

An Audit Report on

The Department of Public Safety's Management of the Integrated Satellite Business Network Project

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**State
Auditor's
Office**

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The Department of Public Safety's Management of the Integrated Satellite Business Network Project

Overall Conclusion

The Department of Public Safety's (Department) Integrated Satellite Business Network (ISBN) meets the intended functionality. However, while the ISBN contract was within the contract budget, we were unable to determine the total cost of the project because the Department did not track internal personnel costs of managing the project. Also, the ISBN did not meet its original milestones because the project was extended 36 months.

The Department reports that in the 2004-2005 biennium it will be developing three other major information systems at an estimated cost of \$26 million. By addressing the following issues that occurred on the ISBN project, the Department could help ensure that future projects will be completed on time, within budget, and with the needed functionality:

- During the execution phase of project management, the Department did not establish a system to track the project's internal personnel costs. The Department budgeted \$1 million for its staff members' time. However, it did not set up a system to track these costs, so it does not know how much it has spent on internal personnel for the project. It also did not track the additional costs incurred because of the project extension discussed below.
- During the monitoring phase, the Department did not follow its own procedures that required it to update the project's milestones as the project progressed. The project was extended 36 months due to unforeseen inadequacies in local agencies' equipment. Even though some of the extension may have been outside the Department's control, the Department should have adjusted its project milestones accordingly.
- During the planning phase, the Department did not ensure that its contract included sufficient provisions to hold the contractor accountable for performance and costs.

ISBN met its intended functionality of connecting sites to national and state crime data. Responses from all 69 statistically selected sites that we surveyed indicate that users are satisfied with the ISBN.

Background

The ISBN consists of the computer hardware that gives local law enforcement and criminal justice agencies direct access to crime data in the National Crime Information Center (NCIC) and the Texas Crime Information Center (TCIC). The Federal Bureau of Investigation (FBI) designated the Department as the control agency for Texas. In this capacity, the Department is to provide Texas's city, county, and state personnel access to NCIC.

As of January 2003, the Department had spent \$8 million of its approximately \$10.2 million contract with the primary ISBN contractor. The total project cost includes costs for other contractors and Department personnel. However, the Department did not have complete project information because it did not track internal personnel cost.

We audited the effectiveness of IT project management by reviewing the planning, monitoring, and executing processes used in the development of the ISBN system. Appendix 2 contains more information on the phases of IT project management.



Major IT projects are critical to organizations' business processes and service delivery functions. If agencies do not adequately manage their IT projects, there are increased risks that the projects will not meet the overall goals of the organization, will not be completed on time, and will incur significant and unnecessary costs.

As of November 2002, state agencies and universities reported a total of 215 major IT projects planned, underway, or recently implemented, with an estimated budget of approximately \$2 billion.

Statute requires the State Auditor's Office to participate on the Quality Assurance Team (QAT), which approves and monitors major information resource projects. Our involvement in the QAT did not affect our audit conclusions.

Detailed Results

Chapter 1

During the Execution Phase of the ISBN Project, the Department Did Not Determine Total Project Costs

The total costs for the Integrated Satellite Business Network (ISBN) project cannot be determined. The Department of Public Safety (Department) cannot provide assurance that its internal personnel costs associated with managing the ISBN project stayed within the \$1 million estimated in its Biennial Operating Plan because the Department did not have a system in place to track these costs. Also, the Department did not track additional internal personnel costs that resulted from the project extension. As a result, the Department did not follow its own Project Development Plan, which required tracking and monitoring all project costs. Furthermore, the Department also did not follow its Project Development Plan when monitoring the project, as discussed in Chapter 2-A. Tracking project resources is helpful in managing the resources available to the project.

Establishing a system to track costs is part of the execution phase of a project, when an agency determines how to coordinate resources to meet the objectives. (See Appendix 2 for more information on the phases of IT project management.)

Based on our testing and reconciling of ISBN project expenditures, we determined that the Department accurately tracked the contract expenditures and that expenditures were valid per contract provisions. Also, the ISBN contract expenditures were within budget.

Recommendation

For future projects, the Department should follow its own Project Development Plan in addition to state and Biennial Operating Plan guidelines to track all project costs, including personnel and other costs, associated with project extensions so that it can determine the total project costs and ensure that the costs do not exceed allocated amounts. Tracking all project costs is helpful in managing the Department's resources allocated to the project.

Management's Response

We partially agree.

Project costs were reported on the monthly Quality Assurance Team (QAT) report that was reported to the Department of Information Resources (DIR) and State Auditors Office (SAO), who made up the QAT at the beginning of the project. The QAT reports have continued. Various views of the project costs have been prepared at the request of the various oversight groups. The internal personnel costs are estimated because they must be paid by the agency regardless of the project in which the employees are involved. This is consistent with the previous requirements for the Biennial Operating Plan (BOP), which were applicable when this project was launched. The current BOP rules exclude these costs. The agency has researched

software that will capture and analyze personnel time associated with tasks that they perform. To date this has not been purchased because of the expense of this type of software. In September 2001, the Information Management Service (IMS) began a paper-based system that does track employee time by activity. Future projects should have a more accurate estimate of the time spent on them by IMS employees. (This time tracking would not include time spent by legal staff, purchasing staff, etc.) The agency will support an automated cost-accounting system, should the resources necessary to purchase and support one become available.

If any additional costs were incurred by the agency due to the extended timeline, these were incurred to avoid impacting the local law enforcement agencies that depend on the critical data provided by this system. Many of these agencies had to upgrade or replace their equipment in order to interface with the satellite system. These time requirements could not have been estimated at the beginning of the project. The local law enforcement agencies' timelines had to be accommodated. The overriding factor in this project was to minimize the impact of the technology change on the local law enforcement agencies. Based on the results of the satisfaction survey, it appears this was accomplished.

Auditor's Follow-up Comment

The project cost the Department reported to QAT was a rolled-up number for the Texas Law Enforcement Telecommunications System (TLETS) Network Upgrade and did not include a detailed breakdown of the costs related to individual components of the TLETS project. This audit addressed only the ISBN portion of the TLETS Network Upgrade.

Although the Department stated that it did not and could not track personnel costs, its management's response indicates that estimated personnel costs were included in the total project costs of the TLETS Network Upgrade. Also, the Department indicates that, as of September 2001, the Information Management Service developed a paper-based system to track employee time and activity. The Department was unable to provide us with the amount estimated for personnel costs or its method for estimating these costs. After repeated requests, the Department was still unable to provide this information. Without these personnel costs, the Department cannot determine the total project costs.

The satisfaction survey we conducted did not address the technology change's effect on local agencies. The survey only established whether the local agencies could communicate with the NCIC. Therefore, the survey cannot be used as evidence that the local law enforcement agencies did not experience difficulties with the technology change.

During the Monitoring Phase of the ISBN Project, the Department Did Not Follow Its Own Procedures

Although the Department's ISBN project met its intended functionality and the Department has systems and procedures in place for managing projects and for processing payments to contractors, it did not consistently follow these procedures for the ISBN project.

The monitoring phase includes ensuring that the project proceeds according to plan and achieves stated goals. Tracking the contractors' performance and making necessary adjustments are part of monitoring a project's progress toward meeting objectives. Ensuring that payments to contractors are accurate and supported with competent documentation is part of monitoring a project's use of resources.

Chapter 2-A

The Department Did Not Follow Its Internal Plan for Project Management

The Department did not monitor the ISBN project as required by its Project Development Plan (PDP). The PDP describes the procedures the Department should use to manage its IT projects. These procedures are part of the Department's internal quality assurance program required by the Texas Government Code, Sections 2054.151–2054.157. By not complying with its PDP and the Texas Government Code, the Department did not:

- Monitor the achievement of milestones set by the PDP or update the missed milestones after the project was extended 36 months. While some of the extensions may have been outside the Department's control, the Department should have adjusted its milestones accordingly.
- Require the contractor to provide documentation demonstrating that the equipment installations worked according to plan.
- Maintain or archive project management documentation.

Due to inadequate project management and insufficient documentation, we were unable to quantify the cost associated with the project extension. The Department has several upcoming IT projects, and if the PDP procedures are followed, the Department could help ensure that the products contractors provide meet the agreed-upon specifications and that the work is performed in a timely manner and within budget. Additionally, to determine whether the ISBN met the contracted functionality, we extended our audit procedures because the Department did not have documentation demonstrating that the ISBN functioned as intended. We surveyed 69 statistically selected user locations. Their responses indicate that they are satisfied with the ISBN.

Recommendation

The Department should monitor IT projects as required by its PDP and the Texas Government Code to ensure that the products it receives are of the quality specified in contract requirements, provided in a timely manner, and within budget.

Management's Response

We partially agree.

The Department should have done a better job keeping the paperwork up to date. There were extenuating circumstances, including Y2K, and project management turnover, that added to this problem. However, this was a hardware rollout, which gives the Department a simple evaluation tool for knowing if the equipment is properly installed. Per the contract, if the equipment did not run for 30 consecutive days without issues, we did not consider it properly installed, and did not pay for the installation. The Department was able to judge this by watching the traffic over the network, and by conversations with the local law enforcement agencies where the equipment resides. These conversations were a routine part of the equipment rollout. The Department will agree to keep project paperwork more current, but does not agree that paperwork that was not completely current had any impact on the project's schedule or cost. This had no material impact to the project. The project is a success, based upon the feedback from its users.

Auditor's Follow-up Comment

Although users are satisfied with the functionality, this is only one of three aspects of a successfully managed project. The other two aspects are staying within budget and established timeframes. With regard to the budget, we were unable to determine the total cost of the project because the Department did not track internal personnel costs of managing the project. Regarding completion within established timeframes, the Department extended the ISBN's original milestones by 36 months.

This finding relates to the lack of project monitoring, not the quality of documentation. Relying on informal monitoring, such as conversations with users, is not adequate monitoring. Such an approach could result in more significant problems occurring and going undetected in future IT projects. We urge the Department to reconsider the necessity of keeping current and complete documentation and to apply this practice in all future projects.

Because the Department did not adequately manage this project, it cannot determine whether the project extension had a material effect on cost. We had to survey local law enforcement agencies regarding the system's functionality because the Department did not have user's acceptance documentation to demonstrate whether the local law enforcement users indicated that the system worked as intended.

The Department Did Not Consistently Follow Its Procedures When Processing Payments to the Primary ISBN Contractor

We tested \$3.6 million in payments to the primary ISBN contractor and found that the Department did not consistently follow its procedures when processing payments totaling \$1.1 million (30 percent). Although we determined that the ISBN met the intended functionality, the Department increased the likelihood of paying for work that did not meet the contract requirements and of making payments for the wrong amount. Specifically:

- Two payments for services totaling \$879,210 were not supported with a certification of completion as required by the contract. These two payments were for different phases of the satellite installation. Our expanded audit work determined that the satellite was completed and working.
- Four payments totaling \$72,300 were paid without a signature indicating approval. The Department's procedures require the project manager to approve the payment of invoices. Our expanded audit work determined that the payments were for valid expenditures.
- Two payments totaling \$153,114 were mathematically incorrect, and the contractor was paid \$1,219 more than should have been paid. When we brought this to the Department's attention, the Department took corrective action.

Recommendation

The Department should ensure that payments are supported with documentation demonstrating that the work has been completed, meets the required specifications, is authorized by appropriate personnel, is accurate, and is processed in a timely manner.

Management's Response

We agree.

We recognize the importance of managing and monitoring all expenses related to our projects. We remain dedicated and committed to continue to ensure that our projects follow the processes and procedures of the Project Development Plan (PDP) and the Concurrent Engineering Methodology (CEM). It should be noted that the errors found in the eight invoices of the tested payments subset did not materially impact the project at any time.

During the Planning Phase of the ISBN Project, the Department Did Not Include Sufficient Provisions to Hold the Primary ISBN Contractor Accountable

The Department's primary contract for ISBN did not contain sufficient provisions to allow the Department to hold the contractor accountable for performance and costs. Contract provisions are set during the planning phase of a project, when the agency is defining the objectives of the project. Without such provisions, there is a risk that the contractor might not provide the agreed-upon services at the agreed-upon price in accordance with the Department's expectations.

Specifically, the contract did not contain the following provisions, which are required by Government Code, the Department of Information Resources, and the Building and Procurement Commission:

- **Performance standards and measures.** The contract did not contain specific performance measures or defined criteria for monitoring and evaluating the contractor's performance, such as a specific amount of equipment installed by a specific date. As a result, the Department did not have a formal tool for measuring the contractor's performance.
- **Undefined contract terms.** Two milestones set in the contract require the contractor to provide a "certification of completion." However, the contract did not define what the Department would accept as certification. To avoid possible disputes, a clear definition is needed so that documentation will be obtained to demonstrate that the work has been completed and that it meets the required specifications.
- **Rights for the Department to audit the contractor and records retention requirements for the contractor.** The contract did not include basic provisions to define the contractor's record retention responsibilities and the Department's right to audit the contractor. Without these provisions, the contractor may not keep sufficient records and the Department may not be able to determine whether the system meets the specifications outlined in the contract.

Recommendations

The Department should:

- Include provisions in future contracts that define the expected performance of the contractor and the criteria for measuring that performance.
- Make certain that its contracts contain all applicable provisions, including those required by Government Code, the Department of Information Resources, and the Building and Procurement Commission.
- Define future contract terms to ensure that contractors provide adequate documentation to prove that services were provided.

Management's Response

We partially agree.

Performance standards and measures. *This was a deliverable-based contract that recognized the possibility of delays in performance. There were two distinct components with specific measurements. The first as outlined in Section 1.3.3.3 of the initial contract called for specific testing of the civil works project of building and activating the satellite earth station at Texas DPS headquarters. The second component and acceptance was outlined in the RFP document at Section 4.4. This referred to installation scheduling of the remote locations and recognized restrictions that might be encountered at non-DPS locations. These restrictions delayed overall completion of the project but the contracted amount was not exceeded and no late fees were incurred by DPS as a result of not being able to control non-DPS location time lines. The formal tool used by DPS to monitor the vendor was performance. First the completion and certification of the earth station and second the installation and activation of sites. This was tracked by DPS management on a weekly basis and vendor invoice amounts were verified against DPS installation logs. If new sites were not installed and verified by DPS network operations to be operational for a 30 day period, no payment was allowed to the vendor.*

Rights for the Department to audit the contractor and records retention requirements for the contractor - *In many instances it is a standard practice to audit a contractors' actions especially if variable components to the contract are being delivered however that was not the case with the deliverable-based contract. It was determined up front during the RFP phase and subsequent best and final offer negotiation phase of the contracting cycle the standard component costs for the contracted civil works and site installation were fixed. These costs did not vary to the level that would have required renegotiation or auditing of the contractor (as per BOP guidelines less than 10%). In regard to contractor record retention, it was not in the scope of the contract to dictate the retention schedule of the vendors' work product. It is the responsibility of DPS to preserve all contract information according to its published state record retention schedule for open record access purposes and historical research usage. Information from our legal staff says this would not have been a statutory requirement in 1998-1999. However, the department will include this in future contracts.*

Undefined contract terms - *There were two clearly defined acceptance milestones. The first was the acceptance of the HUB and the second was acceptance of the PESs. In the first instance, acceptance of the HUB, this was defined in the SOW (Statement of Work) section 1.3.3.4 and in the case of the acceptance of installed PESs this was defined in the Texas DPS Request for Proposal in Section 4.4. and required that an installed location must be functional for 30 days before it could be invoiced for payment. The formal vehicle of notification that the vendor considered a deliverable met and billable was the presentation of a written invoice to Texas DPS. This was standard industry procedure as documented by a letter from the Hughes Network vendor and was acceptable to the Texas DPS Accounting Department.*

None of these things resulted in a material impact to the project.

Auditor's Follow-up Comment

The Department's response does not address the findings and recommendations. The primary contract for ISBN did not contain sufficient provisions to allow the Department to hold the contractor accountable for performance and costs.

Performance standards and measures. The Department did not have a formal tool in the contract for measuring the contractor's performance, and the Department did not formally monitor the contractor's performance. For example, the Department did not require the contractor to provide a breakdown of completion dates for installations. Without interim milestones, the Department could not monitor the contractor's progress.

All agencies are responsible for protecting the State's interests through monitoring the performance of contractors, and performance measures are an effective monitoring tool. The type of contract does not preclude the use of performance measures to monitor the contractor's performance. The contractor's progress must be monitored throughout the project instead of only at the end of the project.

Rights for the Department to audit the contractor and records retention requirements for the contractor. An agency's rights to audit and to require records retention are for the protection of the agency and the State, and it is the agency's responsibility to set the scope of the contract to best protect the State's interests. Waiving these rights limits the State's ability to hold contractors accountable.

Undefined contract terms. The contract's section on invoicing and payment does not define what certification of completion is acceptable for the hub equipment. The Statement of Work, Section 1.3.3.4, noted in the management's response, states that the contractor was to deliver acceptance test documents. However, as discussed in Chapter 2-A, the Department did not require the contractor to provide documentation demonstrating that the equipment installations worked according to plan.

The management response also refers to Section 4.4 of the request for proposal, which required that an installation be functional for 30 days before the contractor could request payment. The contract required only the contractor's assertion that the system met all functional requirements. As a result, the Department did not have independent verification to substantiate the contractor's assessment that the system met contract requirements.

Appendices

Appendix 1

Objectives, Scope, and Methodology

Objectives

The objectives of this audit, which we organized by the phases of information technology (IT) project management, were as follows:

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| Overall | Are major information project controls adequate to ensure that the project will be delivered on schedule, on budget, and with the desired level of user functionality upon implementation? |
| Planning | Does project management have adequate and complete project planning documents, an adequate plan to address potential risks, and an adequate process to manage changes to the project? |
| Monitoring | Is the status of the project adequately tracked so management can determine whether progress is acceptable given the amount of time and funds already spent? |
| Executing | Does the administration of contracted services ensure appropriate use of state funds? |

Scope

The scope of this audit was limited to the review of the Department of Public Safety's (Department) Integrated Satellite Business Network (ISBN) contract for the period of March 1999 through May 2003. Our audit included a review of the contract, a determination of the accuracy of the expenditures, and an assessment of the effectiveness of the Department's management of the project. We did not audit the information systems' general controls. While we did not audit the ISBN's functionality, we did conduct a survey of 69 statistically selected user locations. Texas statute requires the State Auditor's Office to participate on the Quality Assurance Team (QAT), which approves and monitors major information resource projects. Our involvement in the QAT could potentially affect our independence in the reporting of results related to the IT project we audited. However, we proceeded with this audit due to the risk associated with this IT project. We conducted this audit in accordance with generally accepted government auditing standards with the exception of this potential effect on our independence. Our involvement in the QAT did not affect our audit conclusions.

Methodology

The audit methodology consisted of gaining an understanding of the Department's management of the ISBN project. We reviewed the provisions in the contract with the primary contractor, project expenditures, financial reports, project deliverables, and tools used to monitor the project.

Information collected to accomplish our objectives included the following:

- Interviews with staff from the Department, the Department of Information Resources (DIR), the Legislative Budget Board, and the Quality Assurance Team
- Documentary evidence such as Quality Assurance Monitoring Reports, Uniform Statewide Accounting System expenditure data, Texas Financial Authority payment records, ISBN contract and amendments, and documentation on the acceptance of deliverables
- Project monitoring tools

Procedures, tests, and analyses performed included the following:

- Reviewed contracts and all amendments to determine if they contained sufficient provisions for holding the contractors accountable for performance
- Determined the impact of revisions (amendments) to costs, timeframes, and deliverables, including functionality
- Reviewed the Department's ISBN-related expenditures, including vendor invoices
- Surveyed ISBN users
- Reviewed the Department's action plans for cost, time, and scope variances
- Developed an information systems project management model that provided the framework for our audit procedures. Appendix 2 contains more information on the model. To develop the model, we used the following resources:
 - ♦ *How to Manage an Information Technology Project*, published by DIR, October 1994
 - ♦ *Guidelines for Quality Assurance Review*, published by DIR, 1994 version
 - ♦ *Project Management: Skill and Knowledge Requirements in an Information Technology Environment*, published by Information Systems Audit and Control Foundation (ISACF), copyrighted 2002
 - ♦ *The Project Management Institute (PMI): A Guide to the Project Management Body of Knowledge*, 1996
 - ♦ *Administrative Information Systems Project Management Process*, published by Michigan State University, 2001
 - ♦ *A Pilot Study Using the Capability Maturity Model for Software*, SAO Report No. 02-003, November 2001

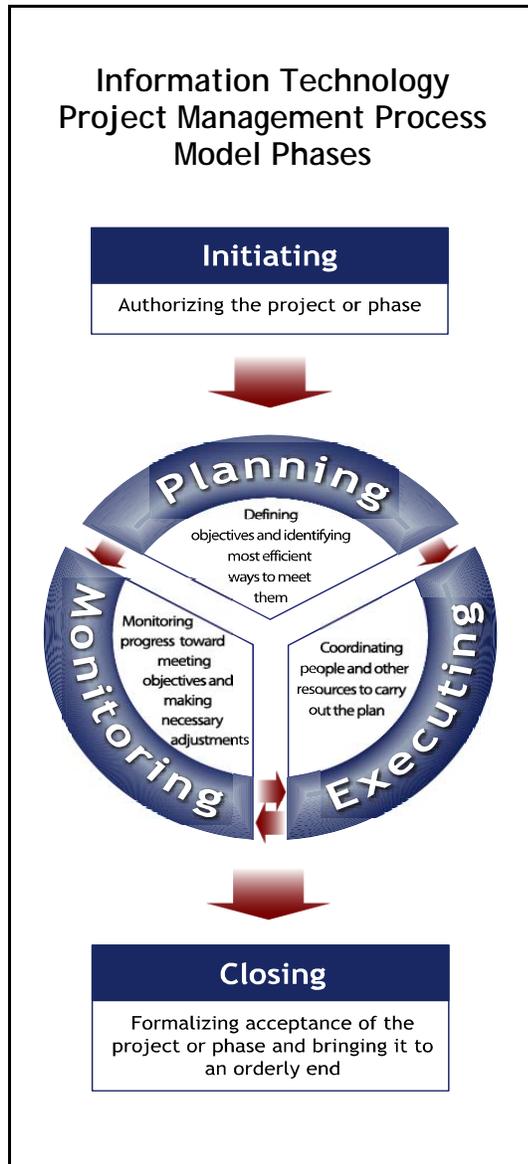
Other Information

We conducted fieldwork from February 2003 to May 2003. The following members of the State Auditor's staff performed the audit:

- Adriana Buford, CPA, CIA (Project Manager)
- Sherry Sewell, CGAP (Assistant Project Manager)
- Donna Hopson, CPA
- Melissa S. Larson, CISA, CIA
- Jose Saucedo, CISA, CPA
- J. Scott Killingsworth, CIA (Quality Control Reviewer)
- Sandra Vice, MPAff (Audit Manager)
- Frank Vito, CPA (Audit Director)

Phases of IT Project Management

The IT project management model consists of five phases:



Initiating Phase. The Initiating Phase involves a project proposal review and marks the beginning of the selected project. The Initiating Phase includes reviewing and evaluating the proposal, negotiating key issues with customers, and deciding whether to continue the project.

Planning Phase. The Planning Phase involves creating and maintaining a workable scheme to accomplish project goals and objectives. This includes establishing the contracted project deliverables, defining and sequencing activities, estimating the duration and cost, allocating resources, developing the schedule, and preparing and reviewing the Project Plan.

Executing Phase. The Executing Phase deals with coordinating and managing resources to carry out the Project Plan. The Executing Phase includes training and managing the project team, executing the Project Plan, establishing systems to record and track actual resource utilization, modifying the Project Plan, collecting and distributing project-related information, managing relationships, and resolving conflicts.

Monitoring Phase. The Monitoring Phase is used to ensure that the project proceeds according to plan and achieves stated goals. The Monitoring Phase includes collecting status information, analyzing and assessing project status and project performance, reporting and reviewing project status, controlling the project scope, monitoring the use of resources, and controlling the schedule.

Closing Phase. The Closing Phase involves formalizing acceptance of project outcomes and bringing the project to an end. The Closing Phase includes performing a post-project review, preparing a project experience summary, archiving project records, disposing project inventory, and disbanding the project team.

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