



CITY OF SAN ANTONIO

P. O. BOX 839966
SAN ANTONIO, TEXAS 78283-3966

November 4, 2004

Edward D. Garza
Mayor of the City of San Antonio

Roger O. Flores, Jr.
Councilman District 1

Ron H. Segovia
Councilman District 3

Pattie Radle
Councilwoman District 5

Julian Castro
Councilman District 7

Carroll Schubert
Councilman District 9

J. Rolando Bono
Interim City Manager

Joel Williams
Councilman District 2

Richard Perez
Councilman District 4

Enrique M. Barrera
Councilman District 6

Art A. Hall
Councilman District 8

Christopher Haass
Councilman District 10

Andrew Martin
City Attorney

RE: KPMG's Report on the ERM Project Performance Audit – First Quarter 2004

The Enterprise Resource Management Performance Audit First Quarter 2004 audit report is enclosed for your review. KPMG was engaged to assist the City Auditor in completing this review in accordance with City Ordinance 98873, authorized February 19, 2004. This is the second report issued by KPMG concerning the City's Enterprise Resource Management (ERM) project management practices. The initial report was distributed on August 6, 2003. This report highlights eleven new and three repeat audit findings that can be used as lessons learned from Wave H – Human Resources and the deferred Wave F – Budget Preparation development efforts. We recommend that you review the Summary of Findings on pages 5 to 7 of the report. If you desire additional information, the detailed findings and recommendations begin on page 10.

The following issues, which primarily centered on the deferred Wave F - Budget Preparation implementation, were noted in the KPMG First Quarter 2004 audit report:

1. Compression of project activities just before 'Go-Live'.
2. Turnover in key positions on the project team and City Management.
3. Lack of evidence of consistent Steering Committee project oversight.
4. Inconsistent use of Deloitte's ThreadManager tool for managing project issues.
5. User acceptance testing performed outside of standardized practices.
6. Formal post SAP go-live production support procedures not finalized prior to the anticipated 'Go-Live' date.
7. Minimal lead-time for Steering Committee and Project Sponsorship review of 'Go/No Go' criteria.
8. Gaps in user and support personnel training and expectations for post SAP 'Go-Live'.
9. Minimal time allocated for system stress testing for Wave H – Human Resources.
10. Wave F – Budget Preparation Blue Print design plan was not completed prior to the anticipated 'Go-Live' date.
11. Policies and procedures for Waves F and H were not approved by Department Management prior to the anticipated 'Go-Live' date.

Prior year report issues that remained open include:

1. A formal process was not established to address the issues identified in the Deloitte risk management reviews; and documentation to support the City risk management review process was missing.
2. Communication and tracking of the overall benefits of SAP to project team members, City employees, City Council and citizens of San Antonio was ineffective.
3. Delays in testing and documenting ERM business continuity plans.

The ERM Project Team identified the following areas needing improvement or emphasis during future implementation waves as a result of this report. Additional information on the ERM Project Team's corrective action plan begins on page 11.

- A risk evaluation process has been initiated that encourages one of the ERM Project Sponsors to conduct a risk review with a formal report.
- Adequate time will be allowed for unit integration and user acceptance testing, Blue Prints, and identification of key configuration issues as early as possible in the development life cycle.
- A proactive retention strategy and formal program to provide incentives for the retention of key team members is necessary to minimize the risk of employee turnover.
- Standardized executive reports will be developed to facilitate and enhance the level of detail and transparency for project oversight monitoring.
- The process for review and communication of project issues will be enhanced to ensure the consistent use of Deloitte's ThreadManager.
- Super Users will be introduced to the SAP System earlier in the development life cycle by including them in the integration testing, policy and procedure development, data cleansing and testing. This early involvement will educate the Super Users about the new system and processes for future implementation waves and provide them the proper background to conduct educated user acceptance testing and sign off.
- The ERM Project Steering Committee will be more involved in the 'Go/No Go' decision process and development of criteria for a successful 'Go Live'.
- Training requirements for all end users need to be clearly understood and an ongoing training program should be developed to ensure new hires are trained properly.
- Communication of the business case benefits for the implementation of SAP will continue to be increased.
- Specific requirements for an information technology business continuity plan are in the process of being delineated.

The ERM Project Team disagreed with the project effects stated by KPMG in findings # 6 – Post-implementation Wave F & H Support Organization, #9 – Stress Testing and #11 – Policies and Procedures and did not see the need for corrective action to address these audit findings.

In our opinion, the recent Wave D and E (Finance, Materials Management and Payroll) October 2004 implementations could have been improved if the ERM Project Team's corrective action plan had been fully implemented to address issues identified in the KPMG 2003 and First Quarter 2004 Enterprise Resource Management Performance

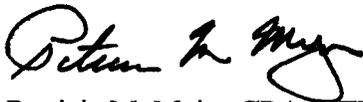
Audit reports. The most notable of these issues are the continued misunderstanding of user expectations relating to pre-implementation data cleansing, users' misunderstanding the impact of SAP on their daily business activities, the lack of planned contingency in the project work plan for delays in user training, and the lack of a tested ERM business continuity plan. Formal reporting on risk evaluations and the plans to mitigate or deal with existing or newly identified issues was not implemented as indicated. ERM Project and/or City staff involved in the implementation continued to experience high turnover during the most critical phases of Waves D and E because an adequate retention plan was not effective until after the Go Live in October.

To help the project succeed, the findings detailed in the report were discussed with the City Enterprise Resource Management (ERM) Project Manager for immediate action. However, the issuance of the final report was delayed because of KPMG's desire for the ERM Project Team to have adequate time to respond to the detail findings. Because of the significant delays in issuing the 2004 First Quarter Report, we have requested KPMG to discontinue additional audit effort prior to the completion of the 2004 Second Quarter Report. The City Internal Audit Department will continue to follow up on findings highlighted by KPMG during second quarter fieldwork with the ERM Project Team.

We appreciate the support and cooperation of the ERM Project Team as we continue to work together on this project.

If you would like to discuss the audit report, you can contact me at 215-9455. If needed, we can arrange for the KPMG Audit Team to review the findings or answer any questions that you may have.

Sincerely,



Patricia M. Major CPA, CTP, CGFM
City Internal Auditor

Enclosure: Audit Report

cc: Gary Moeller - Director, Information Systems Services Department
Troy Elliott - Director, ERM Project
Milo Nitschke - Director, Finance Department
Chip Blagg - Deloitte Consulting
KPMG (2)



Enterprise Resource Management Performance Audit

For

The City of San Antonio



April 30, 2004

THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT FIRST QUARTER 2004

OVERVIEW

KPMG was engaged by the City of San Antonio (the City) to assist the City Auditor of the City of San Antonio in performing an independent and objective performance audit of the Enterprise Resource Management (ERM) project controls and risk management processes to support the implementation of

- SAP R/3 system,
- SAP Customer Relationship Management (CRM) and,
- Hansen Land Management System.

This report summarizes our objectives, scope, methodology, findings, and recommendations related to that performance audit. We conducted our performance audit in accordance with *Generally Accepted Government Auditing Standards* issued by the Comptroller General of the United States.

BACKGROUND

KPMG completed a Performance Audit of the Enterprise Resource Management Project on August 6, 2003. The findings of this report were presented to the Governance Committee, the City Auditor, and the Project Management Team. The City Auditor has contracted KPMG to conduct four ongoing quarterly performance audits of the ERM Project throughout 2004.

Following a competitive process to select a prime consultant and systems integrator, The City of San Antonio selected Deloitte Consulting (Deloitte) as the project consultant and systems integrator and approved funding for Deloitte Consulting for the Phase 1 Statement of Work in June 2001, Phase 2 in October 2001 and Phase 3 in May and June of 2002. The ERM Project will replace several of the City's legacy financial and management systems with SAP R/3 ERP, CRM, and Hansen Land Management System. The City expects the ERM Project to improve efficiency, provide more value-added services, and provide better information to users, city management, and city officials.

The initial ERM Project Team plan was to implement the new business processes and systems in Waves, with seven expected go-live dates.

The original scheduled completion for the Waves follows:

- Wave A – April 14, 2003, includes the Hansen Land Management System
- Wave B – May 2003, includes Development Services, Code Compliance, Fire, and Health
- Wave C – May 2003, Customer Relationship Management (CRM)
- Wave D – October 2003, CRM Web Functionality, Finance, Human Resources, Purchasing, and Inventory
- Wave E – January 2004, Time and Attendance, Payroll, Employee Self Service, and Human Resources
- Wave F – April 2004, Budget Preparation
- Wave G – October 2004, CRM Help Desk, Grants, Tax, Maintenance and Fleet, and eProcurement

Since the original schedule as presented above, Wave A has been implemented. Due to delays in the project timeline, adjustments have been made to the Waves and the respective implementation dates. The Human Resource System was pulled out of Wave D, and Wave H was created as a separate wave for the deployment of the Human Resource System. Wave H went live on April 26,

THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT FIRST QUARTER 2004

2004. Wave F was scheduled to go live with Wave H on April 26, 2004, but due to issues that are discussed in this report, Wave F has been postponed to the first quarter of 2005. City Management has indicated that certain items originally included in Waves E and G will not be implemented as part of the ERM Project as a result of the increased costs associated with project delays.

The revised scheduled completion for the Waves follows:

- Wave A – April 14, 2003, includes the Hansen Land Management System (Delivered)
- Wave B – Summer 2005, includes Code Compliance, Fire, and Public Works
- Wave C – Summer 2005, Customer Relationship Management (CRM)
- Wave D – October 2004, Finance, Purchasing, Inventory, Contracts, and Projects
- Wave E – October 2004, Time and Attendance, Payroll, Benefits
- Wave F – January 2005, Budget Preparation
- Wave G – Summer 2005, Maintenance Management
- Wave H – April 26, 2004, includes Human Resources (Delivered)

Given the high impact the ERM Project will have on the City and the cost of any project delay, the Office of the City Auditor requested an independent performance audit be performed, in accordance with *Generally Accepted Government Auditing Standards*, of the overall project risk and the effectiveness of project management controls that mitigate identified risks. Project risks, if not effectively mitigated, can threaten the timely delivery and implementation of the ERM Project.

OBJECTIVE AND SCOPE

The primary objective of the performance audit is to provide the City Auditor and City Council with an independent performance audit conducted in accordance with *Generally Accepted Government Auditing Standards*. The focus of this performance audit is to assess the project controls related to the ERM Project and verify that programs are in place to identify inherent risks within the ERM Project which could affect the timely completion of the project and the effectiveness of the planned and implemented mitigating project management controls.

KPMG has reviewed project operations and risks associated with the management of the SAP R/3 Enterprise Resource Planning (ERP) system implementation.

The scope of this performance audit was limited to the resources and documentation available during our fieldwork. A detailed project financial audit of the ERM Project was not within the scope of this audit as the Office of the City Auditor will be performing a project financial audit.

The objectives of KPMG's performance audit were to:

- Conduct an independent and objective management and operations audit of the ERM Project.
- Determine the strengths, weaknesses, and opportunities for improvement in the ERM Project's organization, operation, and performance.
- Conduct detailed reviews of the ERM Project's major functions and activities.
- Identify recommendations to improve the performance and accountability of the ERM Project.
- Build public confidence and credibility in the ERM Project's efforts to meet the City's needs and use resources effectively.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

The following individuals were interviewed during this review:

<ul style="list-style-type: none">• Troy Elliott, City Project Director• Rusty Phelps, City Project/Support Manager• Sandy Benitez, DC Project Director• Nacine Bryson, DC Project Director• Cindy Wells, City ERP Manager• Danny Dupont, DC ERP Manager• Gilbert Garza, City Technical Manager• Gary Moeller, City Project Sponsor, Director, Information Technology Services• Yolanda Maldonado, City ERP Manager• Patrick Doherty, DC Cutover Manager and HR Lead	<ul style="list-style-type: none">• Tisha Mora, City Budget Preparation Manager• Duane Mailman, DC Budget Preparation Manager• Magda Santos, City Change & Training Manager• Anne Davies, DC Change & Training Manager• Soumya Chakravorty, DC Technical Manager• Peter Zanoni, City Acting Budget Director• Frances Gonzalez, Assistant City Manager and City Interim Human Resources Director• Margaret Gonzales, Human Resources
---	--

AUDIT APPROACH AND METHODOLOGY

We performed our audit using KPMG's proprietary Risk Management Project Review framework. This framework includes:

- A common and consistent approach for the review of risks and controls associated with projects
- A framework for advising the City on ensuring the controls required to mitigate project risks and maximize the likelihood that the ERM Project will meet the City's objectives.

The Project Risk Assessment Control/Risk Evaluation Process included the following steps:

- Assessing whether the project has addressed the inherent project risks
- Assessing whether the project has documented the controls in place
- Assessing whether the project has a process in place to assess and document the effectiveness of the controls
- Assessing whether the project has a process in place to identify control weaknesses
- Assessing whether the project has a process in place to deduce and document residual risk
- Documenting practice recommendations to mitigate the identified risks.

The unmitigated risks and ineffective controls identified in our performance audit together with recommendations to mitigate residual risks are presented in our report with detailed findings listed below.

We conducted our audit using KPMG's Risk Management Project Review Methodology and the Project Management Institute's (PMI) Project Management Body of Knowledge (PMBOK) Criteria. The PMBOK Guide is a recognized standard for managing projects. The PMBOK Guide is approved as an American National Standard (ANS) by the American National Standards Institute (ANSI).

THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT FIRST QUARTER 2004

To meet these objectives, KPMG reviewed the following six tasks during the execution of our Performance Audit:

1. Reviewed the ERM project and resource management practices.
2. Reviewed the ERM process management practices.
3. Reviewed the ERM project technology management practices.
4. Reviewed the ERM data management practices.
5. Reviewed the business system controls for processes within the ERM project.
6. Reviewed the ERM project application and infrastructure security controls.

A detailed discussion of the work to be performed in each area is described below.

Activity 1. Review the ERM project and resource management practices.

The objective of this activity was to identify resource gaps and provide recommendations that will improve the effectiveness of project controls.

Activity 2. Review the ERM process management practices.

The objective of this activity was to assess how effectively existing and future business processes are being documented, taking into consideration internal control requirements and documentation standards, and to assess current processes related to testing the designed business processes.

Activity 3. Review the ERM project technology management practices.

The objective of this activity was to confirm the inherent risks assessed for the technical solutions, assess the strategies and plans to manage risks in this area, and to recommend processes to mitigate risk.

Activity 4. Review the ERM Data Management practices.

The objective of this activity was to confirm the inherent risks assessed for identifying and converting data, assess the strategies and plans to manage risks in this area, and to recommend processes to mitigate risks.

Activity 5. Review the business system controls for processes within the ERM project.

The objective of this activity was to confirm the inherent risks assessed for business process controls, assess the strategies and plans to manage risks in this area, and to recommend processes to mitigate risks.

Activity 6. Review the ERM project application and infrastructure security controls.

The objective of this activity was to confirm the inherent risks assessed for IT security controls, assess the strategies and plans to manage risks in this area, and to recommend processes to mitigate risks.

THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT FIRST QUARTER 2004

TIMING OF FIELDWORK AND OUR FINDINGS

Our test work was performed during the period from March 8, 2004 through April 30, 2004. Our findings are as of April 30, 2004 and have not been updated to reflect changes subsequent to the period of our review.

SUMMARY OF FINDINGS

Wave H for Human Resources and Wave F for Budget Preparation were both scheduled to go live on April 26, 2004. The Human Resources System, Wave H, was implemented on schedule while the Budget Preparation System, Wave F, was delayed until December 18, 2004.

During fieldwork, it was noted that, as a result of issues that surfaced during March and April user acceptance testing, Wave F was operating under a compressed implementation time frame during April. During the review, we noted that there was active communication and daily discussions among members of the ERM project team and the Office of Management and Budget (OMB) around many issues impacting Wave F including:

- The causes and impact of issues identified during the Wave F user acceptance testing
- Concerns about the adequacy of the Budget Preparation blue print, planned functionality, and reporting capabilities
- Budget Preparation testing scripts and timelines for additional user acceptance testing
- Training requirements and training timelines.

On April 19, 2004, the Project Management Team with input from OMB made the decision to delay the implementation of Wave F. The root cause of the delay appeared to be the issues that were identified by the ERM Project Team and OMB during the March 30th and April 8th user acceptance testing. These issues identified the need for significant reconfiguration of the system principally in two key areas required to meet the ongoing usability needs of the City.

We noted that the City formally communicated to the Integration Vendor on April 25th several concerns related to the root causes for the delay in Wave F implementation. These concerns included the following:

- That Wave F implementation timelines as provided by the Integration Vendor were overly ambitious and that the work plan did not allow for contingencies in the event that major issues were identified
- That appropriate levels of city staff were not consulted in a timely manner to provide guidance on key configuration issues
- The Budget Preparation system did not appear to have been fully tested or completely configured by the project team prior to conducting user acceptance testing given the nature and extent of issues noted during testing, and
- The test scripts were not initially designed based on end user input but were instead provided by the project team members responsible for initially configuring the system.

In addition we noted that the Acting Management and Budget Director had communicated to the ERM project team verbally on April 8th and more formally in writing on April 14th similar concerns in a number of areas including concerns around the adequacy of the Wave F business blue print and Policy & Procedures documentation, that OMB had not received the needed level of detail to assess the adequacy of Budget Preparation System configuration and functionality, that user acceptance testing had been inefficient because the test scripts had not been fully tested to ensure they would

THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT FIRST QUARTER 2004

work, and that test scripts covered completely the required functionality of the system prior to City resources performing acceptance testing, that the time available for training was no longer adequate because of needed changes to system configuration and training, that training materials needed to be updated before final training was conducted, and that there appeared to be an inadequate level of Integration vendor staffing assigned to Wave F to meet the needs of Wave F.

Opportunities for improvement in user acceptance testing exist in several areas. Adequate time should be allowed for unit integration and user acceptance testing. User sign off on Blueprints and key configuration issues should be obtained as early as possible in the development life cycle. User testing processes should be improved on a go-forward basis to include the early input of end users' requirements. Quality assurance processes should be improved around end-user testing to help ensure that test scripts and system functionality are completed to the point that user testing will be comprehensive and effective.

We noted that the Wave F process owners, including the acting OMB Director, had not signed off on the system blue print requirements or the policies and procedures for Wave F as of April 18th when the ERM team decided to delay the go-live date for Wave F.

During the March 30th and April 14th Steering Committee meetings that we attended, we noted that user acceptance testing issues identified for Wave F were discussed. However, the severity, potential adverse impact to the project, and the related issues noted above were not fully and robustly presented for discussion at the Steering Committee level.

The ERM Project Team communicated the project status, including the delay in the go-live date for Wave F, to the City Auditors Office on April 19th, to the Steering Committee on April 20th and to individual Council members during the period from April 19th to April 28th.

As stated above, we noted that there did appear to be a full and robust discussion of issues on a daily basis between the ERM team and various project sponsors. However, we noted that the oversight and status report meetings that we attended were in retrospect an underutilized opportunity to improve the clarity and completeness of ERM and Integration Vendor communications to oversight entities including the project Steering Committee, the Governance Committee, and the City Council.

Improving the transparency and clarity of communications and the timeliness of reporting critical issues impacting ERM project goals will help ensure clear communication of the ERM project status. A more comprehensive risk management discussion including related risk mitigation actions and strategies and a timely discussion of dependencies and issues affecting the project critical path should be included in future communications to the Steering Committee, Governance Council, and City Council.

Opportunities for improvement in project management controls related to the need for stronger risk management processes, formal tracking of benefits realization, and opportunities to improve the frequency and depth of project oversight were noted during our review. Opportunities for improvement were also noted in the controls over adding, resolving, and removing items included in the project issue tracking processes. Strong project risk management controls minimize the risk of project delays and cost overages but do not completely eliminate the risk of project delays and overages.

While the Integration Vendor contract is on a fixed-cost basis the actual costs to the City can vary and should be measured both in terms of the dollars budgeted and other City resources committed to the project as well as a formal consideration of any decreased benefits to be realized by the City from the project as a result of project delays or decreases in expected system functionality. Significant project delays or scaling back from planned system functionality will result in additional costs and decreased benefit realization to the City of San Antonio.

THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT FIRST QUARTER 2004

The Integration Vendor has proposed a plan to have the Integration Vendor and the City run the Budget Preparation system in parallel for an extended period before the final user acceptance testing is completed later in the year. Components of the budget system are planned to be available on December 18, 2004, with Budget Preparation being implemented in the first quarter of 2005.

The key findings from our review are summarized below. A detailed listing of the findings and recommended actions can be found following the summary of our findings.

RESOURCE FINDINGS

When a project team is required to perform more tasks than originally planned in a given time frame or is required to reperform significant tasks in a fixed time frame without additional resources, the project timeline can become compressed. Project compression often results in performing project tasks simultaneously that were originally planned to occur in a sequential order. This can significantly increase the risk that significant project work will need to be reperformed, cost will exceed budget, additional resources will be required, or functionality may not be fully configured as originally planned.

The usability issues identified during Wave F user acceptance testing and the complexity of SAP configuration changes required to resolve these issues posed a significant risk to the success of the planned Wave F April 26, 2004 go-live date and we believe the correct decision was made by the ERM project team to delay the Wave F implementation.

During our review we noted that the project experienced project risks related to the turnover of key project resources including both key City and Integration Vendor personnel. While the ERM team has worked actively to replace resources that have left the project, the project could benefit from a more proactive resource retention strategy and a formal program to provide incentives for the retention of key team members.

Improved resource management planning and resource retention processes will help reduce the risk of key resource loss and will assist in planning for potential losses of key team members.

We noted that a number of the formal Steering Committee and Issue Resolution Group meetings were canceled and not rescheduled. The project will benefit if the frequency and depth of communication with this oversight group is improved. The active oversight by the Steering Committee is a key control. The importance of this control is increased because of the lack of an active formal risk management and quality assurance function. The frequent canceling of Steering Committee meetings provides limited opportunities for formal interaction between the Project Management Team, the Steering Committee and Project Sponsors.

PROCESS FINDINGS

The Project Team utilizes the Integration Vendor's proprietary tool "ThreadManager" as a system to record, track, and manage issues associated with the ERM project. We noted that the Project Team was not utilizing the ThreadManager tool on a timely and consistent basis. We noted that the Project Team managed many of the Wave F user acceptance testing issues on Excel spreadsheets that were outside of the ThreadManager process and did not transfer the issues identified to ThreadManager on a timely basis. Once this delay in entering issues into ThreadManager was identified and communicated to the project team, the project team took immediate steps to improve the process. We also noted that the issues observed in ThreadManager did not fully reconcile to the issues being reported in the weekly ERM Status Reports. Upon investigation by the ERM Team, they determined that a change to the ThreadManager system to add tracking of issues by Wave resulted in an inaccurate display of open issues in the ThreadManager tool. Accordingly, the ThreadManager system did not provide a timely, complete, and accurate listing of open project issues at a critical time in the Wave F project implementation.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

The Integration Vendor and user groups performed user acceptance testing, but we noted that opportunities exist to improve the project team's practices as they relate to effective and timely user acceptance testing. While issues are expected during user acceptance testing, the high number of issues identified for Wave F is a strong indicator that project controls around the effective development of test scripts that incorporate key user input aligned with SAP functionality requirements can be improved on a go-forward basis. Effective user acceptance testing includes timely consideration of complex user requirements and is enhanced by a timely blue print sign off. In addition we noted that issue tracking and resolution in ThreadManager, and the effectiveness of preliminary unit and integration testing procedures did not work at the quality levels expected.

In projects where a phased implementation plan is being used, a critical factor in mitigating risk is to allow an appropriate period of elapsed time in the project timeline to resolve issues identified during testing. The time planned for work tasks should include an appropriate period for issue resolution and consider the complexity of the environment of the implementing institution. Allowing time for the proper functioning of testing processes and related remediation efforts and controls will be critical to the successful implementation of future Wave rollouts.

The Production Support Organization documentation was still in draft form as of the Wave H go-live date. The production support organization was not scheduled to meet until a day after go-live to discuss the draft document during the Information Technology Services Department (ITSD) and ERM Technical Leadership Meeting. As of April 30th, the date of our review, the ERM team had not communicated key elements of the plan to the impacted departments or distributed the plan outside of the Project Team. Without an effective support organization, there is an increased risk that project team resources could be diverted from planned development efforts on the upcoming Wave rollouts to support ongoing operations, increasing the risk of adversely impacting the total project cost, timing, and functionality of the planned future project Wave rollouts.

A formal Go/No Go decision matrix was developed by the project team two weeks prior to go live for Waves F and H. The Go/No Go decision matrix included a set of decision criteria to be used in assessing the readiness of the project implementation. The Go/No Go matrix was developed based on input from the Integration Vendor and specific stakeholders. It was prepared in an abbreviated and expedited form in alignment with the SAP ASAP methodology and was not utilized throughout the project life cycle as a project management mechanism to track and report to senior management on the completion of key project milestones that are required to be met and signed off by process owners by selected target dates prior to a final Go/No Go decision. Because of the problems noted in the deployment of Wave F, the ERM team should consider the benefits of using the Go/No Go report throughout the project life cycle to better communicate to the Steering Committee and key stakeholders the status of major project milestones and as a mechanism to communicate key risks related to planned future Wave deployments.

In accordance with the ERM Team's training schedule the majority of the system users for Wave H were trained in the two days immediately preceding the Wave H roll out. While just-in-time training can be an effective practice, it was noted that as of April 30, 2004, most of the City Management positions (i.e., the Assistant Department Directors and above) had not attended training. We also noted a recognition by the project team that, because of the significant changes that were needed to the system prior to Wave F deployment, training materials for Wave F could not be updated and classes completed before the planned roll out date.

THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT FIRST QUARTER 2004

TECHNOLOGY FINDINGS

A report on the results from the Wave H stress testing was expected to be available one week prior to go-live. As of April 30, 2004, KPMG had not received a written copy of this report. The verbal indication from the Integration Vendor Technical Lead was that the testing went well for Wave H; however, the Project Management Team also had not reviewed the report prior to April 30, 2004 and relied on a verbal report to make the go-live decision for Wave H.

The Mercury Load Runner tool could not be used for stress testing of Wave F. Manual testing was scheduled for the Wave F implementation the weekend before go-live but did not take place due to the delay in the Wave F implementation. The manual stress testing of the Wave F soft go-live environment took place Wednesday April 28, 2004.

Timely formal stress testing and reporting will enhance the ERM team's ability to identify and correct issues that could impact system performance and provide additional assurances that expected benefits will be realized by the City.

BUSINESS SYSTEMS CONTROL FINDINGS

While we did note that there was frequent and active dialogue, blue print workshops, and meetings between the ERM team and the Wave F stakeholders, including the Acting OMB Director, we noted that, as of the date the decision was made to delay the Wave F deployment, several unresolved issues remained. The blue print process was not completed or formally approved by all parties in time to meet the April 26, 2004 go-live date for Wave F. Project risk is significantly increased if the blue print process is not completed and fully approved prior to a system build and test phases. Critical issues could occur and adversely impact the success of future Wave rollouts if the blue print approval processes are not completed in advance of the significant system build and test phases and the expected Wave deployment.

The Integration Vendor began developing the Policies and Procedures process early in the project life cycle, but did not complete the process for either Wave F or Wave H prior to the April 26, 2004 go-live date. One day prior to go-live, the Policies and Procedures for Wave F and H had not been approved by the appropriate Department Management. While policy and procedure documents frequently require changes and updates once a system goes live to cover additional needs that are identified post-go live, effective risk management practices and training are enhanced if such documentation is finalized and approved prior to final training and system go-live.

PRIOR REPORT ISSUES – REPEAT COMMENTS

The following issues were identified in KPMG's Performance Audit dated August 2003. The issues have not been resolved.

Although the Integration Vendor performs internally focused risk management reviews, a formal project risk management function focusing on the City and the overall project risk was not observed. Formal risk management tools and metrics are not utilized. KPMG reviewed the Integration Vendor's risk assessment and noted that there are no follow up procedures to the issues identified.

Benefit realization is not being formally monitored and the overall impact of the delayed implementation schedule has not been calculated.

The business continuity requirements of the ERM Project have not been formally documented.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

DETAILED FINDINGS AND RECOMMENDATIONS

Our detailed findings and recommendations are included below. We recommend that the City address the detailed findings and recommendations noted in our report in a timely fashion to ensure that these issues do not adversely impact the timing, cost, security, or functionality of the remaining Waves.

We recommend that progress toward addressing these matters be formally documented and monitored to ensure accountability. We recommend that effective risk management practices be implemented immediately. If project issues are not addressed timely, issues similar to those noted in our report could significantly impact the roll out and final implementation of planned future Waves.

Project and Resource Management Practices

1. Compression	
Criteria	Compression refers to the amount of work to be completed by project resources as compared to the amount of time remaining to complete the required work. As the compression rate increases, the risk to the project also increases. There are multiple options that can be used to help reduce the compression rate. For example, the implementation date can be extended, more resources can be added, or functionality can be omitted. The project team must be aware of the compression rate, and as it increases, take appropriate risk management or other actions as necessary.
Condition	Through analysis of the project plan, review of other project documentation, and interviews with the project management and business users, we noted that the compression rate on the project posed a significant risk to the success of the April 26, 2004 implementation. We noted compression of the project timeline within both Wave H and Wave F. Wave F was significantly compressed during the few weeks prior to go-live.
Cause	<p>The Wave F rollout was delayed due to key issues that were identified during User Acceptance Testing. After receiving and using the test scripts prepared by the ERM Project Team, the OMB group had concerns that all key functionality had not been appropriately tested. Accordingly, the Office of Management and Budget prepared additional test scripts. These scripts and the earlier tests identified significant application usability and workability issues. The issues identified in the OMB acceptance testing ultimately lead to the delay of the Wave F rollout.</p> <p>Also, the Integration Vendor in correspondence to the City, noted that turnover in the Budget Director's position resulted in delays in the formal sign off by OMB on the Wave F blue print. The ERM Project Team, Integration Vendor, and the OMB Budget Director held ongoing discussions and daily meetings to address the open questions, but the ERM Team was unable to fully address the incoming Budget Director's questions around the proposed system functionality and open testing issues prior to go-live.</p> <p>The blue print document serves to define the functionality to be provided by the system. It is critical from a control perspective that the blue print be developed and approved early in the project life cycle.</p>
Effect	The usability and workability issues identified in user acceptance testing and related reconfiguration work required before go-live ultimately resulted in a decision to delay the Wave F go-live date.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

Recommendation	We recommend that adequate time be allowed for unit, integration, and user acceptance testing. We recommend that user sign off on blue prints and key configuration issues be obtained during the design phase of the development lifecycle. We also recommend that user testing processes be improved on a go-forward basis to include the early input of end users' requirements and that quality assurance processes are improved around end-user testing to ensure test scripts and system functionality are complete. End-user testing should include all major business process scenarios and end users who are performing the testing should be trained and should adequately understand the system requirements and functionality so that they can effectively execute the planned testing.
-----------------------	---

City of San Antonio Management Response

Compression:

ERM Response: Prior to the execution of User Acceptance Testing, the Budget Preparation implementation was on time and progressing according to the project work plan. User Acceptance Testing was originally scheduled for a period of three days. During User Acceptance Testing, several issues were identified pertaining to the usability and complexity of the Budget Preparation Software. Upon identification of these issues both the OMB and the Project Team took several proactive measures. The Project Team evaluated potential solutions and implemented two configuration changes to the software to enhance usability and has continued to work with SAP to resolve one other outstanding issue. The OMB also requested additional testing by the Project Team prior to returning to user acceptance testing and provided specific test scripts to ensure that the software could accomplish the City's business requirements.

As mentioned above, the usability and complexity issues identified in user acceptance testing resulted in the compression of the remaining components of the budget preparation implementation and the delay of the go-live date. However, prior to this, the budget implementation was progressing according to schedule. The issues associated with user acceptance testing became apparent within a two-week time frame, during which daily meetings and communication occurred between the Project Team and the OMB. The agreement was that User Acceptance Testing would be evaluated on a day-by-day basis with the possibility of a delay if the usability issues could not be corrected in a timely manner. Issues were communicated in a timely basis as soon as information was available. The following provides a chronology of User Acceptance Testing and the communications that occurred. We believe that the information was communicated clearly as soon as it was available.

Date	Activity
March 30	Round 1 of User Acceptance Testing was completed and usability issues identified OMB and Project Team discussion of issues discovered during User Acceptance Testing Steering Committee briefed on usability issues that were discovered during User Acceptance Testing
April 8	Round 2 of User Acceptance Testing was completed OMB and Project Team discussion of issues identified during Round 2 of User acceptance testing

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

April 12 - 16	Daily meetings with OMB and Project Team to address issues and identify solutions
April 13	Steering Committee briefed on status of budget preparation issues
April 18	Project Team and OMB met to discuss recommendation of the project integration vendor of restructuring the project dates and extending testing of the budget preparation software utilizing a parallel testing process. Decision was finalized to delay implementation of the Wave F go-live.
April 19	Briefed KPMG Auditors and City Auditor staff on decision to postpone go-live date
April 19	Briefed City Auditor on decision to postpone go-live date
April 19 – 28	Initiated individual meetings with Council Members to discuss the decision to postpone go-live date of the Wave F implementation
April 20	Steering Committee briefed on decision to postpone the Wave F go-live date
	Briefing to Governance Committee for delay of Wave F go-live date and alternate testing and acceptance strategy

We concur with the recommendations that adequate time be allowed for unit integration and user acceptance testing, blue prints, and key configuration issues be identified as early as possible in the development life cycle and user testing process be improved on a go-forward basis.

The blue print for budget preparation has been signed and the configuration issues have been coordinated with SAP for resolution. In some instances, the usability issues were not the result of configuration but rather would be classified as a future enhancement that SAP would need to implement to the core software code. Additionally, improvements have been implemented in the future waves to address that the user testing processes be improved on a go-forward basis to include early input of end users' requirements and ensure test scripts and system functionality are complete to the point that end-user testing will be comprehensive and effective. To address this issue in Waves D (finance) and E (payroll), end users participated in the review and development of the integration test scripts as well as testing during two cycles of integration testing. These integration test scripts were also portable to user acceptance testing.

2. Resource Management	
Criteria	Resource Management includes the processes required to make the most effective use of those resources assigned to the project. This includes all of the project stakeholders including, sponsors, customers, partners, and individual contributors.
Condition	The project has experienced significant risks due to turnover in key positions of the project. During the Wave F and Wave H implementation processes, the City of San Antonio lost the Director of Human Resources, the Director of the Office of Management and Budget, and the Lead Technical Manager at ITSD. Since January 2004, the project team has filled several open positions with new team members including City and Integration Vendor Training and Change Management positions as well as the Integration Vendor Technical Manager position.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

Cause	<p>No single reason has been identified for the high turnover of key positions. The primary reason seems to be that individuals left the organization to pursue other opportunities outside of the City.</p> <p>The position of City Change and Training Manager was not filled until very late in the Wave F and H development life cycles.</p>
Effect	<p>The primary impact of project turnover was felt in Wave F. The departing Budget Director had important project knowledge when he left. The Project Team did take steps to lessen the impact of this loss of knowledge, but the impact was not completely mitigated. The two new trainers (City and The Integration Vendor) also had a compressed time frame to become familiar with organization requirements and system functionality that continued to be revised because of issues identified in testing and to prepare the end-user training.</p>
Recommendation	<p>While the ERM team has worked actively to replace resources who have left the project, the project could benefit from a more proactive resource retention strategy and a formal program to provide incentives for the retention of key team members. Management should also consider potentially engaging outside contractors on a short-term basis to fulfill key roles and assist in the successful completion of the project if turnover occurs in critical positions.</p> <p>Improved resource management planning and resource retention processes will help reduce the risk of key resource loss and will assist in planning for potential losses of key team members.</p> <p>As the project team plans resource requirements for the upcoming implementation of Waves D and E, the ERM management team should evaluate the existing resource plan to ensure that resources will be identified and in place in adequate time to meet key project dates.</p>

City of San Antonio Management Response

Resource Management

ERM Response: We concur that turnover of key personnel exposes the project to risk. These individuals left employment with the City for a variety of reasons including outside employment opportunities and personal preferences. The City developed specific plans to mitigate risks associated with the departure of these individuals.

Frances Gonzalez, Assistant City Manager was appointed as the Interim Director of Human Resources in order to continue the leadership and guidance to the ERM Project Team. The ERM Project met with Ms. Gonzalez on a frequent basis to transfer the design and process knowledge. Additionally, Margaret Gonzales and Norma Hemphill were involved with the Human Resources implementation since the inception and provided continuity to the Project Team and the Interim Human Resources Director.

City Management and the ERM Project Team also took proactive measures in order to mitigate the risks associated with the turnover of the OMB Director. Several individuals were positioned to support the vacant Director position - Peter Zanoni, Edward Belmares, and Erik Walsh together have in excess of 15 years of City and budget experience. The existing OMB Director, ERM Project Team, and the individuals identified above met on Saturday, January 25, 2004 to initiate the transfer of knowledge to the new OMB management team. Several additional meetings occurred

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

subsequent to the January 25th meeting to discuss the blue print designs, budget process, prepare for presentations and discuss implementation issues in order to bridge the gap of the existing OMB Director and the incoming Acting OMB Director.

The City's Lead Technical Manager announced the decision to leave City employment on March 23rd. The Director of Information Technology Services immediately transferred the duties of this position to Jim Bischoffberger, Information Services Manager, and Joyce McGuire, Assistant Information Services Technology Director. The process to recruit a new Lead Technical Manager was initiated on March 23rd. The following timeline indicates the recruitment efforts undertaken to fill the vacant Lead Technical Manager position:

Date	Activity
March 23	ERM Lead Technical Manager verbally announced decision to resign from City employment
March 23	Information Technology Services Department forwards request to fill Position Review Committee (PRC)
March 25	Written resignation received from ERM Lead Technical Manager
March 29	Position Review Committee (PRC) approved position for advertisement
March 31	Personnel Requisition forwarded to Human Resources for posting and advertisement
April 22	Position closed
May 10	Eligibility listing forwarded to Information Technology Services Department
May 10 – May 31	Review of applications and interviews conducted

Although, turnover has been experienced in key City positions, the risks associated with turnover have been successfully mitigated through the transfer of duties and proactive recruitment of vacant positions.

We do not agree that the Integration Vendor positions of Change and Training Manager, and Technical Manager were not filled until very late in the Wave F (Budget Preparation) and Wave H (Human Resources) development life cycle. Although, we would prefer consistency within the position, the Training and Change Management and Technical Manager Positions were never vacant, and the transition dates are as follows for each position:

Deloitte Positions	Date	Activity
Change & Training Manager	December 8, 2003	Start date for Anne Davies, new Change and Training Manager for Deloitte Consulting
	December 27, 2003	Sue Foglietta left Deloitte Consulting. This was a managed transition allowing for a two-week period for transition and knowledge transfer.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

Lead Technical Manager	September 27, 2003	Les Hensely started on the ERM Project
	December 18, 2003	Bob Gagnon left Deloitte Consulting
	March 30, 2004	Les Hensely left Deloitte Consulting
	January 12, 2004	Soumya Chartravorty started on the ERM Project

We agree that a proactive resource retention strategy and formal program to provide incentives for the retention of key team members is necessary and that resource requirements for the upcoming implementation of Waves D and E be evaluated to ensure that resources will be identified and in place to meet key project dates.

A retention program has been evaluated and is currently in the process of being implemented. The first step is to provide ERM team employees the opportunity to access system resources from home and, after stabilization, the opportunity to work a flex schedule. Additionally, other opportunities such as pay and leave are being evaluated to compete with the market. In order to provide the necessary staffing requirements for the upcoming Waves D and E additional resources will be introduced during the budget process, and in specific circumstances, Deloitte Consultants may be extended to provide production support until adequate knowledge transfer is completed.

3. Steering Committee and IRG Meetings	
Criteria	The main goals of the Steering Committee are to serve as an advisory board, to align the leadership and to serve and assist in the success of the ERM project. The Issue Resolution Group (IRG) was set up in August 2003 to improve the issue resolution process. The IRG was a subset of the ERM Steering Committee but has been rolled back into the Steering Committee. The purpose of these meetings is to resolve issues brought forth by the Project Team. The ERM team then implements resolutions reached by the IRG and Steering Committee. The Assistant City Manager is in charge of resolving issues if a consensus is not reached.
Condition	The IRG meetings were held regularly during much of 2003. Beginning in 2004, a number of the meetings were cancelled and not rescheduled or not documented. Steering committee minutes have not been documented for January 2004 and February 2004, and the Steering Committee meeting for December 2003 was cancelled.
Cause	As the project progresses, scheduling conflicts will arise. Rather than reschedule meetings, the ERM project team has cancelled the meetings. Cancelled meetings do not allow for timely communication and escalation of issues to the appropriate project sponsors. KPMG also noted that the project team reporting to the Steering Committee and governance committee does not include standardized executive reports such as project milestone or risk management reports. Such reports could enhance the level of detail and transparency of communications.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

Effect	The IRG and Steering Committee meetings are critical to the successful management of issues. It is important to have ongoing communication between the ERM Project team and the Steering Committee members to allow issues to be resolved in a timely and efficient manner. Significant issues should be escalated quickly to allow City Management to participate in the issue resolution process. Without established standardized executive reporting it is difficult for the Steering Committee members to understand the true status of the project.
Recommendations	<p>Meetings that are cancelled should be rescheduled within the same week to ensure timely oversight and communication of issues.</p> <p>The active oversight by the Steering Committee is a key control. The importance of this control is increased because of the lack of an active formal risk management and quality assurance function. The frequent canceling of Steering Committee meetings provides limited opportunities for formal interaction between the Project Management Team, the Steering Committee, and Project Sponsors.</p> <p>The Project Team reporting should include standardized executive reports such as risk management and project milestone reports.</p>

City of San Antonio Management Response

Steering and IRG Meetings

ERM Response: We concur that Steering Committee meetings are critical to the successful management of issues, and it is important to have ongoing communication between the ERM Project Team and the key project stakeholders to allow issues to be resolved in a timely and efficient manner. However, the project life cycle includes periods during which the Project Team is focused on configuration or preparation activities, and it may not be necessary or constructive to convene the Steering Committee on a weekly basis. The Project Team evaluates the need to have a Steering Committee meeting on a weekly basis and determines whether or not a meeting is necessary. During weeks when these meetings are not held, numerous communication activities facilitate communication of ERM Project activities to the Steering Committee members and key stakeholders. These methods of communication include, but are not limited to, bi-weekly status reports, weekly department head meetings, Sponsor Meetings, and Quarterly "B" Session briefings. The inclusion of standardized executive reports will be included to facilitate and enhance the level of detail and transparency.

ERM Process Management Practices

4. Issue Resolution Process	
Criteria	The issue resolution process is the formal process of identifying, documenting, and ultimately resolving issues related to the implementation. The issue resolution process is critical to the application development process.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

Condition	The Integration Vendor has a formal issue resolution process in place and utilizes ThreadManager, the Integration Vendor's proprietary software, to facilitate the process. Though the project team has a process in place, they are not utilizing the process on a consistent basis. We noted that, as a result of delays in entering issues into Thread Manager, the project team was managing several Wave F issues outside of ThreadManager process and did not update the issues within ThreadManager on a timely basis. A query of ThreadManager shows that some issues were being entered in ThreadManager several weeks after they were initially identified and captured in an Excel spreadsheet. The ERM Weekly Status Report for the week of April 19, 2004 through April 23, 2004 included a summary of open issues in ThreadManager that was inconsistent with a report of open items for Wave F and Wave H that was run by KPMG on April 28, 2004. When this delay in entering issues into ThreadManager was identified, the ERM Team did take prompt action to correct the situation.
Cause	Inadequate project management controls were noted around the issue resolution process. While the Integration Vendor put the process in place, the project team was not entering identified issues originally captured in an Excel spreadsheet into ThreadManager on a timely basis. The ERM project team was also reporting issues out of ThreadManager that were inconsistent with the number of issues identified by our analysis of open issues in ThreadManager. A query of ThreadManager for Wave H issues with a priority of "High" also showed that many of those items were still open past their "assigned date," and some issues had not been given a required completion date. When KPMG notified the ERM Team of these discrepancies, the Team investigated the differences and traced the problem to a change that was made in the ThreadManager tool to add 'Wave' as a field in the database. The ERM team did take steps to correct this problem once they were aware of it.
Effect	One of the benefits of a centralized issue reporting application is to ensure that all of the identified issues are captured in a single repository, minimizing the opportunity for issues to be lost in the process or resolved in an untimely manner. This centralized repository also allows multiple members of the project team the ability to view the most current issue list at any point in time, reducing version control issues. The proper use of ThreadManager or other automated issue tracking packages allows issues to be assigned a priority, due date and responsible party. Omission of these elements increases the risks that issues may not be appropriately resolved, and increases the risk that project stakeholders may be misinformed as to the current status of unresolved issues. Any delay in consolidating all issues in one centralized location that produces accurate reports for tracking increases the risk that issues will not be properly captured, prioritized, assigned, tracked, and resolved.
Recommendations	The Project Team should follow the planned implementation practices for managing the issue resolution process. All of the identified issues should be entered into ThreadManager on a timely basis, and the status of the issues should be updated as the status of the issues change. The project team should avoid the development of multiple repositories for the documentation and management of issues.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

City of San Antonio Management Response

Issue Resolution Process

ERM Response: The ERM Project Team utilizes a Deloitte Consulting proprietary tool called ThreadManager as the system of record to document and manage all issues associated with project implementation. The Project Team is not utilizing multiple tools for the tracking of issues – ThreadManager is the centralized and primary system of project management tracking. While the team utilizes Excel spreadsheets to track system defects and issues during User Acceptance Testing and to summarize these for communication to end-users, the information from these spreadsheets is input daily into ThreadManager with a cross reference maintained in the spreadsheet. A delay of several weeks in transferring issues from the spreadsheet into ThreadManager was identified by the KPMG Auditors and corrected immediately. ThreadManager was recently modified to include “Wave” as a database field to assist in issue management. This modification caused some reports to display inaccurately – however, this situation has since been corrected. ThreadManager contains in excess of 3,600 issues – fewer than 100 issues (less than 3%) were recorded on the Excel spreadsheet. These were not recorded in ThreadManager for a period of a few weeks while User Acceptance Testing was in progress, of which one week was conducted offsite at the Police Academy.

More stringent processes have been established and communicated to the project team to enforce the use of ThreadManager on a consistent basis. Additional procedures have been put in place to communicate the issues to the steering committee and to review issues at project team meetings to ensure issues are being addressed in a timely manner.

5. User Acceptance Testing	
Criteria	User Acceptance Testing is the process during which the end users complete structured test scripts. This phase serves as a final opportunity for users to approve the functionality of the application and provides an opportunity for the user to identify issues that need to be fixed prior to installing the application. The test scripts should be designed with input from the end users to ensure the scripts cover key business processes, and the expected end result for each test script should be clearly defined. The end user completes each test script and provides comments about the test script, and at the end, the user should pass or fail the test script. End users should be required to sign off on the results of each test script. It is also during this activity that the end users typically identify additional issues that need to be resolved within the application. The identified issues should be prioritized in order to determine if the issues must be resolved prior to implementing the application.
Condition	<p>The Integration Vendor performed limited User Acceptance Testing (UAT) but did not follow many of the standardized practices as they relate to User Acceptance Testing.</p> <p>For Wave H, we noted that with only 10 days until the scheduled go-live, the project teams had not received a formal sign off by many Wave H testers on the results of the Wave H testing. The requirement that users sign off on their test scripts was not enforced at the time of User Acceptance Testing.</p> <p>For Wave F, we noted that the first round of test scripts for Wave F did not specify the expected results. The users who were completing the User Acceptance Testing were also using the application for the first time. With very little exposure to the application, the users experience levels hindered the testing. The level of unfamiliarity with the application and the large</p>

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

	<p>number of identified issues are some of the reasons that caused the first round of User Acceptance Testing to fail. Wave F is now planning to hold User Acceptance Testing in October or November of 2004 after the parallel running of the system.</p>
<p>Cause</p>	<p>Inadequate project management and quality assurance controls were noted around the User Acceptance Testing process. Test scripts were incomplete or could not be performed because of system configuration constraints. The process lacked the proper controls to enforce the requirement that the users sign off on the results of the User Acceptance Testing at the time of completing the scripts.</p> <p>For Wave H, the ERM project team had to follow-up with those individuals who participated in User Acceptance Testing to try to obtain their formal feedback, approval, and signature on the results of user acceptance testing.</p> <p>For Wave F, we noted that the users participating in User Acceptance Testing for Wave F had not been trained on the application prior to being expected to complete the test scripts provided in User Acceptance Testing. The users were not familiar enough with the application to properly navigate through the application and to perform the testing. For the first two rounds of Wave F test scripts developed, OMB user input was not obtained. It was not until the third round of testing that OMB input was considered in the development of the test scripts. The completion of the effective user acceptance testing was delayed until very late in the process, allowing little or no time to respond to issues identified during the testing phase.</p>
<p>Effect</p>	<p>User Acceptance Testing is a critical phase in the system development life cycle that must be completed prior to the implementation of the application. The omission or mistiming of the process can result in costly delays or application failure at the time of go-live. The delays in this phase of the implementation were one of the primary causes for the delay of Wave F. The final round of User Acceptance Testing identified usability issues and programming changes, and due to the very short amount of time between User Acceptance Testing and go-live, there was an inadequate amount of time to respond to these issues.</p> <p>A breakdown in this process can result in problems with the application being missed prior to the implementation of the application. Errors in the application, or errors in the process design can lead to the misalignment of expectations between the end users and the integration vendor. Such misalignment can result in costly redevelopment efforts or the implementation of functionality that does not adequately meet the needs of the end user.</p>

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

Recommendations	The Integration Vendor should follow better practices for developing and completing User Acceptance Testing. The project team should obtain adequate and timely user input during the development of the user acceptance test scripts to ensure that the test scripts accurately reflect real work scenarios. This will ensure the application will perform as necessary for the business users. The project team should also enforce the requirement that those completing the test scripts provide comments as they are completing the test scripts and sign off that they are in agreement with the results of the testing process. User acceptance testing should be completed far enough in advance of the go-live date to allow for resolution of issues identified during the testing.
------------------------	---

City of San Antonio Management Response

User Acceptance Testing

We agree that improvements are necessary to the user acceptance process. As we proceed with the current waves of ERM implementation, we will introduce Super Users to the SAP system earlier in the timeframe. In excess of a 108 Super Users will be involved in Integration Testing, Policy and Procedure Development, Data Cleansing, and training for Wave D and E. This early involvement will educate these users about the new system and processes for Waves D and E and provide them with the proper background to conduct an educated User Acceptance Test. The City Departments for whom these Super Users normally work will also benefit from their increased knowledge upon their return to these work environments.

The appropriate project management controls around the User Acceptance Testing process were in place to enforce the requirement that the users sign off on the User Acceptance Testing at the time of completing the scripts. The process requires testers to approve test scripts and determine the outcome of the test (passed, passed with issues, or failed). During the first week of testing, some testers refused to sign off on user acceptance tests until certain criteria were met. Upon meeting those requirements, the appropriate signoffs were obtained from each of the testers. Additionally, the final approval and sign off of these tests is retained as part of the project's formal documentation.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

6. Post-Implementation F and H Support Organization	
Criteria	<p>After deployment of an SAP module, a support structure is required to maintain necessary functionality of the application and to enhance the benefits of the application to the community of end-users. The production support organization is designed to serve as a common source to coordinate activities with other functional sections within ITSD for the enhancement and maintenance of hardware, network software, and infrastructure requirements. The production support organization will also act to coordinate activities with other functional areas of ITSD for high availability backup and recovery procedures. The Support Organization has been designed to provide support in the following areas:</p> <ul style="list-style-type: none"> • User maintenance • Help Desk calls • Enhancement requests (reports, configuration) • Interfaces and add-ons • Training and re-training • Procedures definition and deployment • SAP production support • New SAP initiatives • Release upgrades • Business Warehouse (BW)
Condition	<p>With six days remaining until the project scheduled go-live, the Production Support Organization document existed only in draft form. The Project Management Office presented the draft document to the ITSD Technical Leadership group on April 27, 2004, a day after go-live to discuss the draft document during the ITSD and ERM Technical Leadership Meeting.</p> <p>On the day of go-live, the Department Support Analysts and Department Support Specialists groups, which are defined as the first level of support in the draft document, were not trained in the support of SAP, and a training date had yet to be scheduled.</p>
Cause	<p>The delays in the development, approval, and implementation of the support organization structure seemed to be related to a weak focus on communication between the ERM project team and ITSD, resulting in an untimely approval process.</p>
Effect	<p>Delays in the implementation of a Production Support Organization pose significant risk to the entire COSA organization. The delay resulted in the DSA and DSS groups not being adequately trained to provide production support to the project. This creates risks that issues may go unresolved and creates a breakdown in the production support design structure requiring all calls for assistance to be sent back to the Help Desk or the ERM development team. This breakdown in the front-line support organization can place significant additional tasks and work requirements on the Help Desk and ERM development team. This could significantly add to their already heavy workload. A lack of post-implementation support can further increase the natural tendency on the part of the users to resist change and further delay acceptance of the new system.</p>

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

Recommendation	We recommend finalizing the post implementation support processes and documents well in advance of a go-live date. The advanced delivery will allow an appropriate response time from the business users in the event suggested changes are made to the process or design. Changing a process after it has been placed in production can be very difficult on end users. It is critical that the Production Support Organization be defined, approved, trained and in production as quickly as possible. Any additional resources required to support the post-implementation team, should be identified and brought on board in an appropriate time frame. All individuals included in the post go-live support organization should be immediately informed of their role and adequately trained to support the organization, including all DSS and DSA positions.
-----------------------	---

City of San Antonio Management Response

Post-Implementation Wave F and Wave H Support Organization

ERM Response: We agree that the production support organization document was in draft form at the go-live date of the Wave H (Human Resources) implementation. However, this did not delay the implementation of the support organization – it merely lacked formal approval. The finding that this resulted in a delay of training to certain groups is inaccurate – the ERM Project has consistently applied a strategy of training end users as close to go-live as possible in order to decrease the amount of time between training and the go-live date. This ensures that the knowledge received in the training is still fresh in the mind of the end user when they finally utilize the system in a live environment. The following table outlines examples of the training and communication efforts that occurred with respect to production support.

Date	Activity
April 16	Presentation to liaisons on production support process
April 21 & 22	Mandatory meeting with ERM Liaisons to present production support plan
April 21	Announcement at Department Head meeting outline the production support process
April 30	Reminder to liaisons on production support process
May 14	Reminder to liaisons on production support process
April 20	Information on production support provided at pre go-live open houses
April 22	Information on production support provided at pre go-live open houses
April 19	Information Technology Services Department Help Desk personnel provided training
April 22	Information Technology Services Department Help Desk personnel provided training

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

April 28	Make up training session for Information Technology Services Department Help Desk personnel who were not available for previous training due to vacations or being out of office
January 12	Department Systems Specialist provided training on Citrix to support computer based training for basic navigation for SAP and user practice sessions

KPMG Response

During the performance of our audit, KPMG noted that the Department Support Analysts (DSAs) and Department Support Specialists (DSSs) were not trained prior to April 26. The City's response does not address SAP support training for the DSAs and DSSs or communications directed specifically to them. The DSAs and DSSs are the first point of contact for the end users. The impact on the City's Support Organization was minimized when the decision was made to delay the Wave F implementation.

7. Go/No Go Criteria	
Criteria	Go/No Go criteria are generally used to measure the probability of success of a new systems implementation. An accurate assessment of the real probability of success is one of the most difficult and important challenges facing project implementations. The challenge is to develop a systematic approach for this process to ensure that an objective assessment can be performed prior to go-live. Go/No Go decision points must be inserted at key points in the project timeline to evaluate if the project is poised to go forward successfully.
Condition	The Go/No Go decision matrix was developed late in the project life cycle. A standard template from a previous project of the Integration Vendor was used to develop the matrix based on feedback from ERM Project Team Leads as well as Department Heads from Human Resources and Budget. The Go/No Go decision matrix included a set of decision criteria to be used in assessing the readiness of the project implementation. The document also identified issues that must be resolved prior to the go-live. Additional issues tracked in the Go/No Go matrix were included at the request of key stakeholders.
Cause	The Go/No Go decision matrix was not developed until two weeks prior to go live. The matrix was not only a decision matrix but included some key detail level issues the key stakeholders considered critical. The project had outstanding issues very late in the implementation cycle that needed to be resolved prior to go-live.
Effect	<p>If proper Go/No Go criteria are not established in the planning stages, there is a tendency to over load the decision process. Go/No Go criteria are intended to serve as key checkpoints throughout the project life cycle. This ongoing Go/No Go process helps identify what areas of a project need to be corrected in order to proceed with the project.</p> <p>The Go/No Go decision should include requirements and criteria that should be met prior to go-live. The Go/No Go list was also used as a status and issue tracking log.</p>

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

Recommendations	<p>We recommend the review of the Go/No Go Decision points and criteria with the Steering Committee and Project Sponsorship well in advance of the Go-Live date. The project team should review the applicable criteria and prepare recommendations on Go/No Go criteria. Based on this process, a Go/No Go decision can be made in a timely manner.</p> <p>Because of the problems noted in the deployment of Wave F, the ERM team should consider the benefits of using the Go/No Go report throughout the project life cycle to better communicate to the Steering Committee and key stakeholders the status of major project milestones and as a mechanism to communicate key risks related to planned future wave deployments.</p>
------------------------	---

City of San Antonio Management Response

Go/No Go Criteria

ERM Response: The Go/No Go decision matrix was a tool that Deloitte Consulting had utilized on prior projects to identify requirements and criteria that must be met prior to go-live. The Project Team began developing the matrix approximately one month prior to the go-live date and introduced the Go/No Go concept to the Human Resource and the Office of Management and Budget Stakeholders shortly thereafter. Specific stakeholders were identified to make decisions on behalf of the Department of Human Resources and the Office of Management and Budget to evaluate the decision to go live. Input was requested from the stakeholders to define the criteria that they considered critical to the decision to go-live. In addition to the identified criteria, the stakeholders requested that key issues be tracked to completion on the list. The designated stakeholders were included at the following key decision points prior to the go-live date:

April 19, 2004, 4:00 p.m.
April 21, 2004, 4:00 p.m.
April 23, 2004, 4:00 p.m.
April 24, 2004, 9:30 a.m.
April 24, 2004, 5:00 p.m.
April 25, 2004, 9:30 a.m.
April 25, 2004, 4:00 p.m.

The finding also states that “the Go/No Go criteria are intended to serve as reality checks along the project lifecycle. This ongoing Go/No Go process helps identify what areas of a project need to be corrected in order to proceed with the Project.” Although the Go/No Go matrix can be used throughout the project life cycle to determine areas that need to be corrected, the Project Management Office utilizes the ASAP (Accelerated SAP Methodology) in combination with the project work plan, and issues database to identify potential risks and barriers that would affect the go live.

We concur that the steering committee should be more involved in the Go/No Go decision process and the development of criteria for a successful go live.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

8. Training	
Criteria	Regardless of how well a project is managed, a poorly executed training program will have an adverse effect on the user readiness and work force transition upon go-live. The goals of training include the maximization of the likelihood of sustained behavioral changes necessary to effectively implement the desired business solution and the provision of a consistent methodology for handling specific tasks within and across roles. This is important for quality assurance goals and minimization of the drop in performance and productivity during the transition from current state to future state.
Condition	<p>As of April 15, 2004, only 264 of the 640 users of the Human Resource system were trained. Without a proper training program, there was a significant risk that a large number of users would not complete all of their required training prior to the go-live.</p> <p>As of April 30, 2004, the Executive and Management teams had not been trained. ERM Training was working to develop a class to support the Management Display Role. As of this report, that class has not been developed and has not been scheduled.</p> <p>Because of the issues noted above, on April 20, 2004, the Wave F go-live date and user training were delayed until December 2004.</p> <p>There has been no training developed for new hires and employees who were unable to attend the original training.</p>
Cause	The training function for Waves F and H were not filled until late into the ERM project. While this helped reduce the overall costs associated with the project, it appears that the training team simply did not have enough time to complete Wave F training prior to go-live because of the number of changes needed to the Wave F functionality.
Effect	<p>Resistance to change is a natural tendency, and if adequate training has not been provided to the end users, it can further delay acceptance of the new system among end users. The opportunity and direct costs of inadequate training can be very large and can simply outweigh any benefits provided by implementation of the new system.</p> <p>The lack of an ongoing training program puts undue pressure on the departments to spend time and resources training new hires and employees who did not attend the original training. This ad-hoc training also increases the chances that users will not be trained correctly.</p>
Recommendations	<p>The training requirements of all users, administrators, and the support team need to be clearly understood. The current competencies need to be assessed, and the differential between the current state and the required state needs to be analyzed. A training program should be designed to bridge the training audience's identified competency gaps. The training plan should address the needs of both the business users and the Organization's IT operational staff who will be responsible for the systems when the project is completed and support is shifted to the business units.</p> <p>An ongoing training program should be developed immediately to ensure that new hires are trained appropriately.</p>

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

City of San Antonio Management Response

Training

ERM Response: We concur with the recommendation that training requirements of all end users need to be clearly understood, and the current competencies need to be assessed, and the differential between the current state and the required state needs to be analyzed. We also concur that an ongoing training program should be developed to ensure the new hires are trained properly. The Project Team is currently evaluating alternatives in order to develop a post production training program to include a train-the-trainer approach, transfer of an existing training position to the project and proposing new positions in the fiscal year 2005 budget process.

As of April 15, 2004, 264 of the 640 users of the Human Resource system were trained. The project employs a concept of just in time training in order to train end users as close to the go-live as possible to minimize the amount of information that is forgotten from the time of training to the go-live date. The Project Team also has practice environments available for users who are trained earlier in the training process. As of April 26, 2004, the go-live date for Human Resources, 360 Human Resource users had participated in instructor-lead training classes, and 118 had gone through planned self-study courses. 150 users were designated as display-only roles that were planned and scheduled for training the first two weeks of May when data would be available for training, and 12 positions were placeholders for vacancies.

Technology Management Practices

9. Stress Testing	
Criteria	<p>Volume or stress testing is used to test a computer system and its applications by running under a full load of transactions and/or users. A stress test can be real or simulated by testing software. Load testing software simulates multiple transactions or users interacting with the system at the same time and provides reports on response times and system behavior.</p> <p>At the outset of testing, the test environment should be documented to record the circumstances under which the tests were performed and any errors that occurred.</p> <p>During all testing stages test activities, including a description of unit/system tested, test purpose, test cases, test data, test result (test passed, issues, defects, unexpected results) etc. should be logged to allow the timely initiation of corrective action and a status review at any time.</p>
Condition	<p>For Wave H testing, the project team utilized the Mercury Load Runner testing tool, which has the ability to simulate the actual end-user experience with regard to the ERM project. The Integration Vendor and City employees conducted the stress testing of Wave H using the Load Runner tool. The results from the Wave H testing were expected to be available on April 22, 2004. As of April 30, 2004, KPMG had not received a copy of this report. The initial indication from the Integration Vendor Technical Lead is that the testing went well for Wave H. Testing for Wave H utilized the SAP GUI as the ability to test using the Citrix front end was limited by scripting resources and licensing of Citrix. While the tests are considered valid the actual users will be using Citrix and not the SAP GUI. This could lead to invalid assumptions being made by the project team during the testing and post analysis process.</p> <p>Mercury Load Runner can be used for SAP R/3 and Citrix/web testing. However, in order to complete automated testing within the Strategic Enterprise Management-Business Planning and Simulation (SEM-BPS) custom scripts must be developed. Due to the fact that the scripting process required extensive resources, Mercury Load Runner was not used for Wave F stress testing. Manual stress testing was scheduled for the Wave F implementation the weekend before go-live but did not take place due to the delay in the Wave F implementation.</p>
Cause	<p>The Wave H testing report was not available prior to go-live. Due to the compressed time frame in which the testing was completed, it would have been difficult to make adjustments and enhancements based on the results of stress testing.</p> <p>The Wave F testing was scheduled but may not have taken place due to the project compression. Had the system gone live, there was not enough time for technical and business unit representatives to agree test plans and success criteria to ensure that systems would meet business requirements.</p>

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

Effect	<p>As the results of Wave H were not available prior to the project go-live, the Project Management Team relied on verbal reports, which indicated that initial results were positive. If performance issues are noted post go-live it is critical to have this documentation available to understand the nature and extent of testing.</p> <p>The stress testing was not the primary cause for the Wave F delay; however, the lack of time for testing for Wave F was a factor in the decision to delay the implementation. The testing would not have been able to be completed prior to the scheduled go-live date.</p>
Recommendations	<p>Testing for future waves should be performed with enough time to make necessary adjustments and to utilize the information in the Go/No Go decision process prior to go-live.</p>

City of San Antonio Management Response

Stress Testing

We concur that the formal Wave H (Human Resources) stress testing report was not available before go-live. However, the detailed technical reports were available as a result of conducting three (3) cycles of stress testing during the week of April 5, 2004. We feel the stress testing was performed with adequate time to make necessary adjustments and to be utilized during the Go/No Go process. Since the formal document was not available the Program Management Office (PMO) relied upon a verbal report on the stress testing results for Wave H.

Business System Controls For Processes Within The ERM Project

10. Status/Approval of Blue Print Documents	
Criteria	<p>The blue print process is the formal process of identifying and documenting the functional processes as they will be defined in the post-implementation environment. The blue print serves as a master plan, showing the business process in detail. This phase is critical in helping the end users and the project team develop a mutual understanding and agreement of how the new processes will work once the SAP installation has been completed and the application is fully functional. The blue print phase should be completed early on in the system development life cycle to serve as a structured mechanism for documenting and obtaining formal approval from the end users.</p>
Condition	<p>The Integration Vendor began the blue print process early on in the engagement, but did not complete the process as it relates to Wave F. With only 10 days remaining until the scheduled go-live, City Management had not approved the blue print for Wave F. The integration vendor and the Budget department maintained active discussions to try and resolve any outstanding issues in an effort to finalize the blue print phase as quickly as possible. Due to unresolved issues or unanswered questions between the Budget department and the Integration Vendor, the blue print process was not completed in time to meet the April 26, 2004 go-live date.</p>

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

Cause	Inadequate time was allowed or inadequate project management processes around issue identification and resolution were noted related to the blue print process. While the Integration Vendor started the process early, the process was not completed in an appropriate time frame. With only ten days left until the scheduled go-live date of April 26, 2004, the Budget department had not approved the budget process blue print.
Effect	The blue print phase is a critical phase in the system development life cycle that cannot be omitted or placed out of order. The omission or mistiming of the process can result in misalignment of expectations between the end users and the integration vendor. Such misalignment can result in costly redevelopment efforts, implementation of a process that does not adequately meet the needs of the user, or delays in the implementation process.
Recommendations	The Integration Vendor should follow best practices for obtaining end user input into the blue print development process and should ensure that they have obtained final end user approval of the blue prints prior to proceeding with the later stages of the project. The final approval and sign off of the blue prints by the business unit should be retained as part of the project's formal documentation.

City of San Antonio Management Response

Status/Approval of Blue Print Documents

We concur that the formal blue print document for Wave F (Budget Preparation) was not signed prior to the proposed go-live date. However, it may be useful to expand on how the blue print is developed during this particular phase of the ASAP (Accelerated SAP) Methodology, which is being utilized by the project team. The blue print is developed jointly by the ERM Project Team (Deloitte and City Staff) and the respective Departmental stakeholders based on user requirements. The processes are defined and finalized through a series of workshops and meetings. Upon completion, the information is formalized in a blue print document and submitted for formal approval. The above process typically results in minimal modifications to the blue print as a result of the cooperative process described above to develop the formal blue print document. Additionally, in this case, changes to the blue print were minimal and would not have anticipated it being a barrier to going live. The Office of Management and ERM Project have since signed the blue print document for Wave F.

11. Policies and Procedures	
Criteria	The creation of policies and procedures for Waves H and F is the formal process of identifying and documenting the functional processes, as they will be defined in the post-implementation environment. Policies and procedures serve as key business documents, showing the business process in detail. This phase is critical in helping the end users and the project team develop a mutual understanding and agreement on how the new processes will work once the SAP installation has been completed and the application is fully functional. The policies and procedures development and approval is completed early on in the system development life cycle to serve as a structured mechanism for documenting and obtaining formal approval from the end users.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

Condition	The Integration Vendor engaged in the Policies and Procedures process early in the project, but did not complete the process as it relates to Wave F and H prior to the April 26, 2004 go-live date. With one day prior to go-live, the Policies and Procedures for Wave F and H had not been approved by each Department's Management. As of April 25, 2004, the ERM team rescheduled the due date for the completion of all Policies and Procedures for May 7, 2004.
Cause	While the ERM team started the process, the process was not completed in an appropriate time frame. The root cause is related to two issues. There was weak communication with the various departments regarding the importance of and appropriate time line for completing the Policy and Procedure review and approval process, and insufficient project support at the City level to ensure departments were responding in an appropriate time frame.
Effect	The development of Policies and Procedures is a critical phase in the system development life cycle that cannot be omitted or placed out of order. The omission or mistiming of the process can result in misalignment of expectations between the end users and the Integration Vendor. Such misalignment can result in costly redevelopment efforts, implementation of a process that does not adequately meet the needs of the user, or delays in the implementation process.
Recommendations	The Integration Vendor should follow best practices for obtaining end-user input into the Policy and Procedures development process and should ensure that they have obtained final end-user approval of the Policy and Procedures prior to proceeding with the later stages of the project. The final approval and sign off of the Policy and Procedures should be retained as part of the project's formal documentation.

City of San Antonio Management Response

Policies and Procedures

Policy and Procedure documents are created and finalized by the City ERM Project staff. The ERM project staff drafted and obtained approval for the Enterprise Policy and Procedure documents. These documents are then customized as needed by the departments to address any department processes. Although not all procedures were fully developed, the enterprise procedures were finalized and available for the Wave H (Human Resources) go live. Departments continued to modify the existing procedures to fit their Departmental business processes.

Wave F (Budget Preparation) enterprise policies and procedures were in draft form and would have been completed upon the completion of User Acceptance Testing. The policy and procedures could not be fully completed until any adjustments resulting from User Acceptance testing were incorporated into the Policy and Procedure.

Communication and support existed in a variety of ways for both Waves F and H. This included several formats consisting of Go-live readiness plans, Departmental task listings, leadership alignment workshops, several workshops, and Department Head meetings.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

Prior Year Issues:

The following issues were identified in KPMG’s prior year Performance Audit dated August 2003 and remain as ongoing project risks for the ERM Implementation.

1. Risk Management	
Criteria	Risk management involves the identification, analysis, evaluation and proactive response to threats, both current and anticipated, throughout the project to enable the project to achieve its objectives. It is important that processes are in place to detect problems in order to reduce the risk of problems compounding if they are dealt with promptly. The procedure for managing risks and issues identified should provide a structured mechanism for documenting and prioritising project issues, assigning them for analysis, identifying and agreeing to a solution, and implementing the solution to clear the risk.
Condition	The Integration Vendor performs risk management reviews monthly. While the reviews have been taking place, there is no formal process in place to address the issues identified during the risk review. There is also no evidence of a City risk management review.
Cause	Inadequate project risk management controls were noted. Periodically the Integration Vendor risk reviews are performed, but City risk management reviews were not evidenced. There is no evidence that identified risk issues were escalated to City Management, and a formal risk mitigation process has not been established.
Effect	Risk management is a daily process and allows risks to be mitigated before the risks become potential project delays or cost overage issues.
Recommendations	A formal risk management process should be implemented and include a risk repository. Risk management processes should involve proactively managing potential project risk so that they don't become larger project issues. A formal process should be in place to ensure any identified risk is appropriately resolved.

City of San Antonio Management Response
Risk Management

We concur that there is room for improvement with a formal risk management process with respect to the Deloitte Consulting and City conducted reviews. Previously, Deloitte Consulting was conducting risk reviews quarterly and has now increased the frequency of the risk reviews given the scope of the upcoming go-live date of October 1st. A process has been put in place to ensure the timely publication of the reviews once the City has received a draft report.

The City has initiated a risk evaluation process as the result and recommendation of the previous ERM Performance Review. This process includes one of the ERM Project Sponsors conducting a risk review with a formal published report. The City initiated the risk review process; however, a formal report has never been completed. However, the Sponsor has provided verbal reports to the Steering Committee, Project Sponsors, and Program Management Office.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

2. Business Case Benefits	
Criteria	The objective of a project business case and benefits realization monitoring is to ensure that the project is endorsed by the appropriate level of management, has an approved business case, and that expected benefits of the project are realized. Without sufficient focus and buy-in at all levels, there is an increased risk that the project may not deliver the expected value to the organization. Throughout a project the business case should be regularly revisited to account for changes in business needs and to assess that the expected benefits of the project are being realized.
Condition	The basis for the dollar amounts of expected project benefits are largely unknown by the project members interviewed. We noted that the functional teams are ensuring that the required information to track benefits is collected by the system; however, a formal process was not observed to benchmark and report on the targeted benefits. Project team members expressed concern over processes getting more complicated instead of simpler and questioned whether efficiencies would be gained through the process. Delays in the project rollout schedule will require project resources extending their time on the project, which will impact the project costs and defer the benefits realization.
Cause	Business case benefits did not appear to be widely known among Departments.
Effect	No formal monitoring controls of performance against business case benefits metrics were evidenced. Little awareness of the business case and associated metrics was noted during our review.
Recommendations	Communications regarding the business case benefits should be formally communicated to all project team members. The benefits realization message should be continually re-enforced through the life of the project. A formal set of metrics and a measurement program should be developed and deployed. The program should include executive reporting on the progress toward achieving the metrics and estimated benefit dollars achieved. Project wide knowledge of the benefits to be received through the project is crucial to project success. Understanding the benefits allows the organization to make changes that are better for the overall organization.

City of San Antonio Management Response
Business Case Benefits

The business case for the project was developed during Phase I and updated during Phase II. The benefits identified in the business case are scheduled to be realized primarily during Wave D of the project with a smaller focus on Wave H. We concur that benefit realization should be tracked. As of April 30th the Human Resource system was live for four days. We agreed during the development of the Human Resource policies and procedures that we would allow the system to stabilize prior to beginning to evaluate benefit realization and service level agreements between departments. The same approach is anticipated for Waves D and E.

In response to the last performance review, we did increase the amount of communication with respect to the business case and will continue to do so as recommended by this finding.

**THE CITY OF SAN ANTONIO – ENTERPRISE RESOURCE MANAGEMENT PERFORMANCE AUDIT
FIRST QUARTER 2004**

3. Business Continuity	
Criteria	As part of the project risk management process, it is necessary to update the Organization's Disaster Recovery Plan and off-site disaster recovery facilities to include the new system.
Condition	The business continuity requirements have not been formally documented or tested.
Cause	The ERM Project is a mission-critical application; however, the business continuity requirements have not received the required level of attention.
Effect	Without adequate disaster recovery and business continuity plans the City may lose data or be unable to provide key services in the event of a disaster.
Recommendations	Disaster recovery and business continuity requirements for the ERM project should be adequately documented. Project management should take ownership to ensure that an adequate DRP plan is put into place prior to the implementation of the ERM Project.

City of San Antonio Management Response
Business Continuity

ERM project hardware, software and data are housed in the City's computer facility with the City's other mission critical information technology systems. Physical security, environmental controls, uninterrupted power, and network security products (firewall, IDS, etc.) are all in place and tested periodically. Database back-up and restore capability for the Hansen and SAP data is also tested on a regular basis.

In addition, citizens have approved a bond issue to build a new Emergency Operations Center (EOC), which will include offsite disaster recovery (DR) facilities for the City's Information Technology resources. ITSD has assigned staff to work with Fire, Emergency Management, and other City staff in the planning for the new EOC. Specific requirements for information technology disaster recovery are currently being delineated. While the new EOC provides a long-term solution for disaster recovery, the Information Technology Services Department (ITSD) is also planning for an interim Disaster Recovery site at an existing City facility. Funding for the interim Disaster Recovery site will be requested in the next FY (04-05) budget.

Since Business Continuity Planning includes more than disaster recovery, ITSD is also developing plans for departments to continue their operations during service interruptions. ITSD staff is developing a template to be used while participating in the budget process for each City department and updating the Business Continuity Plans developed during Y2K preparation process.