthermore, owner efforts to obtain historical information from Motorola to allow for a historical analysis as to whether premises hazards have been opened and reviewed as required by CDA protocol should be continued.

- **Response Times:** The CDA should consider enhancing its process for determining response times to provide additional information that would be useful for management oversight purposes. Results from that enhanced process should be used by CDA management and responding agency management as part of the process for determining and evaluating performance and identifying areas where improvements should be made.

More comprehensive response times should be calculated on a periodic basis and used by management to evaluate performance.

We would like to thank staff at the CDA, the City ISS Department, TPD, the Tallahassee Fire Department, the Leon County EMS, and the Leon County Sheriff's Office for their assistance and cooperation during this audit.

Auditor Comment. Regarding the CDA, that agency began operations in September 2013, following years of planning by owner staff and officials, the construction of a centralized facility, the installation of what was believed to be an upgrade of a computer system that had been successfully used at TPD for years, and the employment of experienced call takers and dispatchers transferred to the CDA from TPD and the Sheriff's Office. Based on those circumstances, a decision was made that the CDA was ready for operations. In hindsight, one could conclude that a delay in the

commencement of CDA operations may have been more appropriate. While it was unclear as to whether a delay would have eliminated some or all of the operational issues described in the previous pages of this report, a delay would have provided additional time and opportunities for testing the CDA's new technology, the hiring of a permanent director, the establishment of formal CDA policies and procedures, and the training of CDA staff in the application of the policies and procedures. Regardless of whether a delay was or was not more appropriate, the issues and concerns addressed in this audit are correctable and are being addressed, and owner agency and CDA leadership are making appropriate changes to ensure Leon County area citizens will be provided with an enhanced emergency dispatch function.

CDA and City Response



March , 2015

Mr. T. Bert Fletcher, City Auditor
300 S. Adams Street
Mail Box A-22
Tallahassee, Florida 32301-1731

Subject: Audit of the Tallahassee-Leon County Consolidated Dispatch Agency and Related Motorola Contracts

Dear Mr. Fletcher:

The Consolidated Dispatch Agency (CDA) appreciates the thoughtful and thorough review that the City of Tallahassee's Office of the City Auditor conducted with respect to the Tallahassee-Leon County CDA and related Motorola contracts. The CDA welcomes the opportunity to engage with the Office of the City Auditor to improve the CDA as a whole. The CDA believes that the recommendations outlined in the audit report seek to achieve this goal as well as the critical, overall mission of the CDA, which is to "Enrich public service through active listening, accurate interpretation, and swift dissemination of emergency and non-emergency calls to appropriate resources."

Attached, please find the CDA's responses to each of the recommendations contained within the audit report.

Sincerely,
Timothy A. Lee
Director CDA

Vincent S. Long
Leon County Administrator

Anita Favors Thompson
Manager, City of Tallahassee

Mike Wood
Leon County Sheriff

**Consolidated Dispatch Agency (CDA) Response to Audit Recommendations
Audit of the Tallahassee-Leon CDA and Related Motorola Contracts**

1. **Recommendation:** The owners should continue working with Motorola to resolve remaining system issues. If those issues are not resolved in the near future, the owners should take appropriate actions.

CAD System: The owners (City, County, and Sheriff's Office) should continue to work with Motorola to resolve remaining technical and performance issues. In the event those issues are not resolved in the near future and/or additional significant issues occur or reoccur, the owners should negotiate a fair and appropriate agreement with Motorola providing for (1) a deadline for resolution of remaining system issues, (2) restitution to the owners for any adverse financial impacts resulting from the system issues; and (3) a remedy in the event the owners determine it is in the CDA's best interest to discard the PremierOne CAD and Mobile System and acquire and install a replacement system, to include Motorola providing continued support of the PremierOne CAD and Mobile System until such time a replacement system is in place and operational. Additionally, if the outcome of those efforts are not successful and system instability issues continue, the owners should consider their right to submit a claim to the applicable surety company invoking the provisions of the contractually required performance bond that guarantees performance (i.e., to provide an acceptable system).

CDA's Response: The CDA concurs with this recommendation. The CDA as part of protecting its interest has employed a network administrator to monitor system stability and create an onsite resource that is utilized to specialize in the Motorola Premier One solution. It is intended to establish a period of acceptable stability of the Motorola CAD product to validate what options may be needed to remedy any ongoing issues with the CAD product. It is the intent of the CDA to continue to work with Motorola on the implementation of new platforms and the stabilization of the existing system until which time the CDA deems that there is no resolution to the ongoing issues. At which time the CDA will make the appropriate recommendation to the stakeholders that will be in the best interest of the CDA.

2. **Recommendation:** The City should monitor Motorola's efforts to complete the implementation of the new TPD Records System and consider actions if those efforts are not successful.

TPD Records System: City management and project staff should continue to monitor Motorola's efforts to resolve those issues delaying implementation of the new TPD Records System and continue to work with Motorola to help facilitate installation and cutover to the new system. Also, the City should consider seeking financial restitution (in the amount of \$148,531) from Motorola for the adverse financial impacts incurred by TPD as a result of the delays. As a last resort, the City should consider legal actions for breach of contract in the event Motorola does not complete installation and achieve the City's final acceptance in a reasonable period.

CDA's Response: As this is not a CDA issues and the City of Tallahassee is providing a separate response.

City's of Tallahassee Response: City ISS staff has been consistently working with Motorola staff to complete tasks and resolve issues. The first iteration of data conversion was completed by Motorola on Nov. 26, 2014 and has been reviewed by the City's project team. The Project Team has identified a punch list of tasks that need to be completed for the cutover in August 2015. The training schedule for TPD's staff has been completed. Acceptance testing will begin in April 2015 and the team has agreed to a cutover date of August 2015. The team continues to meet weekly to ensure a successful project implementation this year. The City's Chief Information Systems Officer

along with City Legal will seek compensation from Motorola for the adverse financial impacts incurred by TPD due to the delays.

3. **Recommendation:** Enhanced terms providing for stronger financial incentives and/or penalties should be included in future contracts.

Contracts: Future contracts for implementation of major new systems should include enhanced terms providing for stronger financial incentives and/or penalties (e.g., withholdings and liquidated damages) in the event the contractor does not timely complete installation of an acceptable system. Performance bonds should be required for each contract. The owners should comply with all terms and conditions to ensure the owners' and public's interests are protected. Consideration should be given to assessing liquidated damages for the current contract with Motorola for the new CAD system. Change orders should be reviewed and approved by each applicable party and executed by an appropriate City representative and authority. Justification for change orders should be documented.

CDA Response: The CDA concurs and will consider appropriate penalties for future contracts.

4. **Recommendation:** Consideration should be given to using qualified third-party consultants and conducting enhanced risk analyses for future system acquisitions and implementations.

CAD System (continued): For future situations where systems are being implemented that impact the public's health, safety, and welfare, the applicable system owners should consider hiring a qualified third-party consultant to help ensure the system is adequately designed, properly implemented, and properly and adequately tested at the expected activity levels and load volumes prior to use of the system. Additionally, enhanced risk analyses should be conducted for such systems and competitive procurement methods applied as appropriate based on the results of those enhanced analyses.

CDA's Response: The CDA concurs and will consider this approach when appropriate in future acquisitions.

City of Tallahassee Response: A third-party consultant was engaged for the acquisition of the City's Motorola PremierCAD system that was used by TPD and TFD prior to consolidation. The owners purchased the Motorola PremierOne CAD/Mobile system for the CDA as a system upgrade to the existing Motorola PremierCAD, not a new system; therefore a third-party consultant was not engaged. The recommended approach will be considered when appropriate for future acquisitions.

5. **Recommendation:** Efforts should be enhanced to ensure proper payments for maintenance and support.

Maintenance and Support Agreements: To preclude future overpayments, project managers should ensure amounts billed and paid to contractors are in accordance with governing contractual provisions.

CDA's Response: The CDA concurs that corrective measures be put into place to protect the interest of the owners and the CDA. The City of Tallahassee is providing a separate response.

City of Tallahassee Response: Prior procedures entailed the project manager reviewing all invoices and maintenance agreements/renewals and approving for payment. Staff has been counseled on this item and the process modified to include multiple levels of review and approval. In addition to the project manager's approval, the ISS Manager for Public Safety will also review and cross-reference all invoices and maintenance agreements/renewals with signed contracts and/or change orders as appropriate. The ISS Manager will also ensure all owners approve the documents

with a signature prior to any payment being made.

6. **Recommendation:** Efforts should be made to complete formal policies and procedures

CDA Policies and Procedures: The CDA should continue efforts to ensure comprehensive formal policies and procedures are established and implemented by the end of the summer of 2015 as planned.

CDA's Response:

We concur with this recommendation and the CDA is in the process of establishing formal policies that would meet industry standards. Currently the CDA has currently vetted 45 personnel and operational policies through the Management Committee and have received final approval from the CDA Board. The CDA's focus is to obtain accreditation as part of the design of policies and procedures. The CDA has established an Accreditation Managers position that is working with representatives of the Leon County Sheriff's Office, Leon County EMS and the Tallahassee Police Department to assist in the design and implementation of the policies to meet CALEA (Commission for Accreditation for Law Enforcement), FSA (Florida Sheriff's Association) and the ACE accreditation through the National Academy of Emergency Dispatch, staying in compliance with (CAAS) Commission on Accreditation of Ambulance Services.

7. **Recommendation:** Efforts should be made to expand the quality assurance function to appropriate areas.

Quality Assurance: The CDA should complete plans to review all categories of law enforcement calls as part of the formal quality assurance process. Efforts to address areas of underperformance identified by the quality assurance process should be continued. The quality assurance process should be expanded to address the dispatch function and processing times.

CDA's Response:

We concur with this recommendation and have already begun to implement it. The CDA does have a formal Quality and Assurance program in place. This task has been added to the CDA's Continuous Improvement Work Plan for tracking and implementation. The CDA is currently looking at a second quarter of 2015 implementation of Police Protocols for call taking and dispatching purposes. As part of the implementation it will mirror the existing practices for quality and assurance utilized to critique fire and EMS calls. The additional focus will be in the reviewing of radio traffic that is populated as part of each of the dispatched calls. As it relates accountability of dispatch times, the CDA runs a monthly, quarterly and annual report to evaluate response and dispatch times. As part of this practice corrective measures are put into place as needed to create the most proficient response mechanism as possible.

As it relates to the dispatcher performance and response times, the CDA has a process that monthly and quarterly Arthur Kraus and Associates provide internal staff reports that provide metrics for evaluating dispatcher performance and overall expectations.

8. **Recommendation:** Better records are needed to ensure call takers and dispatchers maintain each required certification.

Training and Staff Certifications: A centralized system should be established to track the certification status of all CDA staff. CDA management should ensure call takers and dispatchers maintain each required certification. The CDA should continue efforts to require all trainers to be certified in the training function.

CDA's Response:

We concur with this recommendation and have already begun to implement it. This task has been added to the CDA's Continuous Improvement Work Plan for tracking and implementation. The CDA is looking into a solution that each of the employee's certifications are maintained in a digital format that is kept current through either a records management system or Outlook accountability system. Each of the employees that were identified as part of the audit were removed from their daily duties and corrective measures were utilized to get each of their certifications current. Each of employees that were identified within the audit has taken the prescribed steps to bring their status current with the State of Florida and the CDA required certifications. To date all employees are current in their certification's as required to be CDA employee.

9. **Recommendation:** Exit interviews should be conducted and recruitment efforts continued to reduce vacancies and reduce overtime and staff turnover.

Staffing: The CDA should conduct exit interviews with terminating employees and take appropriate actions based on useful information obtained through those interviews. To help alleviate potential stress and fatigue and lessen overtime worked by current staff, ongoing recruitment efforts to reduce the number of vacancies in call taker and dispatcher positions should be continued.

CDA's Response:

We concur with this recommendation and have already taken steps to implement it. The CDA, since its inception, has had a high volume of turnover rate. We are currently evaluating the root cause(s) for the high turnover rate in the attempt to identify and implement potential solutions, and will implement exit interviews to help identify the causes of turnover on an ongoing basis. The CDA has currently created a form to supply to all out going employees that provides them the ability to explain the reason for their departure. The intent is for the CDA to evaluate each of the forms and create a data base to assist in a change management process to reduce the turn over rate

As to ongoing recruitment: (1) a recruitment commercial was created and is continually aired on WCOT; (2) representatives attend Career Fairs (eleven have been attended since February 2014)(3) recruitment sessions at Work Force have been completed; (4) digital recruitment signs have been utilized at various locations; and (5) representatives have participated in multiple public speaking engagements for employee recruitment purposes.

10. **Recommendation:** Planned actions to ensure critical premises hazards are opened and information provided to responding units should be completed.

Premises Hazards: Corrective measures planned and being taken to ensure critical premises hazards are opened by dispatchers and applicable information communicated to responding units in accordance with CDA protocol should be completed. Those actions, some of which have now been completed, include (1) providing an audible alert on the responding unit's mobile devices, (2) system changes that will require the dispatcher to acknowledge a premises hazard before dispatching a unit to an incident involving a location to which a hazard has been attached, (3) color-coding premises hazards as to level of criticality, (4) purging and updating current hazards as appropriate, (5) establishing a formal policy and procedure for premises hazards, (6) enhancing training on premises hazards, and (7) incorporating use of premises hazards as part of the formal quality assurance review process. In addition, we recommend the CDA establish a method/process to track, on an ongoing basis, whether established protocol has been followed regarding reporting critical information to responding units for incidents. Furthermore, owner efforts to obtain historical information from Motorola to allow for a historical analysis as to whether premises hazards have been opened and reviewed as required by CDA protocol should be continued.

CDA's Response:

We concur with this recommendation, and have begun implementing a solution. This task is already part of the CDA's Continuous Improvement Work Plan. The CDA is working with the CAD vendor, Motorola, to create a mechanism by which the premise hazard would have to be acknowledged and viewed for the call to be processed. The projected release date for this solution is April 2015, with an implementation time frame of July 2015.

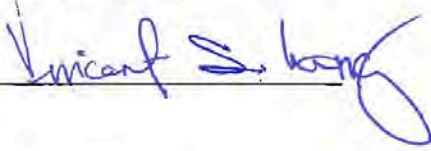
11. **Recommendation:** More comprehensive response times should be calculated on a periodic basis and used by management to evaluate performance.

Response Times: The CDA should consider enhancing its process for determining response times to provide additional information that would be useful for management oversight purposes. Results from that enhanced process should be used by CDA management and responding agency management as part of the process for determining and evaluating performance and identifying areas where improvements should be made.

CDA's Response:

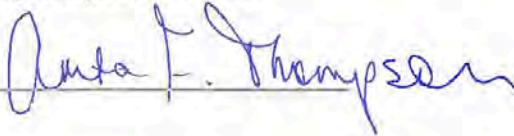
The CDA partially concurs with this recommendation. The CDA has created standardized reports that are generated as part of the CAD system that allows for CDA administration to view current and past statistical data. Currently the CDA reviews each of the reports on a monthly, quarterly and annual basis to evaluate the performance of its call processing capabilities. The CDA will continue to use industry standards. The CDA utilizes industry standards established by NFPA (National Fire Protection Association) and CAAS (Commission on Accreditation of Ambulance Services) as the metric for measurement. Consistent with such industry standards, each agency nationwide measuring call to dispatch, dispatch to pre-alert and pre-alert to on scene time. The CDA will continue to monitor dispatch times and make corrective actions as needed.

Vincent S. Long
Leon County Administrator



A handwritten signature in blue ink, reading "Vincent S. Long", written over a horizontal line.

Anita Favors Thompson
Manager, City of Tallahassee



A handwritten signature in blue ink, reading "Anita Favors Thompson", written over a horizontal line.

Mike Wood
Leon County Sheriff



A handwritten signature in black ink, reading "Mike Wood", written over a horizontal line.

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APPENDIX A

Comparison of Response Times

As described on pages 142 through 144 of this report, we compared the response times as determined for the CDA and applicable service agencies to response times reported by other jurisdictions. As also noted on pages 142 through 144, **the data for the other entities was not audited or validated by our office. Also, the methods by which the response times were determined for the other entities, as shown for the other entities in this Appendix were not described in the Florida Benchmark Consortium’s document. Multiple methods may have been used to calculate and determine response times. For example, certain calls may be excluded or included depending on decisions made by the entity, or the methods for determining “start” and “completion” times may differ among the entities. Furthermore, in comparing response times, it should be noted that individual local governmental entities vary significantly in regard to (1) the type services provided (e.g., some EMS responders do not provided transport services whereas Leon EMS does provide those services), (2) the number of agencies dispatched (e.g., while the CDA is a consolidated dispatch agency, other dispatch agencies may dispatch to only a single agency), (3) the amount of resources and number units available to respond, and (4) the size of the geographical areas served (all of which impact response times). Accordingly, it was not possible to conclude using this information whether the Tallahassee-Leon County CDA and the related service entities performed better or worse than the other entities included in this Appendix. A more meaningful comparison, in our opinion, will be a comparison of response times for the CDA and related responding agencies (TPD, Tallahassee Fire Department, Sheriff’s Office, and EMS) over specific periods of time (e.g., annually). As data for the CDA is currently only available for 13 months, such comparisons currently are not feasible.**

Law Enforcement Calls

For Law Enforcement calls, we determined 17 cities and counties provided “response time” information to the Florida Benchmark Consortium. The data reported included (1) average time from incident creation to dispatch (equates to “Response Time #1” in Tables 23 and 25 within this report) and (2) average time from dispatch to arrival on scene of the incident (equates to “Component #3 in Tables 23 and 25 within this report). That data and our audit determinations for the CDA and related service entities are shown in the following two tables.

APPENDIX A (continued)
Law Enforcement Calls (continued)

TABLE 26		
Comparison of CDA to Other Entities (1)		
Law Enforcement Calls – Incident Creation to Dispatch		
(Average Response Time)		
	<u>Entity</u>	<u>Time</u> <u>(2)</u>
1	Cape Coral	1:14
2	Coral Springs	1:12
3	Gainesville	0:28
4	Lakeland	1:24
5	New Smyrna Beach	1:25
6	Ocala	3:29
7	Orange City	0:30
8	Oviedo	0:55
9	Pinellas Park	2:00
10	Plant City	1:48
11	Pompano Beach	2:31
12	Port Orange	1:00
13	Port St. Lucie	1:19
14	Tamarac	2:23
15	Vero Beach	1:17
16	West Palm Beach	2:16
17	Miami-Dade	2:09
CDA	Calls dispatched to TPD <i>(May not be comparable for the reasons described)</i>	3:18/3:10 <i>(Note 3)</i>
CDA	Calls dispatched to Sheriff's Office <i>(May not be comparable for the reasons described)</i>	3:29/2:53 <i>(Note 3)</i>
Note (1): Data for other entities provided by Florida Benchmark Consortium for Fiscal Year 2013.		
Note (2): Time expressed in minutes and seconds.		
Note (3): From Tables 23 and 25.		

APPENDIX A (continued)
Law Enforcement Calls (continued)

TABLE 27		
Comparison of Service Unit Response Times to Other Entities (1)		
Law Enforcement Calls – Dispatch to On Scene		
(Average Response Time)		
	<u>Entity</u>	<u>Time</u> <u>(2)</u>
1	Cape Coral	4:33
2	Coral Springs	3:54
3	Gainesville	6:00
4	Lakeland	5:00
5	New Smyrna Beach	5:45
6	Ocala	3:14
7	Orange City	1:35
8	Oviedo	3:23
9	Pinellas Park	4:00
10	Plant City	5:24
11	Pompano Beach	3:33
12	Port Orange	3:00
13	Port St. Lucie	6:35
14	Tamarac	5:50
15	Vero Beach	1:31
16	West Palm Beach	2:28
17	Miami-Dade	5:09
CDA	Calls dispatched to TPD <i>(May not be comparable for the reasons described)</i>	5:17/3:11 <i>(Note 3)</i>
CDA	Calls dispatched to Sheriff's Office <i>(May not be comparable for the reasons described)</i>	6:13/3:16 <i>(Note 3)</i>
Note (1): Data for other entities provided by Florida Benchmark Consortium for Fiscal Year 2013.		
Note (2): Time expressed in minutes and seconds.		
Note (3): From Tables 23 and 25.		

APPENDIX A (continued)
Law Enforcement Calls (continued)

For Law Enforcement calls we also surveyed other similar governmental entities within the State of Florida other than those providing data to the Florida Benchmark Consortium. For those surveyed entities we obtained information on (1) average time from dispatch to arrival on scene of the applicable incident (equates to “Component #3” in Tables 23 and 25 within this report) and (2) average time from start of an incident to arrival on scene (equates to “Response Time #3” in Tables 23 and 25 within this report). That data and our audit determinations for the CDA and related service entities are shown in the following two tables.

TABLE 28		
Comparison of Service Unit Response Times to Other Surveyed Entities (1)		
Law Enforcement Calls – Dispatch to On Scene		
(Average Response Time)		
	<u>Entity</u>	<u>Time</u>
		<u>(2)</u>
1	Pinellas County Sheriff	4:21
2	Alachua County Sheriff	1:29
3	Ft. Lauderdale Police	3:48
4	Orange County Sheriff	4:59
5	Escambia County Sheriff	6:00
6	Pensacola Police	4:37
CDA	Calls dispatched to TPD <i>(May not be comparable for the reasons described)</i>	5:17/3:11 <i>(Note 3)</i>
CDA	Calls dispatched to Sheriff’s Office <i>(May not be comparable for the reasons described)</i>	6:13/3:16 <i>(Note 3)</i>
Note (1): Data for other entities as surveyed by the Office of the City Auditor.		
Note (2): Time expressed in minutes and seconds.		
Note (3): From Tables 23 and 25.		

APPENDIX A (continued)
Law Enforcement Calls (continued)

TABLE 29 Comparison of CDA and Service Unit Response Times to Other Surveyed Entities (1) Law Enforcement Calls – Start to On Scene (Average Response Time)		
	<u>Entity</u>	<u>Time</u> <u>(2)</u>
1	Clearwater Police	8:36
2	Alachua County Sheriff	5:34
3	Ft. Lauderdale Police	5:34
4	Escambia County Sheriff	9:00
5	Pensacola Police	6:25
6	Lakeland Police	6:48
7	Polk County Sheriff	13:52
CDA	Calls dispatched to TPD <i>(May not be comparable for the reasons described)</i>	8:35/6:21 <i>(Note 3)</i>
CDA	Calls dispatched to Sheriff’s Office <i>(May not be comparable for the reasons described)</i>	9:42/6:09 <i>(Note 3)</i>
Note (1): Data for other entities as surveyed by the Office of the City Auditor.		
Note (2): Time expressed in minutes and seconds.		
Note (3): From Tables 23 and 25.		

APPENDIX A (continued)

EMS Calls

For EMS calls, we determined 12 cities and counties provided “response time” information to the Florida Benchmark Consortium. The data shown for these entities are the response times determined by the entity to be equal to or less than 90% of the entity’s calls (meaning 90% of the entity’s responses were equal to or less than that time). Data are reported for the following categories: (1) From incident creation to dispatch (equates to “Response Time #1” in Tables 23 and 25 within this report) and (2) from dispatch to arrival on scene of the applicable incident (equates to “Component #3” in Tables 23 and 25 within this report). That data and our audit determinations for the CDA and related service entities are shown in the following two tables.

TABLE 30 Comparison of CDA to Other Entities (1) EMS Calls – Incident Creation to Dispatch (Times for which 90% of the calls were sent to dispatch after creation)		
	<u>Entity</u>	<u>Time</u> <u>(2)</u>
1	Gainesville	3:09
2	Oakland Park	0:41
3	Orange City	2:19
4	Plant City	2:40
5	Winter Park	0:54
6	Alachua County	3:10
7	Hillsborough County	3:04
8	Miami-Dade	1:02
9	Orange County	0:50
10	Pinellas County	1:31
11	Polk County	2:40
12	Seminole County	2:00
CDA	Calls dispatched to EMS <i>(May not be comparable for the reasons described)</i>	3:05/2:49 <i>(Note 3)</i>
Note (1): Data for other entities provided by Florida Benchmark Consortium for Fiscal Year 2013.		
Note (2): Time expressed in minutes and seconds.		
Note (3): Calculated based on the parameters used for Tables 23 and 25.		

APPENDIX A (continued)
EMS Calls (continued)

TABLE 31		
Comparison of Service Unit Response Times to Other Entities (1)		
EMS Calls – Dispatch to On Scene		
(Approximate times for which 90% of the responding units arrived on scene after dispatch) (2)		
	<u>Entity</u>	<u>Time</u> <u>(3)</u>
1	Gainesville	8:23
2	Oakland Park	8:03
3	Orange City	5:11
4	Plant City	8:20
5	Winter Park	6:59
6	Alachua County	12:18
7	Hillsborough County	8:09
8	Miami-Dade	12:32
9	Orange County	9:29
10	Pinellas County	7:27
11	Polk County	13:38
12	Seminole County	9:51
CDA	Calls dispatched to EMS <i>(May not be comparable for the reasons described)</i>	13:53/13:05 <i>(Note 3)</i>
Note (1): Data for other entities provided by Florida Benchmark Consortium for Fiscal Year 2013.		
Note (2): For agencies other than the CDA, these are approximations based on the sum of two amounts including (1) 90 th percentile for time elapsed from the point in time the dispatch was received until the point in time the applicable vehicle is in motion and (2) 90 th percentile for time elapsed from the point in time of the applicable vehicle's movement to the time of the unit's arrival on scene.		
Note (3): Time expressed in minutes and seconds.		
Note (4): Calculated based on the parameters used for Tables 23 and 25.		

APPENDIX A (continued)
EMS Calls (continued)

For EMS calls we also surveyed other similar governmental entities within the State of Florida other than those providing data to the Florida Benchmark Consortium. For those surveyed entities we obtained information on average time elapsed from dispatch to arrival on the scene of the applicable incident (equates to “Component #3” in Tables 23 and 25 within this report). That data and our audit determinations for the CDA and related service entities are shown in the following table.

TABLE 32		
Comparison of Service Unit Response Times to Other Surveyed Entities (1)		
EMS Calls – Dispatch to On Scene		
(Average Response Time)		
	<u>Entity</u>	<u>Time</u> <u>(2)</u>
1	Pensacola	8:15
2	Lakeland	9:33
3	Gainesville	5:08
CDA	Calls dispatched to EMS <i>(May not be comparable for the reasons described)</i>	8:25/7:19 <i>(Note 3)</i>
Note (1): Data for other entities as surveyed by the Office of the City Auditor.		
Note (2): Time expressed in minutes and seconds.		
Note (3): From Tables 23 and 25.		

APPENDIX A (continued)***Fire Services Calls***

For Fire Services calls, we determined 12 cities and counties provided “response time” information to the Florida Benchmark Consortium. The data shown for these entities are the response times determined by the entity to be equal to or less than 90% of the entity’s calls (meaning 90% of the entity’s responses were equal to or less than that time). Data are reported for the following categories: (1) From incident creation to dispatch (equates to “Response Time #1” in Tables 23 and 25 within this report) and (2) from dispatch to arrival on scene of the applicable incident (equates to “Component #3” in Tables 23 and 25 within this report). That data and our audit determinations for the CDA and related service entities are shown in the following two tables.

TABLE 33		
Comparison of CDA to Other Entities (1)		
Fire Services Calls – Incident Creation to Dispatch (2)		
(Times for which 90% of the calls were sent to dispatch after creation)		
	<u>Entity</u>	<u>Time (3)</u>
1	Gainesville	2:21
2	Oakland Park	0:36
3	Orange City	2:42
4	Plant City	2:20
5	Winter Park	0:54
6	Alachua County	2:48
7	Hillsborough County	3:01
8	Miami-Dade	1:39
9	Orange County	1:09
10	Pinellas County	1:13
11	Polk County	3:26
12	Seminole County	2:17
CDA	Calls dispatched to Fire Department <i>(May not be comparable for the reasons described)</i>	3:21/2:39 <i>(Note 4)</i>
Note (1): Data for other entities provided by Florida Benchmark Consortium for Fiscal Year 2013.		
Note (2): Data for other agencies is for “Building Fires” whereas CDA times are for “all fires.”		
Note (3): Time expressed in minutes and seconds.		
Note (4): Calculated based on the parameters used for Tables 23 and 25.		

APPENDIX A (continued)
Fire Services Calls (continued)

TABLE 34		
Comparison of Service Unit Response Times to Other Entities (1)		
Fire Services Calls – Dispatch to On Scene (2)		
(Approximate times for which 90% of the responding units arrived on scene after dispatch) (3)		
	<u>Entity</u>	<u>Time</u> <u>(4)</u>
1	Gainesville	7:52
2	Oakland Park	5:56
3	Orange City	4:54
4	Plant City	9:10
5	Winter Park	7:07
6	Alachua County	13:05
7	Hillsborough County	7:40
8	Miami-Dade	9:14
9	Orange County	9:21
10	Pinellas County	8:52
11	Polk County	12:12
12	Seminole County	9:18
CDA	Calls dispatched to Fire Department <i>(May not be comparable for the reasons described)</i>	10:14/10:08 <i>(Note 5)</i>
Note (1): Data for other entities provided by Florida Benchmark Consortium for Fiscal Year 2013.		
Note (2): Data for other agencies is for “Building Fires” whereas CDA times are for “all fires.”		
Note (3): For agencies other than the CDA, these are approximations based on the sum of two amounts including (1) 90 th percentile for time elapsed from the point in time the dispatch was received until the applicable vehicle was in motion and (2) 90 th percentile for the time elapsed from the point in time applicable vehicle was put into motion until the point in time of the unit’s arrival on scene.		
Note (4): Time expressed in minutes and seconds.		
Note (5): Calculated based on the parameters used for Tables 23 and 25.		

APPENDIX A (continued)
Fire Services Calls (continued)

For Fire Services calls we also surveyed other similar governmental entities within the State of Florida other than those providing data to the Florida Benchmark Consortium. For those surveyed entities we obtained information on average time elapsed from dispatch to the arrival on scene of the applicable incident (equates to “Component #3” in Tables 23 and 25 within this report). That data and our audit determinations for the CDA and related service entities are shown in the following table.

TABLE 35		
Comparison of Service Unit Response Times to Other Surveyed Entities (1)		
Fire Services Calls – Dispatch to On Scene		
(Average Response Time)		
	<u>Entity</u>	<u>Time</u> <u>(2)</u>
1	Pensacola	7:29
2	Lakeland	7:14
3	Gainesville	5:04
CDA	Calls dispatched to Fire Department <i>(May not be comparable for the reasons described)</i>	6:40/6:30 <i>(Note 3)</i>
Note (1): Data for other entities as surveyed by the Office of the City Auditor.		
Note (2): Time expressed in minutes and seconds.		
Note (3): From Tables 23 and 25.		