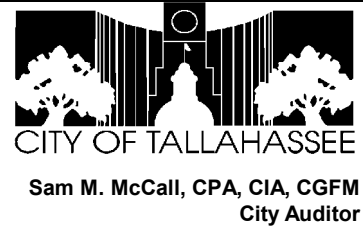


Project Progress Report

As of July 31, 2000



“Technology Integration Project Planning Phase”

Report #0101

October 3, 2000

Summary

The Systems Integration Project, also referred to as Technology Integration Project (TIP), is close to completing the planning phase (Phase I). The acquisition and implementation phase (Phase II) is expected to commence in September 2000.

This report is the first of a series on the implementation of TIP and focuses on the planning phase of the project. The purpose of our review is to provide assurance as to TIP compliance with City policies and procedures and contract requirements.

As to our Phase I review, we can provide assurances that TIP has substantially complied with City policies and procedures and contract requirements. Also, contract deliverables were received and accepted before payments to Convergent were processed. In Table 1 of this report, we have summarized Phase I components that have been completed satisfactorily, are still in progress, or are outstanding and have not been completed. Table 1 identifies areas where improvements can be made including overall project plan documentation, budget monitoring, utilization of the Information Systems Services (ISS) Steering Committee, and establishment of a retainage account.

In addition to assurances provided above, Table 2 summarizes the significant issues identified by the project team as of July 31, 2000, that need to be resolved as TIP moves forward into Phase II. For issues listed, we have included management's planned actions to address or resolve each issue. The extent to which these or such other alternative resolution approaches are utilized by management will be addressed in our next report on Phase II of TIP. These issues are listed at this time for information and for management's further analysis and resolution. The issues include: call center configuration, data accuracy and sharing, telecommunications infrastructure, 800 MHz radio/data channels, potential duplication of system functionality, communication, network security, managing business changes, and availability of technical and functional resources.

Scope, Objectives, and Methodology

The Office of the City Auditor is providing assurance and consulting services to assist management throughout the implementation of the Technology Integration Project (TIP). As part of these services, we will be issuing a series of reports.

Our objectives are to:

- determine compliance with City policies and procedures and contract requirements;
- report on the project status and accomplishments as of July 31, 2000; and
- communicate the significant issues identified as of July 31, 2000.

This report focuses on Phase I, the planning phase, of the project. Providing a progress report during the planning phase allows management to address the identified issues in a timely and less costly manner.

To achieve our objectives, we participated in an advisory capacity on the project team and executive steering committee, reviewed key documentation, and conducted interviews with key staff on the project team. These audit procedures were conducted in accordance with generally accepted government auditing standards.

Background

Project Life Cycle

Every information technology (IT) project follows similar life cycle phases, such as:

Planning Phase – defining business problems, potential solutions, project scope, system interfaces, systems and software requirements, and resource needs. Other activities include identifying risks, costs and benefits associated with each solution, developing a project plan, and obtaining funding.

Acquisition Phase – developing a request for proposal and evaluation criteria, evaluating proposals, selecting a vendor, and negotiating the contract.

Implementation Phase – managing the vendor contract and project staff, installing software, defining business rules and processes, converting data, planning and performing testing, preparing technical and user documentation, and putting the system into production.

Post-Implementation Evaluation Phase – evaluating to determine if the system meets the users’ needs and requirements.

Project Description

TIP was formally initiated in Summer 1999. The project’s mission is to enhance the City’s utilities customer services by employing new technologies to manage operations more efficiently and effectively. It strives to develop and implement a seamless integration of the City’s major automated systems with a suite of new utilities applications. The project team consists of key staff from Information Systems Services (ISS), Electric Operations, Water Utilities, Utility Customer Business Services, and Convergent Group, Inc.

In December 1999, the City entered into a contract with Convergent Group, Inc., (Convergent) to provide professional technical and project management services to plan and implement the new utilities applications and an integration platform at a cost “not to exceed” \$9,988,220. Convergent proposed to achieve the project’s objectives through two phases.

IT Project Phases	Convergent’s Phases
Planning	Phase I
Acquisition	Phase II
Implementation	
Post-Implementation Evaluation	Not Included in Contract

Phase I culminates in the development of an IT implementation and deployment plan. In Phase II, the project team will utilize these plans to guide the acquisition and implementation activities. Phase I was originally scheduled to be completed in May 2000; this date has been revised to August 2000.

During the planning process, the project scope was refined to plan for the acquisition and implementation of four applications:

- 1) CCM/IVR - Call Center Management/Interactive Voice Response;
- 2) OMS - Outage Management System;
- 3) MWM - Mobile Workforce Management; and
- 4) Integration - the necessary software to integrate these three applications with each other and selected existing City applications.

The CCM/IVR increases the efficiency and effectiveness of handling customer telephone calls. The IVR is an automated telephone answering system that allows callers to make choices. The CCM routes calls to the appropriate location, including a customer services representative (CSR) in the call center. The CCM/IVR shares data with the utilities Customer Information System (CIS) and will be used to initiate customer

utilities requests and update customer records. The CCM/IVR will also be used to collect electric outage information from customers for the OMS.

The OMS is designed to assist the Electric Systems Control Center in managing electric outages throughout the City using information collected from the CCM/IVR, Geographic Information Systems (GIS), and other electric monitoring resources. This information helps identify where electrical problems are located to facilitate faster corrective measures. Then, work assignments can be dispatched to crews in the field via the MWM.

The MWM is a workorder distribution system that uses mobile data terminals to communicate among customer service representatives, utilities dispatchers, and field crews via the 800 MHz radio system. Crews can receive work assignments and can, in turn, report the status back to the call center representatives and dispatchers while remaining out in the field. Workorders can originate from the CIS or within the MWM.

Figure 1 (on the next page) provides a basic illustration of how these TIP applications will work together to improve utility services to customers during an electrical power outage.

The integration software component will involve implementing a “middleware” application, which will function as a consolidator, enabling one application to communicate with another. The TIP scope includes the integration of the CCM/IVR, MWM, OMS, CIS, CIS data warehouse, and GIS.

Project Status

Phase I of this project is near completion pending the delivery and presentation of the final IT implementation plan and the acceptance of all other contract deliverables. The original schedule indicated that Phase I was to have been completed in May 2000. Due to resource scheduling conflicts, this has since been revised to August 2000. Phase II is scheduled to begin immediately after Phase I. Convergent is projecting a completion date of December 31, 2001.

Project Progress and Accomplishments to Date

The TIP project has made significant progress during Phase I. As described in the project life cycle above, there are common activities conducted during the planning phase of an IT project. Some of these activities are considered “good business practices,” while others are required by City administrative policies and procedures, or by the vendor contract. Table 1 (located on page 4) provides a listing of the planning components that were identified for this project, the status, and auditor comments (if applicable). The components are separated as to the source of the requirement.

Figure 1
How TIP Applications Will Work Together To Improve Utility Services To Customers
During An Electrical Power Outage

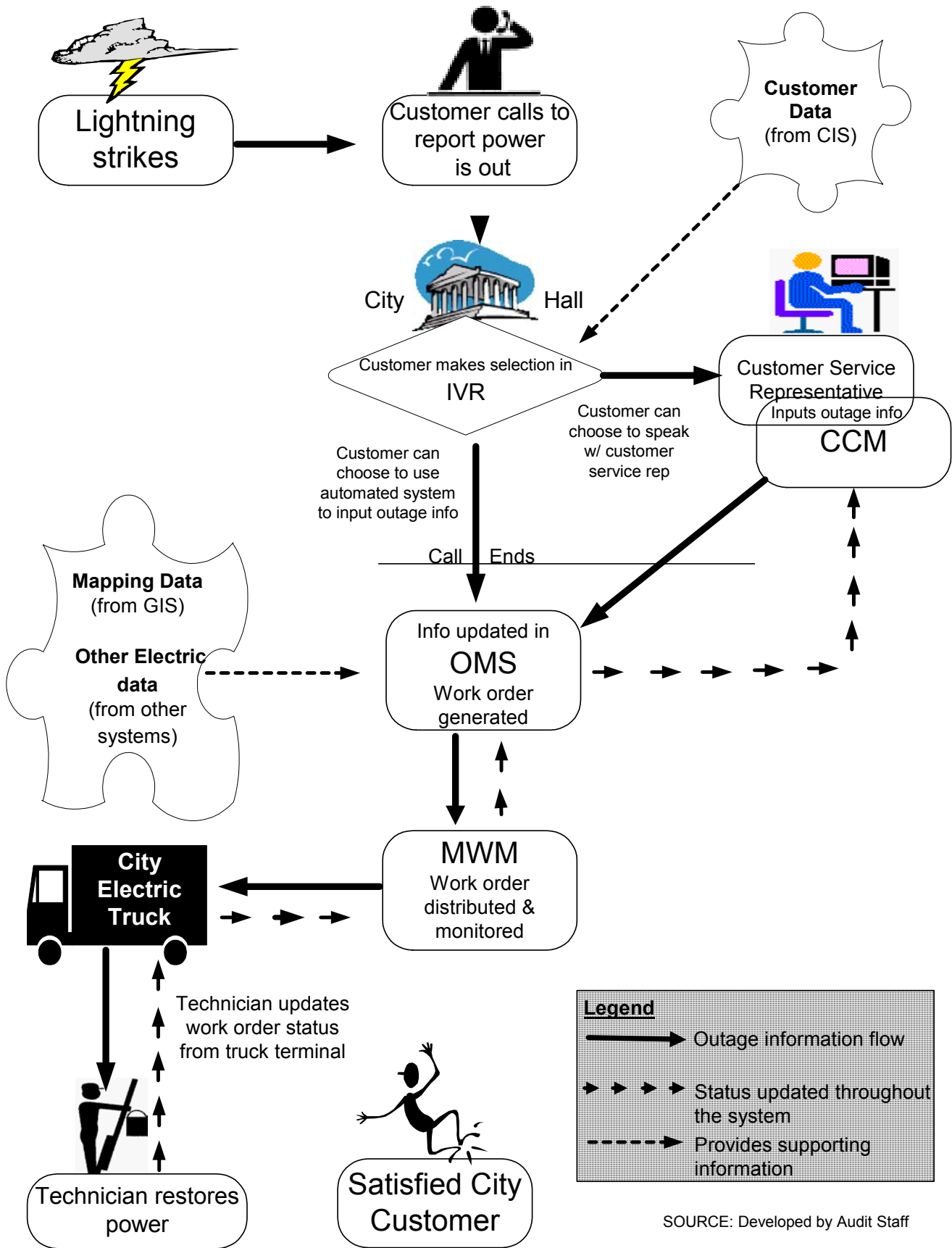


Table 1

Phase I Components	Status/Comments
City Administrative Policies and Procedures (APP) #801, "IT Acquisition Policy"	
Define Business Problem and Project Scope	√ Documented in the Phase I Project Charter
Create a cost/benefit analysis	√ Completed by staff in June 1999
Determine how project is to be funded	√ Capital Project #00053 (funded over a five year period)
Form an executive steering committee	√ Established in January 2000
Establish a project team	√ Established in February 2000
Form a business relationship between ISS and the Executive Owner via a signed project charter	√ Signed by all executive steering committee members in April 2000
Develop a draft Project Management Plan (PMP)	<ul style="list-style-type: none"> ○ Convergent is managing PMP, however, it does not include any project-related tasks that are the responsibility of the City. <p><u>Comment:</u> We recommend that City staff manage a PMP that encompasses the entire project, including both City responsibilities and consultant responsibilities.</p>
Present project management plan to ISS Steering Committee for approval	<ul style="list-style-type: none"> ○ The ISS Steering Committee has not met and addressed the TIP project since summer 1999. <p><u>Comment:</u> The purpose of this committee and related policy (APP #402) should be re-evaluated as to how it can be most effective.</p>
City APP #630, "Internal Control Guidelines"	
Execution of Transaction and Events – processing deliverables and contract payments	√ Project manager reviews and accepts deliverables before payments are approved and processed.
Direct Activity Management – managing the project budget	<ul style="list-style-type: none"> ○ There has not been adequate monitoring of budget and expenditures. <p><u>Comment:</u> We recommend that the Project Manager meet with Budget staff to identify and implement procedures to better monitor project budget and expenditures.</p>
Contract with Convergent, Inc.	
<p>Project Management – work closely with the City to ensure satisfaction, manage day-to-day project activities, schedules, costs, etc.</p> <ul style="list-style-type: none"> ⇒ Develop Phase I project plan and schedule ⇒ Provide monthly status reports ⇒ Hold bi-monthly executive review meetings with City management ⇒ Develop a system baseline document 	<ul style="list-style-type: none"> √ Done √ Done √ Done ◆ Received, acceptance in process
<p>Change Management – assist the City plan for business changes resulting from implementation of enhanced technology.</p> <ul style="list-style-type: none"> ⇒ Conduct information sessions, executive interviews, and employee interviews ⇒ Develop change agent assessment tool, readiness survey design, change action plan ⇒ Develop project brand and logo, sample newsletter layouts and e-mail bulletin formats and recommend project web site contents ⇒ Develop a communications plan 	<ul style="list-style-type: none"> √ Done √ Done √ Done √ Done

<p>Current Business and Technology Assessment – obtain a thorough understanding of the City’s business drivers, processes, challenges and changes. ⇒ Develop citywide functional workshop plan and conduct workshops ⇒ Develop draft IT integration plan, schedule, and outline ⇒ Develop draft and final assessment reports</p>	<p>√ Done √ Done √ Done</p>
<p>Business Process Architecture Development – recommend major technology alternatives suitable for the City’s operating requirements and current environment challenges and opportunities. ⇒ Conduct integrated technologies introduction workshop ⇒ Conduct process impact analysis workshops ⇒ Develop draft business process architecture document and conduct workshop to review ⇒ Develop final business process architecture document</p>	<p>√ Done √ Done ♦ Received, acceptance in process ♦ Received, acceptance in process</p>
<p>Model Office Software Gap Analysis – documenting process requirements to the planned model office and identifying initial gaps. ⇒ Conduct functional, data, and system specifications workshops ⇒ Develop high-level functional requirements document ⇒ Develop gap analysis document ⇒ Review functional requirements document and business process architecture documents</p>	<p>√ Done √ Done √ Done √ Done</p>
<p>Integrated Systems Architecture and Database Requirements – obtain an understanding of the existing systems and network architecture, as well as current initiatives for infrastructure improvement. ⇒ Conduct integrated systems architecture assessment workshop ⇒ Develop integrated solution architecture document ⇒ Develop draft interfaces requirements document ⇒ Develop integrated systems database needs assessment report ⇒ Develop draft technology deployment plan</p>	<p>√ Done ♦ Received, acceptance in process √ Done ♦ Received, acceptance in process ♦ Received, acceptance in process</p>
<p>Systems Implementation Plan and Cost Estimates Development ⇒ Develop draft IT Implementation Plan ⇒ Develop budgetary cost estimates ⇒ Conduct review and validation workshop</p>	<p>√ Done √ Done √ Done</p>
<p>Business Case Development – Develop draft and final cost-benefit analysis report</p>	<p>♦ Received, acceptance in process</p>
<p>Final Plan ⇒ Develop final IT Implementation plan ⇒ Develop final Technology Deployment Plan</p>	<p>♦ Received, acceptance in process ♦ Received, acceptance in process</p>
<p>City to Establish a Retainage Account – City is to retain 20% of charges for custom software and Convergent services included in each payment up to \$1 million in an interest-bearing account until final acceptance of all deliverables.</p>	<p>○ Has not been established yet <u>Comment:</u> We recommend that the project manager work with the appropriate DMA staff to establish and monitor this retainage account. As of July 31, 2000, \$264,065 had been paid to Convergent, and the retainage account should contain \$52,813 plus interest earned.</p>

Table Legend:

⇒ Sub component	♦ In Progress
√ Completed Satisfactorily	○ Outstanding, Not completed

In summary, we can provide assurances that TIP has complied with City policies and procedures and contract requirements, except as stated above in Table 1; and that contract deliverables have been received and accepted before payment to Convergent is processed. We have provided recommendations relating to budget monitoring,

the project management plan, the ISS Steering Committee, and the retainage account. The original scheduled completion date for Phase I was May 2000; this date has since been revised to August 2000.

Communication of Significant Issues Identified as of July 31, 2000

It is important to note that identifying and resolving significant issues are a normal activity for every project team. If they are unable to resolve an issue, then they are to educate the executive steering committee regarding the issue, recommend alternative solutions, and seek their guidance.

There were many issues identified by the project team that will impact the project's success. They were able to

resolve many of these issues, but there are some significant issues that still need to be resolved to ensure the successful implementation of the project. Significant issues identified to date are provided in Table 2 below. Each significant issue identified is listed in the left column, and the right column provides management's actions, the current status, and auditor comments (if applicable).

The extent to which these or such other alternative resolution approaches are utilized by management will be addressed in our next report on Phase II of TIP. These issues are listed at this time for information and for management's further analysis and resolution.

Table 2

Significant Issues Identified as of July 31, 2000	Management Actions/Status
Call Center / Interactive Voice Recognition Systems	
<p>Configuration and structure of City's customer services (utilities, all City functions, etc.) call center needs to be determined. City must decide whether to have: 1) a centralized call center location to answer all calls in one physical location; or 2) a decentralized call center where calls are made to one number, and are routed to numerous locations based upon customer need. This decision will impact staffing needs and reporting status as it relates to supervision, and could result in staff shifting either location or organizationally in order to best meet the needs of the call center configuration.</p>	<ul style="list-style-type: none"> ○ The executive steering committee is waiting to make a decision until there is adequate information, such as costs, advantages, disadvantages, and impact to division staffing.
<p>Customer telephone data in CIS needs to be accurate for IVR and CCM to work effectively. Customer telephone data in the current CIS (legacy application) is estimated by City staff to be approximately 30% accurate. This data has not been needed before but will be needed by the call center application and IVR to pre-identify the caller.</p>	<ul style="list-style-type: none"> ◆ The CCM/IVR project lead is exploring opportunities to improve the telephone data in the current CIS that, in turn, will improve the data in the new CIS.
<p>There is no identified solution to enable critical customer information in the new CCM to be shared with the current CIS (mainframe) application. Without the ability to share data between these two applications, customer requests and information initiated in the CCM will not systematically update the information in the CIS. If there is different data in the two systems, it can result in unanswered customer requests or call center representatives utilizing inaccurate information when responding to customers.</p>	<ul style="list-style-type: none"> ○ The project team is unable to design a solution until the software application is chosen. Then, they will know what data needs to be uploaded into CIS.
Outage Management System	
<p>GIS electric data needs to be up-to-date in the City standard format for the outage management system to be effective. The electric GIS data has not been migrated into the City's standard GIS program, and therefore cannot be used by other application systems. The outage management system relies upon the electric GIS data to be able to identify outage sources and manage trouble outage work. According to Convergent, the OMS can be implemented with incomplete electric GIS data, but the system will not operate as effectively as it could with complete and accurate data.</p>	<ul style="list-style-type: none"> ◆ Conversion of prior data is currently being addressed by ISS and Electric via a pre-existing contract with Convergent and is scheduled to be completed in September 2000. Other affected data, collected after the conversion began, will also have to be addressed so that it is complete.

Mobile Workforce Management System	
<p>There is no overall plan for the future usage and maintenance of the 800 MHz radio/data channels. As the City plans to implement more technologies that use the 800 MHz radio or data system, there is no strategic plan for funding to acquire additional channels, licenses, maintenance resources, or management resources. Increased usage planned for departments within the City and by non-city agencies indicates that plans for the future are imperative. For example, the City needs to consider the limited available channels and licenses and the costs associated with increased maintenance when planning for new technologies.</p>	<ul style="list-style-type: none"> ◆ ISS has an 800 MHz project manager responsible for managing all uses of the 800 MHz voice and data radio channels. Also, for the radio system, there is a Management Oversight Committee consisting of City staff and the Leon County Sheriff's Department. The ISS project manager is tasked to develop a written plan and is working with TIP to help make this technology available to use with the MWM. The channel projected to be purchased and used for MWM will be able to handle at least three times the number of mobile data terminals included in the initial plan.
<p>The current IT implementation plan does not provide for project-related workorder information collected in the MWM system to be shared with the Project Costing module in the Financials system. The workorder information collected in the MWM will not be shared with the project costing information in the Financials system. For managers to analyze project work and costs, they will need to extract data from these two systems independently and use a separate database or spreadsheet application.</p>	<ul style="list-style-type: none"> ◆ A decision has been made to have an ISS staff member create an in-house Access application that will extract the data from FMS and MWM. City personnel could use this method until they decide whether purchasing a separate work management system would be a prudent investment for the City. The project team will also evaluate the Financials system to identify ways to share MWM data.
Overall Project	
<p>There may be duplication in system functionality and implementation efforts among concurrent system implementation projects, including CIS, Financials, MWM, and CCM/IVR. There are several cases where the system being considered contains functionality that currently exists in another City system. For example, the new CIS being implemented contains some call center, outage, and mobile workorder functionality. The new Financials system being implemented contains some workorder functionality. While the existing systems' functionality may not meet the business process needs, it should be fully evaluated for its potential value before additional funds are expended.</p>	<ul style="list-style-type: none"> ◆ ISS project managers have started meeting monthly to share information on the various systems being installed. Additionally, TIP will be scheduling meetings with the CIS and Financials project teams to discuss the various systems' functionality, potential duplications and alternative solutions, and integration needs. ISS staff involved in TIP will facilitate these discussions.
<p>Communication and information sharing needs to be increased and improved with Convergent and within the project team. The planning meetings have not provided an open environment for information to flow openly and freely between Convergent, the Project Manager, and the project team. For example, Convergent has regularly delivered documents and information to the City late and required an unrealistic turn-around period from the City; Convergent has set a very aggressive project schedule of one year despite repeatedly expressed concerns by the project team; City project team meetings have been rushed due to staff's other responsibilities, and information has not been shared between project leads so that the entire project team understands each other's system.</p>	<ul style="list-style-type: none"> ◆ The project team and executive steering committee have discussed their concerns with Convergent and recognize the need to continue monitoring communications. ◆ The project team has recognized the importance of good communication and has taken many steps to improve internal communications. The team is aware that this must be periodically re-evaluated to be a strong and effective project team.
<p>Network security is generally lax. During Convergent's assessment of the system architecture, they conducted a general assessment of the City's information systems security. Results from their assessment included: the City has not developed nor implemented sound security policies and procedures; the network is not actively monitored, and Convergent was able to penetrate the network through a supposedly inactive port; no one person is clearly responsible for security and there is a separation of duties</p>	<ul style="list-style-type: none"> ◆ To address this issue, ISS staff has been introducing and implementing security procedures for the network and applications. Their first step involved implementing a network password application that provides password controls, such as minimum length, forced periodic changes, etc. In addition, they are deploying WindowsNT work-stations

<p>clearly responsible for security, and there is a separation of duties violation regarding who is responsible for information security.</p>	<p>to further lock down employees' computers so that non-approved software cannot be downloaded or installed. Additional security measures will need to be implemented in the future.</p>
<p>It has not been decided as to how Utility Services will manage the business process changes resulting from the implementation of enhanced technology. The major technology projects in progress (i.e., CIS, TIP, Financials) encourage management to redesign business processes to obtain the available increased efficiencies. Management needs to determine how to implement their plan to address changes in business processes, employees' current and future job duties and skills, and needed training to provide employees these new skills.</p>	<ul style="list-style-type: none"> ◆ Utility Services is embarking upon a comprehensive effort toward managing their business changes. This effort involves participation of the CIS, TIP, and Financials executive steering committees and project leaders, a cross-section of utility services employees, and Human Resources.
<p>There is a risk that this project can be delayed due to the lack of technical and functional resources. The technical lead position on the project team is currently vacant, and there are other major technical implementation projects in progress affecting technical staff resources. In addition, the functional project leads for each of the applications being acquired and implemented for TIP are section supervisors with other Utility Services responsibilities.</p>	<ul style="list-style-type: none"> ◆ The executive steering committee is aware of this issue. Technical staff retention is a big problem for the City of Tallahassee as well as for other governments. The pay for such employees is much greater in the private sector and thus creates an environment of high turnover. ISS will dedicate the staff necessary to implement TIP.

Table Legend: ◆ Currently being addressed – in process ○ Not currently being addressed - Outstanding

In summary, the project team has been challenged to identify and resolve any issues during the planning phase. The significant issues stated above are those that, as of July 31, 2000, have been identified but not yet resolved, that will have an impact on the success of TIP as it moves forward. These issues are listed at this time for information and for management's further analysis and resolution.

Conclusion

This report has communicated the project progress and accomplishments, as well as the significant issues identified to date. Our office will continue to provide assurance and consulting services throughout the life of this project. The objectives of our future reports will focus on the project's acquisition and implementation activities in Phase II.

We would like to thank the TIP executive steering committee, project manager, and project team for their cooperation and assistance during this progress report.

Appointed Official Response

City Manager:

We appreciate the City Auditor's Office partnering with us on these technology projects. It has proven already to be more effective to have their early input, as we move through the implementation process. This is particularly important on this project as it relates to being ready for deregulation.

An important effort, in finalizing the Phase II plan, is to coordinate the implementation of the Customer Information System (CIS) and the Financial Management System (FMS) with this Technology Integration Project (TIP). The Steering Committees and project managers are making every effort to coordinate the timing of these projects for an effective implementation of all projects.

Copies of this progress report may be obtained via request by telephone (850 / 891-8397), by FAX (850 / 891-0912), by mail or in person (City Auditor, 300 S. Adams Street, Mail Box A-22, Tallahassee, FL 32301-1731), or by e-mail (dooleym@mail.ci.tlh.fl.us).

Systems Integration Audit is being conducted by:
 Beth Breier, CPA, CISA, IT Auditor
 Sam M. McCall, CPA, CIA, CGFM, City Auditor