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Comptroller

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The Honorable Phil Bredesen, Governor
and
Members of the General Assembly
State Capitol
Nashville, Tennessee 37243
and
The Honorable M.D. Goetz, Jr., Commissioner
Tennessee Department of Finance and Administration
State Capitol
Nashville, Tennessee 37243

Ladies and Gentlemen:

The *Tennessee Comprehensive Annual Financial Report* (CAFR) for fiscal year 2009 is complete, and the auditor's opinion letter was issued August 6, 2010. In comparison to prior years, the 2009 CAFR issuance is not timely by seven months. The reasons for the delay relate to difficulties in implementation of the State of Tennessee's Enterprise Resource Planning (ERP) Project, commonly referred to as Project Edison.

Like most major organizations, the state invests considerable resources in updating information systems. Unfortunately, these efforts are often marked by cost overruns and other inefficiencies.

The design and implementation of any new computer system present challenges to staff that bring into play many human elements that cannot be completely predicted or controlled. While we recognize delays and difficulties with system implementation are common, we believe it is prudent to point out deficiencies so steps can be taken to improve the state's systems implementation efforts overall. Review and analysis of the issues that delayed the completion of the 2009 CAFR provide an opportunity to learn from those mistakes and to apply those lessons to future information technology procurements.

Context

Our discussion of these issues should be understood in the context of recognizing that the completion of the 2009 CAFR by August 2010, although seven months late, is a major accomplishment resulting from the dedication, effort, and time of many state officials and employees. The staff charged with the design and implementation of the Edison components—the Human Capital Management (HCM) and the Financial Supply Chain Management (FSCM) components—have worked incredibly hard to ensure that the state has the best system possible, and staffs at the user agencies have worked tirelessly in their Edison implementation efforts. The Division of Accounts, in particular, has dealt with extraordinary challenges.

It should also be noted that although the 2009 CAFR has been completed, the refinement of Edison must continue.

The financial integrity and the efficient and effective ongoing operations of the State of Tennessee depend upon the successful operation and maintenance of the Edison system. The state has committed significant funds and resources over a period of several years to develop a modern, integrated system to replace 30 outdated systems, some of which were approximately 30 years old. The goals are to increase operating efficiencies and reduce operating costs. Because of that commitment, it is paramount that the efforts of Project Edison and agency staffs are structured by industry best practices, activities are clearly focused, responsibilities are carefully assigned, and progress is effectively monitored.

The Significance of the CAFR

The CAFR for the fiscal year ended June 30, 2009, is the annual audited financial report for the state, showing the financial position and changes in financial position of the State of Tennessee. The users of this report, in addition to the citizens and taxpayers, include bond rating agencies, who utilize the report to determine how to rate Tennessee's debt offerings; and the General Assembly, to assist in preparation of the next year's budget.

Adverse Impact on the Annual *Single Audit Report* of Federal Financial Assistance Required by Federal Law

As a result of the late CAFR, the *Tennessee Single Audit Report* was not completed by the federally mandated deadline of March 31, 2010, and has not yet been completed. The *Single Audit Report* provides information to the federal government on the state's accountability for federal financial assistance and is critical in securing continued federal funding. Approximately 40 percent of the state's revenues are federal funds. The Tennessee Student Assistance Corporation and some institutions of higher education have received communications from the federal government as a result of the late report, listing possible consequences, including delay or termination of future federal funding.

Financial information must be timely to be useful. Lack of timely information has resulted in at least the following adverse consequences: 1) the General Assembly had to use two years of unaudited fund balance information to pass the 2011 budget; 2) the federal government has had to make awards and continue funding without the assurances of proper accountability normally provided by the *Single Audit Report*; and 3) federal grantors have not been able to monitor corrective actions on findings that will appear in the Single Audit. Since the timeline for preparation of the 2009 CAFR and Single Audit has been extended beyond the 2010 fiscal year, it will likely affect the timing of the 2010 reports.

The First Signs of Implementation Problems

The HCM component was implemented in September 2008. By the beginning of 2009, members of the General Assembly had received complaints from affected state employees of problems in the handling of payroll, insurance, and employee taxes under Edison. When questioned by members of the General Assembly about these problems, officials of the Department of Finance and Administration (F&A) took the position that the problems were limited and did not represent issues that should slow down the pace of planned implementation.

In response to a request from the Chair and Vice Chair of the Fiscal Review Committee of the General Assembly, dated April 15, 2009, we developed and administered two surveys which showed that employees and human resources directors, respectively, had serious, valid concerns with regard to the accuracy, functionality, reliability, and efficiency of the HCM component of the system. Employee respondents reported significant issues, including instances of dropped data; non-payment of salary; overpayment of longevity; miscalculations of pay, longevity, annual and sick leave balances, overtime, compensatory time, health insurance premiums, deductions for retirement programs, and taxes; and disenrollment from insurance programs. There was also widespread dissatisfaction with the pre-implementation training and the complaint resolution process. The concerns of the state employee respondents were reinforced by the human resources directors.

After the HCM component had been implemented, the Edison team began implementation of the FSCM component in January of 2009. Based on our surveys and substantial anecdotal evidence regarding the breadth and depth of problems with the partially implemented FSCM component, we recommended on May 20, 2009, that the further implementation of the system in additional agencies should be postponed and that an independent review be conducted by ERP specialists.

Officials of F&A responded that there was no need to delay implementation. They stated the problems we had noted were more a matter of dissatisfaction with the changes to the way state employees had to do their work. The officials downplayed real problems.

The General Assembly determined that the issues noted in the survey did represent substantive problems with the implementation of the system. As a result, the scheduled implementation timeline was extended for the larger departments, and F&A contracted with Gartner, Inc. to review the system implementation process.

Our related prior communications and materials may be found at:
http://tennessee.gov/comptroller/edison.

Gartner Report Substantiates Problems with the Implementation

The July 2009 Gartner report stated that "the issues experienced by Tennessee, while similar in nature to the experience of other states, were exacerbated by insufficient attention to agency expectations, incomplete user acceptance testing, limited business process training and unstructured stakeholder communications throughout implementation."

In response to this report, the Edison team reevaluated the implementation plans. They conducted agency readiness meetings and implemented agency readiness checklists for the agencies that had not yet implemented the FSCM component. The Edison team also held additional meetings with departments regarding the HCM experience to help address user complaints.

As more Edison team members were assigned to this effort, fewer were available for the day-to-day tasks and for the activities necessary to assist the Division of Accounts with creation of the CAFR.

Unanticipated Difficulties with Implementation Continued to Slow Down the Preparation of the CAFR

Transaction processing and the transaction approval process initially in place at implementation could not be achieved with existing staff. F&A had to change the initial approval policy, and some agencies had to hire temporary staff to handle the processing backlogs. Vendors complained about late payments. In addition, some contracts could not be paid because they were not established timely in the system, certain payments that involved changes to vendor information were delayed, and some journal entries were not approved timely. Existing staff were not sufficient to handle processing demands.

The implementation of FSCM was established in waves, with the final wave occurring October 1, 2009. This wave included some of the largest departments in state government. Due to the volume of transactions, the system slowed. As a result, the existing backlog of transactions significantly expanded.

Not only did the payment process and system performance slow, so did the financial reporting efforts. At the end of September 2009, F&A informed us that the CAFR might not be completed by the planned December 31, 2009, deadline due to complexities with the data conversion from the previous accounting system, known as STARS, to Edison. At the end of October 2009, F&A staff stated that they realized that they needed help from temporary employment agencies. The department also requested help from state agency internal audit groups. The grant and general ledger part of the conversion were more complicated than had been anticipated.

On December 3, 2009, F&A staff notified us that they would also need help from an accounting firm to complete the CAFR. On February 2, 2010, F&A informed us that it had decided not to complete the data conversion for waves 4 and 5, and the statements would be prepared from the two separate accounting systems, STARS and Edison. Initially, the intent had been to convert all data from the old STARS system into the Edison system to prepare the financial statements from one system.

In February 2010, F&A announced that the CAFR would be completed by April 23, 2010, and given to the auditors with the expectation of having an audited CAFR by May 31, 2010.

Later, F&A staff discovered large balances in clearing accounts that had to be reconciled and corrected through a time-consuming process. These large balances were caused primarily by lack of user training on accounting entries necessary in Edison. Examples of errors made include entries which were only partially posted and entries posted to the incorrect fund or account. In addition, some attempts at the agency level to correct these errors only compounded the problem. The clearing account problem slowed the CAFR even further, and F&A announced that the CAFR would not be ready by April 23, 2010.

In late May, there were further complications with budget accounts. In June, F&A staff discovered a $21 million agency error. F&A did not want to make the error correction so late in the financial reporting process, delaying the CAFR further. Since it was difficult to justify not adjusting a $21 million known error in the appropriate accounting period, the correction was made.

Finally, in July 2010, more than a year after the end of the 2009 fiscal year, F&A completed the information necessary for the CAFR.

Specific Causes for the Difficulties and Delays

Underestimating the difficulty of the conversion resulted in additional pressures on a limited staff, compounding implementation issues

From the very first identification of implementation problems, officials of F&A underestimated the difficulty of the conversion process. This mindset continued even as more problems were identified and deadlines were pushed back.

Staff were pulled in many different directions: improving agency readiness activities for the later implementations; assisting agencies in earlier waves that were struggling to learn the system; resolving significant delays in system responsiveness and in transaction processing; and undertaking the conversion efforts. F&A did not anticipate the timeframe and complexity of the conversion. The increased workload on staff resulted in a loss of responsiveness to agency issues, which led to further dissatisfaction with the system. Rather than addressing the problems from an overall, systemic perspective, the reactions to the problems were more on an ad hoc basis.

Certain agency activities intended for inclusion in the implementation were delayed as post-implementation projects. One such area was the capital projects fund. Project information is still not incorporated in the Edison system.

Initially the Edison project was not properly tested for user acceptance

Prior to implementation, the system should have been tested by the people who would use it in day-to-day practice. This testing would have identified problems difficult to detect by those who designed, configured, and implemented the system.

Edison should have required agency users to complete the testing and confirm that the system met their needs prior to implementation. After Gartner recommendations, the Edison team successfully increased user acceptance confirmation.

Inadequate training and procedural manuals

As noted in the Gartner report,

> Step-by-step training on how to conduct regular business processes was not part of the formal training program scope. Instead the training program primarily focused on generic system navigation and general functionality. Although Edison procedural manuals were created, their details were not adapted for the transactions specific to each individual agency. End users deemed these manuals to be unsatisfactory since they lacked this detail.

Problems with training were not limited to content and documentation. Individual agencies did not always dedicate their personnel appropriately to attend the Edison training classes. Some agencies had appropriate staff attend the recommended classes, but other agencies did not.

User knowledge limited

The Edison team recognized from the start that the implementation would be a struggle for many of the financial users. STARS had, over the years, become very customized. Accounting staff only had to know a three-digit code for a certain transaction type, and the underlying accounting entries would be automatically performed by the system. With the Edison system, staff must determine the proper accounting entries in order to process the transaction.

F&A facilitated some training classes early in the implementation to help with this transition. However, agency staff still made accounting errors that later had to be corrected by F&A staff.

Agencies not comfortable with reports

During a telephone survey of fiscal officers conducted by this office at the end of calendar year 2009, 12 of 17 of the fiscal officers called (71%) expressed at least some lack of confidence in the accuracy of the financial reports generated from the system. After review of the problems expressed, it seems the agencies were unaware of the availability of certain reports, they didn't always know what they were asking for when they requested a certain report, or they didn't recall that the system is utilizing real-time accounting.

These problems still exist. More training is needed in this area.

One example of a reporting problem encountered was when several departments were unaware that an expenditure report that they were using did not exclude program income that should have been deducted to arrive at a net amount due from the federal government. When they drew federal funds, they used the total from the report. This caused significant overdraws of federal funds and interest repayment was necessary. In addition, several agencies did not complete all steps for creating the report of federal funds to be drawn, not realizing that by failing to do so they added cumulatively to their drawdown total. Over time, they double-counted certain expenditures. This also resulted in overdrawn funds and interest repayment. The estimated interest repayment for both instances was $168,815. This amount is offset by any interest earned by the state on the overdrawn funds.

Agencies also complained of not having all the financial information needed to help prepare their budgets. The Edison team has said they will assign staff to meet with the agencies to evaluate reporting practices.

Processing slowdowns

As mentioned earlier, the system was not adequately prepared and the business processes were not adequately designed to handle the volume of transactions created as FSCM utilization increased, resulting in late payments. For example, many utility payments were late. Staff did not dedicate the time to evaluate and correct late payment issues until the members of the General Assembly requested such action.

Communication breakdown

During our survey process and subsequent telephone interviews, it became clear that there was a breakdown in communication between the user agencies and F&A staff about just what the respective responsibilities of the two groups were. The Edison team provided information about the capabilities of the new system and basic guidance on how to use the system. F&A expected that agencies would be proactive in determining how their individual business processes would be affected and would have adequate internal preparation when implementation occurred. Some agencies, on the other hand, expected the Edison team to instruct staff on exactly what to do, even when the specific steps were agency-dependent.

There appeared to be a significant level of animosity among some user agencies' staff toward F&A regarding the implementation of Edison. Whatever the origins of that distrust were, officials of F&A were slow to recognize it and to effectively deal with it. Some agency complaints were dismissed as resistance to change.

There is truth to statements that some agency personnel resisted the change. Few agencies were proactive in their approach to dealing with the upcoming change to Edison. Top officials of many user agencies did not ensure that their staffs, which were critical to the effective implementation of Edison, attended the initial training, brought the knowledge back to the agency, and helped the agency prepare their own business processes for the implementation. The agencies should have been more diligent in ensuring that staff were as prepared as possible to implement the project. After the Gartner recommendation for increased agency preparedness activities, communication improved.

Though there seems to be shared responsibility on all parties, ultimately it was the overall responsibility of the top officials of the administration to take all steps necessary to ensure that all parties were meeting their obligations.

Recommendation

As previously stated, difficulties can be expected in the implementation of a system as complex as Edison. If the state uses the knowledge gained from this experience, problems and delays can be minimized during future system implementations.

The state should develop and share with all agencies a "lessons learned." This should include lessons about training content and testing methodology. An advisory group should be established to help future implementers, whether within F&A or within other agencies, avoid the common pitfalls with system implementations. Advisory group input about lessons learned should be integrated with the procurement of systems. The state should avoid unrealistic deadlines in future implementations. It is clear that the Edison staff were too overloaded to properly engage the agencies and to ensure agency readiness prior to implementation.

The ultimate success or failure of Edison depends upon the extent to which the agencies accept and utilize the advantages and recognize the pitfalls of the system. Agency heads should create an atmosphere within their departments that Edison will be successful and devote appropriate resources toward that effort. In particular, agency heads should insist that staff promptly communicate any issues they have with the system to Edison staff and monitor those issues until they have been resolved.

Several other post-implementation strategies were recommended in the Gartner report. The Edison staff should continue its shift to a new role that provides robust ongoing support for end users and emphasizes what the new system can do. The Edison team should promote continuous learning to enhance the end users' comfort and skill with the system.

F&A should dedicate staff to assist the agencies in understanding reporting capabilities. The more the agencies understand the reports available and the exact result each report will provide, the fewer reporting errors will be made.

F&A should review the internal controls in the ERP environment and identify areas that need improvement or areas that require additional monitoring. The Edison staff should establish mechanisms to identify areas that need ongoing support or additional assistance, whether through periodic surveys, user group meetings, agency meetings, or evaluation of metrics.

The Edison team should continue the move from a centralized approach to a partnership model. This move should include user groups for all major business processes and a formalized, written business process owner approval for each change made to the related applications.

Segments delayed from the original implementation should be incorporated into Edison.

Finally, the State of Tennessee should devote sufficient resources to ensure that the 2010 CAFR is completed in a timely manner.

Sincerely,

Justin P. Wilson
Comptroller of the Treasury

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