

Final Audit Follow-Up

As of September 30, 2009



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800 MHz Radio System

(Report #0614, Issued May 3, 2006)

Report #1007

January 7, 2010

Summary

Twenty-three of the twenty-eight action plan steps developed to address issues identified in audit report #0614 have been completed as of September 30, 2009. Actions have been initiated, but not yet completed, for three of the five remaining steps and responsibility for ensuring the completion of those steps is turned over to management. Additionally, management reviewed the risks associated with the final two action plan steps not completed and determined risks were not sufficient to justify the costs associated with mitigating the risks and therefore decided to accept those risks.

In report #0614, we noted areas where improvements could be made to increase preparedness for emergencies/disasters, improve oversight of the 800 MHz radio system, and increase the physical security of the various 800 MHz radio system infrastructure and radio tower locations.

For this follow-up period there were ten action plan steps due for completion. Six steps were completed; three were turned over to management for final resolution; and managements accepted the risk associated with the final step.

To address the action plan steps completed this follow-up period, the Information Systems Services Radio Communications Division (RCD) has:

- Tested certain aspects of the plan for recovery from emergencies and disasters,
- Worked with Motorola to conduct limited emergency testing of the radio system and received guidance from the oversight board as to the extent of testing that will be conducted, and
- Conducted an inventory of the major components of the radio system and found that all items were properly accounted for and identified.

While RCD has had success in completing six of the action plan steps due, completion of the three remaining steps will require direction from the Public Safety Communications Board (PSCB) that replaced the Management Oversight Committee (MOC) in July 2006.

In addition to the steps that were turned over to management, one step was deleted because management has decided to accept the risk the step was designed to mitigate. That step related to moisture sensors in the shelters that house components of the 800 MHz radio system infrastructure.

Overall, for the audit, RCD completed 23 of the 28 action plan steps, management reviewed and accepted the risks associated with two of the action plan steps, and three of the steps were not yet completed but were altered to address the initial issue and have been turned over to management to ensure final resolution.

Scope, Objectives, and Methodology

The scope of this follow-up includes reviewing the activities of RCD related to the action plan developed as part of the audit of the 800 MHz radio system. The original audit, this and all previous follow-ups were conducted in accordance with Generally Accepted Government Auditing Standards and the International Standards for the Professional Practice of Internal Auditing. Those standards require that we plan and perform the audit follow-up to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit follow-up objectives.

Original Report #0614

The scope of report #0614 included a review of selected computer controls over the 800 MHz radio system and of the performance and oversight of that system by RCD. The objectives were to evaluate whether RCD operated the 800 MHz radio system in an efficient and effective manner, selected computer controls were in place and functioning as intended, and the 800 MHz radio system met the needs of its users through an evaluation of the performance of the system.

Report #1007

This follow-up is to report on the progress and status of efforts by RCD to complete action plan steps due for completion during the period October 1, 2007, through March 31, 2009, and recap the activities to address all action-plan steps since the audit report was originally issued. This is our fourth and final follow-up on action plan steps identified in audit report #0614. To determine the status of the action plan steps, we interviewed staff, attended meetings of the committee with oversight responsibility for the radio system, and

reviewed relevant documentation provided by RCD.

Background

The 800 MHz radio system is the primary means of radio communications for the public safety agencies of the City of Tallahassee, Leon County, and the local universities. As such, the availability and continued operability of the 800 MHz radio system during an emergency or disaster is very important. Additionally, other City and County departments use and rely on the 800 MHz radio system for their day-to-day operations.

The 800 MHz radio system is a computer based radio system. Therefore, its components should be protected and cared for in a manner similar to any other computer, and the equipment shelters should have controls in place similar to those for computer operations centers.

In 1999, the Management Oversight Committee (MOC) was formed to oversee and provide direction for the 800 MHz radio system. The MOC was in place and functioning for several years. Subsequent to the issuance of report #0614, the MOC was dissolved and a new governing board was created. The Public Safety Communications Oversight Board (PSCB) replaced the MOC as the 800 MHz radio system's governing body.

The PSCB is comprised of the City Manager, County Administrator, Sheriff, Police Chief, Fire Chief, and the County Emergency Management Services Director. The first issue assigned to the PSCB was the consolidation of dispatching calls for service for public safety agencies in Leon County. Because of the nature of public safety dispatching consolidation issue, and the level of effort required to complete the consolidation, the issues identified in report #0614, relating to the 800 MHz radio system, have yet to be addressed. The day-to-day management and oversight of the 800 MHz radio system remains the responsibility of RCD.

Previous Conditions and Current Status

This is the fourth and final follow-up on audit report #0614, 800 MHz Radio System. In that report we made recommendations designed to:

- improve the oversight of the 800 MHz radio system;
- improve the preparedness for the recovery from emergencies or disasters;
- improve the recording and tracking of system outages;
- improve compliance with FAA regulations relating to radio tower lighting;
- improve the reliance that can be placed on the alarm system that monitors the 800 MHz radio system;
- review the emergency testing provisions of the 800 MHz radio system maintenance agreement and decisions previously made thereon;
- evaluate the coverage of the 800 MHz radio system and take appropriate action based on that evaluation;

- increase accountability and oversight of individual components and spare parts of the 800 MHz radio system;
- improve and update the standard operating procedures governing the 800 MHz radio system;
- improve the physical access controls relating to the various 800 MHz radio system locations;
- improve the monitoring of the environment of the 800 MHz radio system locations; and
- improve the logical security controls of the 800 MHz radio system.

There were ten action plan steps due for completion as of September 30, 2009. Of those ten, six were completed, three were altered but still address the initial issue and turned over to management to ensure completion, and for one step management accepted the risk the action plan step was designed to address. Table 1 shows all action plan steps in audit report #0614 and identifies the steps as having been completed in a prior follow-up, the actions taken to complete the action-plan steps, or the final disposition of the action plan step if it was not completed.

**Table 1
Action Plan Steps from Report #0614
due as of September 30, 2009, and Current Status**

Action Plan Steps	Current Status
<i>To improve oversight of the 800 MHz system</i>	
<ul style="list-style-type: none"> • Conduct an annual assessment of the 800 MHz system and document the results. The assessment will evaluate the strengths, weaknesses, opportunities, and threats of the system. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the third follow-up, report #0804, which was issued 1/2/08.
<ul style="list-style-type: none"> • Develop and document a process whereby activities/projects conducted by RCD staff will be reviewed by the System Manager to help ensure that the tasks are satisfactorily completed. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the third follow-up, report #0804, which was issued 1/2/08.

<i>To improve the preparedness for the recovery from emergencies or disasters</i>	
<ul style="list-style-type: none"> • Conduct and document a risk identification/assessment (as it relates to disaster planning) of the 800 MHz system. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the third follow-up, report #0804, which was issued 1/2/08.
<ul style="list-style-type: none"> • Conduct and document an impact analysis. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the third follow-up, report #0804, which was issued 1/2/08.
<ul style="list-style-type: none"> • Develop a documented disaster/emergency recovery plan. That plan will be based on the risk assessment and impact analysis previously conducted. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the third follow-up, report #0804, which was issued 1/2/08.
<ul style="list-style-type: none"> • Periodically test (annually at a minimum) the disaster plan. The exact composition of the tests should vary from year to year and will be determined by RDC management. 	<ul style="list-style-type: none"> ✓ Limited testing has occurred. That testing consisted of forcing the system into “fail-soft” mode and occurred without incident. There were great concerns by the PSCB that further testing could cause interruptions in current public safety operations and therefore further testing was not performed. While this step is being considered complete for the purposes of this follow-up, we believe that further testing of the emergency plan is important and warranted to help ensure that the system will be available or restored in a timely manner in the event of emergencies and/or disasters that may occur in the future.
<ul style="list-style-type: none"> • Review and revise the plan annually, or more frequently as appropriate. 	<ul style="list-style-type: none"> ✓ The plan was reviewed. However, there were no substantive changes to the plan because of the ongoing system upgrade project and its impact on the composition of the system. This step will be completed.
<i>To improve the recording and tracking of 800 MHz system outages, their causes, and remedial actions taken</i>	
<ul style="list-style-type: none"> • Develop a system or process to document all instances of 800 MHz system service interruptions, which includes the cause of the interruption, the date and time of the interruption, and the corrective actions taken to restore operation of the radio system. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the first follow-up, report #0710, which was issued 1/29/07.

<i>To improve compliance with FAA regulations relating to tower lighting</i>	
<ul style="list-style-type: none"> Review the FAA requirements for radio facilities in general and those relating to the City's radio towers specifically. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the first follow-up, report #0710, which was issued 1/29/07.
<ul style="list-style-type: none"> Conduct and document an evaluation of the City tower sites and monitoring practices to ensure the City's compliance with FAA requirements. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the first follow-up, report #0710, which was issued 1/29/07.
<ul style="list-style-type: none"> Develop and maintain a logbook of all radio tower lighting outages in accordance with FAA requirements. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the first follow-up, report #0710, which was issued 1/29/07.
<i>To improve the reliance that can be placed on the alarm system that monitors the 800 MHz system</i>	
<ul style="list-style-type: none"> Review all aspects of the 800 MHz system to ensure appropriate parts of the system that can/should be monitored are connected to the alarm system (MOSCAD) that monitors the 800 MHz system. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the third follow-up, report #0804, which was issued 1/2/08.
<ul style="list-style-type: none"> Develop a process whereby the alarm system monitoring various parts of the 800 MHz system is periodically tested. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the third follow-up, report #0804, which was issued 1/2/08.
<ul style="list-style-type: none"> Develop a process whereby the testing of the alarm system is documented to help ensure that all critical components and connections have been tested. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the third follow-up, report #0804, which was issued 1/2/08.
<i>To review the emergency testing provisions of the 800 MHz system maintenance agreement and decisions previously made thereon</i>	
<ul style="list-style-type: none"> Clarify, and expand upon as needed, the scope of emergency testing to be conducted pursuant to the maintenance contract with Motorola. 	<ul style="list-style-type: none"> ✓ The contract with Motorola was reviewed and a determination was made that limited emergency testing was within the scope of the contract. Management noted there were limitations as to the number of hours that Motorola employees could be used for testing purposes and any additional hours would not be covered by the existing contract.
<ul style="list-style-type: none"> The MOC will review the decision to not conduct emergency tests (based on the scope as clarified above) of the 800 MHz system and a decision will be made as to whether such emergency testing should occur. 	<ul style="list-style-type: none"> ✓ The PSCB in informal discussions decided that further emergency testing of the system was not in the best interest of the community as there was the potential for negative impact to current public safety operations. Therefore,

	<p>with the exception of the “fail-soft” testing that was already performed there would be no other testing of the system.</p>
<ul style="list-style-type: none"> • Emergency testing will or will not occur as determined by the MOC. If the decision is made to NOT conduct emergency tests, then the provisions for such tests will be removed from the maintenance agreement. 	<ul style="list-style-type: none"> ✓ In informal discussions, the PSCB decided that there would not be any emergency testing outside of the “fail-soft” testing that was previously conducted.
<p><i>To increase accountability and oversight of individual components and spare parts of the 800 MHz system</i></p>	
<ul style="list-style-type: none"> • Develop a record of the individual components and spare parts of the 800 MHz system. These records will serve as a subsidiary inventory of the assets as recorded in the City fixed asset records. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the third follow-up, report #0804, which was issued 1/2/08.
<ul style="list-style-type: none"> • Conduct an annual verification of the assets in the subsidiary inventory records and resolve any discrepancies. 	<ul style="list-style-type: none"> ✓ As part of the annual asset verification conducted citywide, the assets included in the subsidiary inventory records relating to the 800 MHz radio system were verified without exception.
<p><i>To improve and update the standard operating procedures governing the 800 MHz system</i></p>	
<ul style="list-style-type: none"> • Create a committee comprised of current Public Safety users of the 800 MHz system to review and make suggestions for revisions to the 800 MHz system SOPs. The System Manager is responsible for drafting and promulgating the SOPs with the MOC’s approval. 	<ul style="list-style-type: none"> ○ Management has determined that an informal “committee” will be used to assist the System Manager (as needed) in the development of SOPs for the 800 MHz radio system. The purpose of the committee will be to ensure the needs of the agencies that use the system are considered and incorporated into the SOPs. This step has been turned over to management to ensure completion.
<ul style="list-style-type: none"> • System Manager will revise current SOPs and develop new SOPs to include (1) required periodic review and revision and (2) provisions for the enforcement of compliance with the SOPs and the escalation of issues of noncompliance to the MOC for resolution. 	<ul style="list-style-type: none"> ○ As noted in the previous action plan step, management has determined that the System Manager will revise the SOPs with assistance from an “informal” committee of 800 MHz radio system users. This step has been remanded to management to ensure completion.
<ul style="list-style-type: none"> • The System Manager shall present the revised SOPs to the MOC for approval and the MOC's approval will be documented. 	<ul style="list-style-type: none"> ○ This step has been remanded to management for completion.

<i>To improve the physical access controls relating to the various 800 MHz system locations</i>	
<ul style="list-style-type: none"> • Develop a process whereby issuances of keys are recorded and signed for by the individual receiving the keys. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the first follow-up, report #0710, which was issued 1/29/07.
<ul style="list-style-type: none"> • Re-key existing locks with locks that require either high security type keys or new keys stamped "Do Not Duplicate." 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the first follow-up, report #0710, which was issued 1/29/07.
<ul style="list-style-type: none"> • Develop a process whereby RCD is able to review and determine who is able to access the prime site using the security system maintained by TPD. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the first follow-up, report #0710, which was issued 1/29/07.
<ul style="list-style-type: none"> • Develop a process whereby all individuals entering 800 MHz system facilities are logged. Such logs will record the date and time the facility was entered and left and the purpose of the visit. 	<ul style="list-style-type: none"> ✓ Complete. This action plan step was addressed in the first follow-up, report #0710, which was issued 1/29/07.
<i>To improve the monitoring of the environment of the 800 MHz system locations</i>	
<ul style="list-style-type: none"> • Review environmental sensors at every 800 MHz system location to ensure compliance with AP 809 and that the environment is adequate to support the functioning of the 800 MHz system. 	<ul style="list-style-type: none"> ◆ As noted in the third follow-up, report #0804, management reviewed this action plan step and management accepted the risk of water damage.
<ul style="list-style-type: none"> • Develop a process whereby the sensors monitoring the environment of the 800 MHz system locations are periodically tested to ensure they are still functioning. 	<ul style="list-style-type: none"> ◆ Management's acceptance of the risk of water damage resulted in the decision to not install water sensors at the various radio equipment shelter locations. Therefore, this action-plan step is no longer applicable.

Table Legend:

- Issue as identified in the original audit.
- ◆ Management has accepted the risks associated with the issue.
- ✓ Issue has been addressed and resolved.
- Action plan step not completed, the issue is turned over to management for final completion.

Conclusion

Twenty-three of the twenty-eight action-plan steps identified in audit report #0614 have been completed as of the end of the Office of the City Auditor's follow-up process. Three of the action-plan steps (designed to reduce the risks with a lack of standard operating procedures) were not completed and have been altered but still address the issue from the initial report and that been turned over to management for final resolution. The final two action plan steps, which were not completed, related to the installation of water sensors at the radio equipment shelters. After further consideration, management elected to accept the risk of water damage.

We would like to commend RCD on the actions taken to date and encourage their emphasis to the PSCB the importance of completing the remaining action plan steps identified in audit report #0614, 800 MHz Radio System. We also appreciate the cooperation and assistance of RCD during this audit follow-up.

Appointed Official's Response

City Manager:

The 800 MHz is an extremely important system as it provides radio coverage to both the City and County Public Safety and operating departments. I appreciate the follow up work of Auditing and would like to note that the Standard Operating Procedures for the new Digital system will be completed. I would like to thank Auditing and DMA/ISS for their efforts.

Copies of this audit follow-up or audit report #0614 may be obtained from the City Auditor's website (<http://talgov.com/auditing/index.cfm>) or via request by telephone (850 / 891-8397), by FAX (850 / 891-0912), by mail or in person (Office of the City Auditor, 300 S. Adams Street, Mail Box A-22, Tallahassee, FL 32301-1731), or by e-mail (auditors@talgov.com).

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