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An Audit Report on Construction and Maintenance at the Department of Criminal Justice

June 2000

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Key Points of Report

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Overall Conclusion

The Facilities Division of the Department of Criminal Justice (Department) has not ensured that it provides sufficient oversight of Inmate Construction Group projects. In addition, inconsistencies in the project management of all construction projects limit the Facilities Division's ability to effectively manage construction schedules and budgets. We had no major findings on maintenance processes and found that the Department's internal reviews provide a good periodic check on the quality and timeliness of maintenance.

In fiscal year 1999, the Department spent \$182 million on construction and maintenance. The Department is currently working to address the issues raised in this report.

Key Facts and Findings

- The Facilities Division has not held the Inmate Construction Group accountable for the quality and efficiency of its work. Inadequate and inconsistent project records make it difficult to determine what was actually done, and changes to projects are not adequately reviewed.
- Project management for all construction projects is fragmented and may not ensure that projects meet cost, quality, and schedule expectations. Supervisors are assigned to a project only during actual construction, and they do not have enough information to control budget variances. For example, six of seven projects we reviewed exceeded their labor budgets by at least 50 percent, but project supervisors are never told what labor is charged to their budgets.
- The Facilities Division has not provided appropriate and accurate information to its users. Without information such as the status of major work requests or the amount spent in a year on indirect salaries, it is difficult for customers and oversight bodies to make well-informed decisions.
- A contracted engineering firm estimates it will cost almost \$500 million to address deferred maintenance at 11 prison units. The firm did not provide estimates for the rest of the Department's prisons.

Contact

Julie Ivie, CIA, Audit Manager, (512) 936-9500

Office of the State Auditor

Lawrence F. Alwin, CPA



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Executive Summary

The Facilities Division of the Department of Criminal Justice (Department) has not ensured that it provides sufficient oversight of Inmate Construction Group (ICG) projects. In addition, inconsistencies in the project management of all construction projects limit the Facilities Division's ability to effectively manage construction schedules and budgets. We had no major findings on maintenance processes and found that the Department's Operational Reviews provide a good periodic check on the quality and timeliness of maintenance.

In fiscal year 1999, the Department spent \$182 million on construction and maintenance. Of this amount:

- \$76 million was expended toward construction of four new units.
- \$12 million was spent to settle claims related to past construction projects.
- \$37 million was spent on trusty camps and other construction.
- \$57 million was spent on maintenance.

Our testing focused on projects that were located at prison units, rather than the contracts for the construction of entire units. As the bond funds are depleted, the Department will spend less on construction. Fiscal year 2000 expenditures are expected to be about \$85 million for construction.

The Department is currently working to address the issues raised in this report.

Ensure Quality and Consistency in Inmate Construction Group Projects

The Inmate Construction Group has not been held accountable for the quality and efficiency of their work. (ICG is part of the Facilities Division, consisting of about 150 staff supervising about 500 inmates. ICG projects are usually repairs and modifications

of existing buildings.)

Specific weaknesses that contribute to this lack of accountability include the following:

- Project managers for ICG projects have conflicting responsibilities.
- Inconsistent and inadequate documentation makes it difficult to determine what was actually done.
- Facilities Division project staff members disagree about the roles and responsibilities of the Quality Assurance Inspectors.
- Changes in construction and project scope have occurred without approval.
- Differences between budgeted and actual expenditures are not analyzed.
- As-built drawings are not always complete or accurate.

As a result of these weaknesses, some ICG projects have not met the Department's needs without remediation. For example:

- Unit maintenance reported that it had to spend 200 hours adjusting fencing installed by the ICG. These adjustments were necessary between the time that ICG "finished" installation and the time that staff received training. Until the adjustments were made, animals and strong winds set off alarms.
- ICG staff signed off on a utility hook-up for a portable building. Two weeks later, unit staff discovered that only one of the two bathrooms was connected to the waste plumbing. Unit maintenance performed the repairs as corrective maintenance.

These examples, and others described throughout the report, could have been avoided if there had been an effective method of ensuring the quality and consistency of projects performed by ICG.

Executive Summary, concluded

Provide Continuity in the Management of All Facilities Division Projects

The Facilities Division needs to address inconsistency in the management of all its construction projects. This inconsistency limits its ability to effectively plan, monitor, and control construction schedules and budgets. Project management is fragmented, and the process does not ensure that projects achieve their cost, quality, and schedule expectations.

Also, the Facilities Division does not have formal criteria for determining how to best match projects to a method of construction. As a result, efficiencies may be lost when a project is assigned to the wrong method of construction.

Last year, the Department's Internal Auditors recommended that the process for prioritizing construction requests be improved. In response to that recommendation, the Department implemented a method for prioritizing projects beginning in fiscal year 2000.

Define Information Needs for Construction, and Refine Use of Maintenance Data

The Facilities Division has not appropriately identified the information that its customers and managers need. In addition, it has not always ensured that the information it does provide is accurate. As a result, it has not always provided enough reliable information at the right level of detail to help these users make good decisions.

Maintenance information is becoming much more accurate and useful. In 1995, the Facilities Division started a major project to automate unit maintenance operations for monitoring activity and efficiency. The new

system is in place in about 30 prison units and the 6 regional maintenance offices, and it provides detailed information on hours, work orders, and equipment maintenance. The Facilities Division has already begun to use the data available and has developed plans to use it for more functions, as more data becomes available.

Significant Maintenance Has Been Deferred

In 1999, the Department contracted with an engineering firm to evaluate the condition of physical facilities at 11 older units. The firm estimates that it would cost about \$115.2 million to contract for the work that it believes must be done within two years at those 11 units. The estimate to complete all work is almost \$500 million at those prisons. The firm did not provide estimates for the Department's other prisons.

Summary of Management Responses

The Department concurs with all the recommendations in this report and has already begun to implement a number of them. Specific responses describing the corrective actions and implementation dates follow each recommendation. The Department's summary response is included immediately preceding Appendix 1.

Summary of Objective and Scope

Our objective was to evaluate the financial and management controls over the Department's construction and maintenance processes. Our scope included the Department's decision-making processes and management controls over new construction and maintenance resources.

Ensure Quality and Consistency in Inmate Construction Group Projects

The Inmate Construction Group (ICG) has not been held accountable for the quality and efficiency of its work. Specific weaknesses that contribute to this lack of accountability include:

- Project managers for ICG projects have conflicting responsibilities.
- Inconsistent and inadequate documentation makes it difficult to determine what was actually done.
- Facilities Division project staff members disagree about the roles and responsibilities of the Quality Assurance Inspectors.
- Changes in construction and project scope can occur without approval.
- Differences between budgeted and actual expenditures are not analyzed.
- As-built drawings, which document construction in progress, are not always complete or accurate.

Inmate Construction Group

The Inmate Construction Group (ICG) is a department under the Facilities Acquisition Department, consisting of approximately 150 staff members, supervising the work of over 500 inmates. During fiscal year 1999, the ICG completed construction on approximately 34 projects, representing an expenditure of \$25.6 million. ICG projects are usually repairs and modifications of existing buildings. The ICG also did most of the construction on the 19 trusty camps and the fences, sidewalks, and parking lots for 4 high security prisons that were completed in fiscal years 1999 and 2000.

As a result of these weaknesses, some ICG projects have not met the Department's needs without remediation. For example:

- Unit maintenance reported that fencing installed by the ICG at one unit required significant adjustments after ICG was finished with installation because animals and strong winds set off the alarms. Unit maintenance reported spending 200 hours to fix the fence.
- ICG staff members signed off on a utility hook-up for a portable building. Two weeks later, unit staff discovered that only one of the two bathrooms was connected to the waste plumbing. Unit maintenance performed the repairs as corrective maintenance.

These examples, and the others described throughout the report, could have been avoided if there had been an effective method of ensuring the quality and consistency of projects performed by the ICG.

Section 1-A:

Separate Conflicting Responsibilities for ICG Project Managers

Project supervisors for ICG projects have conflicting responsibilities. A Project Supervisor acts as both the general contractor for and the owner of the projects he or she manages. Traditionally, an owner's "project manager" represents the owner's interests and tries to ensure that the construction meets the level of quality specified in the design. The general contractor is responsible for actual construction and is usually interested in increasing his or her profit. Although ICG supervisors are not driven by the same profit motive, they are under similar types of pressures to get the job done on time, to keep the inmates that they supervise occupied, to take advantage of rented machinery while it is on the construction site, and to pursue other efficiencies. Increasing profit and maintaining high quality are often conflicting interests. Because these two functions have been combined, the same person is responsible for doing the work and overseeing the work. (See Appendix 4 for more information on the contractor's and owner's responsibilities at each phase of a project.)

The Facilities Division has expressed an interest in treating the ICG like any other contractor. For the ICG to be treated like any other contractor, the construction function will need to be separate from the owner's oversight function. Instead of the construction team overseeing its own work, a separate function should affirm that management's expectations are being met. This separate function would be responsible for ensuring that:

- ICG project management performs the required quality control.
- Deficiencies identified are addressed.
- The required tests are completed, and the results show that construction is occurring according to design.
- Engineers approve any deviations from the design, and the budget and schedule are adjusted appropriately.
- The quality of materials used is consistent with the plans.

ICG plans to enhance the oversight of its projects with "small project delivery teams," whereby each small project will be assigned a team that will be "responsible and accountable for cradle-to-grave execution of major work requests."¹ The delivery team will not be doing actual construction, but will provide oversight to ensure that the right work is being done.

¹ From the *Facilities Division Informer*, a newsletter for members of the Facilities Division, January/February 2000.

Recommendation:

- Assign someone other than the construction team to ensure that the project is constructed according to the design; that change orders are accurately prepared; that there are reliable drawings of the final product; and that the project is run as efficiently as possible. This person might have the authority to approve change orders in the field for up to a specific threshold.
- Implement the Small Project Delivery Team initiative, and ensure that it provides for proper segregation of responsibilities.

Management's Response:

- *Concur. A Small Projects Delivery Team (SPDT) led by a project manager will be assigned to every Inmate Construction Group (ICG) project. The previous procedure had the ICG Assistant Superintendent perform the responsibilities as both the Project Superintendent (Contractor) and project manager (TDCJ) as a result of the large capacity construction effort and the inability to fully staff the division's construction department. We determined we should concentrate our limited oversight capability to the contract construction projects due to the higher relative potential for financial risk and provide ICG oversight at critical points of construction (soil compaction testing, concrete strength tests, underground water line pressure testing, etc.). The traditional role of the Project Manager (PM) is to coordinate the construction effort by performing as the single point of contact for all correspondence and activities at the project site. By assigning a SPDT, led by a PM, to every ICG construction project, it will allow the ICG Assistant Superintendent to concentrate on the technical portions of the construction effort. The PM overseeing ICG projects will have the same authority as the PM overseeing contract construction projects. Implemented and ongoing.*
- *Concur. The Small Project Delivery Team (SPDT) initiative will be implemented. Following implementation steps have been taken: A Process Action Team (PAT) was formed to look at the existing process and recommend ways to streamline existing procedures for SPDT use. The results were briefed to FD Management in April. Several teams have been formed and assigned projects. Formal training of the teams will be completed by mid June, 2000. Upon completion of the test projects the PAT will reconvene and draft SPDT detailed procedures based on lessons learned. Full implementation of the concept should be complete by end of CY 2000.*

Section 1-B:

Improve Documentation for ICG Projects

Files for ICG projects are inconsistent and incomplete. Without adequate documentation, the Department cannot prove that it has followed the requirements set forth by the Board of Professional Engineers or appropriations riders. In addition, opportunities to improve the efficiency of operations are lost.

The files required by ICG procedures are relatively comprehensive, but they do not require documentation of the entire process of developing the project. ICG procedures do not require documentation of how the initial budget was developed, or of what other project scopes were considered. This information would be useful when changes are required in the middle of the project.

Project files do not always include the documentation that is required. Files for eight projects performed by ICG within the last two years were incomplete and inaccurate. For example:

- One project's files contained only one quality assurance report, which referred to several others, suggesting that this is at least a documentation problem. For another project, we found "daily" quality assurance reports for about half of the workdays in a sample month.
- None of the files reviewed contained analyses of areas in which budgets were exceeded.

Division staff indicated that one recent project was well documented. However, the files for this project were still maintained in two places—ICG's headquarters and Facilities Division headquarters. The file folders at ICG's headquarters were labeled in accordance with ICG's procedures manual, but 46 of the 69 files were empty, and others did not include enough information to show that the identified problems were subsequently addressed. (We later met with Facilities staff, who, by putting the two sets of files together and searching, were able to find documentation that indicated that specific problems we identified had been fixed.)

Recommendation:

- Follow the procedures outlined in the procedures manual.
- Develop logs that will ensure that deficiencies noted in inspections, tests not yet performed, and other outstanding items are not forgotten or lost. Include these logs in the project files, for easy confirmation that all outstanding issues have been addressed. (Currently, the Division uses a log to track the Requests for Information issued for different projects. A similar log could track other outstanding items.)
- Maintain a single "master" set of files for each project. The master set of files should include not only the field files, but also:
 - Design files, including documentation of the significant alternatives considered in the formulation of the project's scope
 - Planning files, including the basis of the cost estimates (that is, materials take-off lists, which can later be compared to actual expenditures)

- Copies of the monthly progress reports provided to management, which should include at least:
 - A current comparison of budgeted to actual expenditures
 - Schedule status, including milestones
 - What problems have been encountered that are still outstanding
 - Summary and status of all change orders to date
 - List of pending change orders and rejected change orders
 - Summary and status of all Requests for Information (including outstanding Requests for Information)
 - Status of deficiency logs and submittal logs.
- Develop a review function, so that project supervisors review each other's project files for completeness, and report the results of their reviews. The results of the reviews should be used in the project supervisor's annual evaluation.

Management's Response:

- *Concur. The current procedures were adopted from the 1996 Contract Construction Procedures Manual and are undergoing revision to remove specific items that are unique to contract construction. The current procedures manual for ICG is only a little over one year old and is still being refined for improvements. With the assignment of a project manager to each project relieving the ICG Assistant Superintendent from performing two functions, the current procedures process will improve. The current ICG Procedures Manual will also have to be revised to include the Small Projects Delivery Team delivery method of project accomplishment. ICG procedures will be revised following SPDT procedures finalization. Estimated completion date February 2001.*
- *Concur. The Facilities Division is currently phasing in a computerized Project Control and Management System (PCMS). This program has been field tested at four recent contract construction sites and is now being considered for implementation to ICG and JOC projects. This multi-user, multi-project, client/server database product will allow each project manager and SPDT Team Lead to store, organize, and track project information to include Requests for Information (RFI's) and other outstanding issues. The computerized program will cross-reference and link documents and logs pertaining to the project. It was essential to first test the program before implementing it agency wide. TDCJ is currently providing training and will develop an implementation schedule.*

The phasing in of the Project Control and Management System (PCMS) began December 28, 1999 with the schedule of Expedition Pre-Training

which occurred in January 2000. We continue to train personnel with an estimated completion date of December 15, 2000. All new personnel assigned to design or construction will receive training on the PCMS software. We are currently preparing schedules for refreshers to all previously trained personnel. The PCMS does include a to do list and continually tracks all unresolved issues such as RFI s, ASI s, ESI s, etc. In the interim, manual logs will be utilized.

- *Concur. The current process was not as effective or efficient as originally anticipated. The revised process will have a master set of files kept in the Major Work Request (MWR) Coordinators office with the working file in the functional area. Additionally, with the implementation of the computerized Project Control and Management System for the individual projects, a computerized master file will also be available for record retention.*

The intended revision will be to have the working file move from functional area to functional area for the life of the project. As an example, after the project is approved and authorized by the Construction Review Committee (CRC) the working file is transferred to the Facilities Acquisition Design Branch. When design is completed, the working file (and contents) would be transferred to Construction. At the construction completion and final close-out stage, a close-out binder, similar to the one used in contract construction, would be prepared and its contents forwarded to the Major Work Request Coordinator for the master file and all other files and contents would be assembled and boxed for records retention. Estimated completion date January 2001.

- *Concur with the recommendation to develop a review function. TDCJ will implement a separate review function and process to provide quality control on project document control. The report on the review will be provided to the Deputy Director for Facilities Acquisitions and Deputy Director for Facilities Engineering for dissemination and management use.*

Logs will be kept by the PM assigned to the project. However, it is not currently common practice for the PM to oversee the execution of remedial activities generated by the daily reports of Facility Engineering inspectors. This is an activity typically handled by a general contractor s QC manager. Many ICG projects are not large enough to warrant a full time QC manger. A traveling QC staff should be implemented, but additional resources may be required. Current procedure dictates that the PM is involved only when the inspectors generate the specific forms such as Remedial Action Requests or Notices of Non Compliance. Estimated completion date September 2000.

Section 1-C:

Clarify Quality Assurance Inspectors Roles

Facilities Division project staff members disagree about the roles and responsibilities of the Quality Assurance Inspectors. As a result, it is not clear that the function actually ensures quality. There is no agreement on the limits of the inspectors'

authority; there is no process to ensure that their reports are reviewed and acted upon; and there is no agreement as to who reviews the tests that the quality control inspectors are supposed to order.

Quality Assurance Inspectors do not agree on the extent of their authority. For example, it is unclear whether inspectors have the authority to stop work if construction is not performed according to the specifications. Inspectors agree that they can stop work if there is a life safety issue but are not sure whether they can stop it if the work did not meet specifications. The standard quality control plan, which is to be adapted to each project, gives the “quality control manager” the authority to stop work in cases of noncompliance with the construction documents or poor workmanship. The inspectors’ job description simply says that they are to “ensure that authorized changes are incorporated.”

There is no process to ensure that quality assurance reports are acted upon. Quality Assurance Inspectors agree with Facilities Division management that their primary job is to “observe, record, and report.” However, there is no process to ensure that the reports are regularly read, reviewed, or acted upon. Although the reports are distributed to various people at Facilities Division headquarters, none of the departments is responsible for ensuring that all issues raised in these reports are addressed. (Since we brought this to the Department’s attention, the Assistant Manager of Inmate Construction has begun to date-stamp and review the daily reports.)

It is unclear whose responsibility it is to ensure that appropriate specifications are tested and that the results are satisfactory. Some Quality Assurance staff members said that it was the responsibility of the project manager to review the results of the tests; others believed that the architects reviewed them. Engineers said that they do not receive reports or test results regularly and that quality assurance was responsible for reviewing the results of the tests.

Recommendation:

Clarify Quality Assurance Inspectors’ responsibilities. Assign specific responsibilities for ensuring that an acceptable level of workmanship has been attained, including:

- Following up on deficiencies noted in the field
- Ensuring that the specifications are appropriately tested
- Reviewing the test results to ensure that specification have been met

Management’s Response:

Concur. The recommendations have already implemented. The following summarizes the documented procedure:

Technical Support/Quality Assurance will assume the primary responsibility of noting non-conforming work and will make every effort to ensure the construction entity achieves compliance with the project documents. The Quality Assurance (QA)

Inspector, who identified the deficiency, will have prime responsibility for following up on the deficiency until it is corrected or otherwise resolved. In like manner, the QA Inspector will ensure that all test requirements of the project documents are accomplished, and the QA Inspector will review test results to ensure requirements of the project documents are achieved. The QA Inspector will report all noncompliance items to management for appropriate action. If a QA Inspector has concern or wants help in interpreting the specifications or test results, he is to contact the TDCJ Project Engineer or Architect for assistance. The TDCJ Project Engineer or Architect and/or the Engineer or Architect of Record will make the final call. If, for some reason, a QA Inspector feels that timely action is not being taken on an identified issue, he will report this concern to Systems Engineering management.

The above procedure is in line with the Small Project Delivery Team process.

Section 1-D:

Adequately Review Proposed Changes to Projects

The scope and costs of projects are often changed without prior approval. This is inconsistent with common industry practice, where a change that will materially affect

scope, schedule, cost or quality is generally documented with a change order. Without change orders, management does not have the opportunity to revise budgets and schedules or to ensure that the change had not been included in the original project scope (see text box).

Change Orders in Construction

When something unanticipated occurs during the course of a construction project, a contractor normally identifies the effects of the change and prepares a change order for approval by the owner. This change order is the owner's authorization to change the work, the price, or the time, and is normally negotiated and approved before construction continues. To limit delays, the owner may provisionally approve a change with a not-to-exceed limit. The builder can then make the change as long as the costs do not exceed the agreed-upon limit, with the understanding that a complete accounting of the change would happen as soon as possible. All changes to the original work, timing, or price of the project should be accounted for in the record of change orders.

Change orders are not adequately justified. The Facilities Division does not require the ICG to process change orders during construction, and it does not require any change order at all unless the total amount budgeted for the project is exceeded.

Five of the eight ICG projects reviewed had no more than one change order, even though the files support more changes. The single change orders were executed after the projects were essentially complete, and their explanations were vague, such as "to adjust budget to

final job cost." An explanation like this does not provide adequate support for exceeding a budget. Because change orders were not processed until the end of the project, management could not:

- Approve changes before they are executed.
- Explore alternative solutions.
- Negotiate the effects of the change.

A General Appropriations Act rider (Article V, Department of Criminal Justice, Rider 8) requires the Department to review change orders and develop a procedure to determine and document the cause of the change. The Inmate Construction Group's change orders are not sufficiently documented to determine the cause of the change.

The files described in ICG's Procedures Manual include a file for change orders and another for pending change orders. However, change orders are not used unless the anticipated extent of the change exceeds the amount budgeted for contingencies. In most construction firms, a change order is written for budgeted contingencies, and the amount of the change is deducted from the contingency account. Without this control, there is no opportunity to approve changes during the course of construction.

Scope changes are not always documented. In construction contracts, the price is usually based on the scope of the work. However, in ICG projects, there have been cases in which the scope of the work changed, but the budget did not. In some cases, additional work requests are subsequently developed for work that had been included in other projects' original budgets. For example, the Eastham Unit's repair budget included \$97,500 for a new heating, ventilation, and air conditioning system. The system was not installed, the budget was not adjusted, and the project still went \$23,000 over budget (about 5 percent). A new work order was subsequently developed for the heating, ventilation, and air conditioning system.

When projects are combined, it is difficult to determine whether the entire project gets done. The Facilities Division frequently combines several projects, and, as a result, it is difficult to determine whether all are completed. In several cases, the original project was dropped after being combined with another. In addition, unit staff members were not always informed of the status of the entire project.

For example, in April and May 1997, two separate work requests were submitted for fencing at the Luther Unit. One was to modify the chain-link fence around an exercise area to improve visibility. The other was for perimeter fencing, using fencing material already on hand. Both requests were combined into a single work order, and in June 1999, a change order for \$41,000 was approved, listing the cause as "scope of work changed to include removing a fence and retaining wall plus the altering of an outside exercise area." However, the Luther Unit's records show that the alteration of the exercise area had been cancelled three months earlier.

Recommendation:

- Use change orders to document any variance in a project's scope, cost, or schedule.
- Use change orders as the basis for budget adjustments.
- Follow industry practice by ensuring that significant change orders are approved prior to the implementation of the change, and that all change orders are submitted as soon as possible during the course of construction.
- Ensure that change orders include enough detail to show that the change is necessary and for a reasonable amount, and that changes resulting from deficiencies in the work of others can be charged to those responsible.

Management s Response:

- *Concur. We will implement a process that conforms to the American Institute of Architects General Conditions on changes, approved and endorsed by the Associated General Contractors of America. Estimated completion date August 2000.*
- *Concur. Estimated completion date August 2000.*
- *Concur. Estimated completion date August 2000.*
- *Concur. All Proposed Change Requests (PCR) will be initiated by ICG Project Superintendent. After review by the Project Manager (PM) he or she will initiate a Change Proposal Request (CPR). The PCR issued by ICG will be similar to a General Contractor (GC) prepared PCR and clearly state the following:*
 - *Description of proposed change*
 - *Justification*
 - *Cost and schedule impact*

The standard form of Pending Change Request Cost Analysis Background Summary contains the following categories:

- *A/E (Design Professional of Record) Errors and Omission*
- *User/Owner Change*
- *Value Engineering*
- *Unforeseen Conditions*

The Project Manager will be required to check the appropriate category. The only category requiring charges to the responsible party will be the contracted A/E Errors and Omissions. We are developing the procedure which is estimated to be complete by August 2000

Section 1-E:

Analyze Budget Variances

The Facilities Division does not regularly compare projects' budgeted time and money expenditures to its actual expenditures. Without these comparisons, the Department cannot identify or control projects that exceed their budgets.

The Facilities Division does not have a procedure in place to analyze variances within categories. There are plans to review overall overspending. However, scope and other changes can mean a project that appears to be under budget may not be. Seven of the eight projects reviewed had significant overruns in several categories—most frequently in labor. For example, one project came in \$788,685 “under budget,” but only \$5,000 of the \$806,000 in fencing that had been budgeted for the project was

ever charged to it. Had analysis been done, it would have shown that the project actually was 7 percent over budget.

Overspending could mean that the entire project will cost more than anticipated, and a decision must be made to change design or implementation plans. If projects consistently require more funding in a specific area, then it may be an opportunity to identify problems with the designs or the estimating process. If the design team is external, this analysis could identify “errors and omissions” for which the design team should be charged. If Department staff designed the project, then the analysis would provide useful lessons for the future.

Although it is important to control cost overages, the Department should also be concerned when expenses are significantly less than was budgeted. For example, on one of the trusty camps, approximately \$14,400 was budgeted for engineering services and soil testing, but only \$3,600 was spent on these services. Analyzing budget variances would have prompted the Department to make sure the appropriate level of engineering and soil testing had been provided.

Recommendation:

Use over- and under-spending as an indicator of risk; follow up to determine the cause. Include the results of the analysis in the project documentation and discuss internally to train project managers and inspectors.

Management s Response:

Concur. Plans are to have a Project Analyst on each Small Project Delivery Team who will be responsible for all financial aspects of the project from beginning to the final close out. The Project Analyst will perform analysis on an on going basis, analyzing variances and researching to determine causes and make recommendations for corrective action. Initial teams have been formed. Estimated completion date for formal procedures is January 2001.

Section 1-F:

Ensure That As-Built Drawings Are Current and Reliable

As-Built Drawings

A final set of as-built drawings is generally a requirement in construction projects. These drawings show the actual condition of the project at completion. They can be marked construction drawings, showing deviations from the planned work, or separately drafted drawings. Accurate as-builts minimize costly changes and time delays on future work.

As-built drawings are not always complete or accurate. As a result, the Department does not have accurate information about the placement of sewer and electrical lines or load-bearing walls. This information is critical for maintenance and subsequent renovations. In addition, because as-built drawings are not completed consistently throughout the course of construction, it is more likely that changes to the project will go unnoticed and may not receive the needed engineering or architectural review and approval.

For example, at the Eastham Unit, part of a repair project was to bring restrooms into compliance with the state and federal requirements for use by disabled people. However, in April 1999, several months after the project was finished, the Department of Licensing and Regulation found that the renovations did not meet the requirements. A Department of Criminal Justice letter requests an extension of time to meet the requirements because “our construction group in the field did not completely adhere to the drawings.”

If the as-built drawings had been reliable, the deviation would have been recorded in the as-built drawings, and the design staff (architects and engineers) could have ensured that it was addressed before the project was closed.

As-built drawings are not always completed. Two of six projects that should have had as-built drawings on file did not. There is no process to notify the archive staff members that a project is complete and that they should expect the final drawings. Archive staff indicated that the drawings are not always submitted.

As-built drawings are not always accurate. Although procedures require engineers to review the final drawings, our sample identified cases in which inaccurate as-built drawings had been reviewed, sealed, and filed. In one case, the sealed as-built drawings did not reflect that a wall was moved, even though there was an engineer’s approval for the change. The same set of drawings indicates that a 70-ton chiller was installed as planned, but the chiller was not installed.

If as-built drawings are inaccurate, it is hard to determine whether unauthorized changes have been made to designs.

Recommendation:

- Ensure that before a construction project is accepted, all as-built drawings have been submitted and have been signed off by the engineers.
- Have the design team certify that the as-built drawings fairly represent the construction and that this construction is consistent with the design.

Management’s Response:

- *Concur. The Facilities Division will re-visit the current procedures on as-built and record drawings, to ensure the as-built drawings submitted by the Construction entity to the Design Professional (Architect/Engineer of Record) for preparation of Record Drawings, are complete and accurate, and the record drawings are forwarded to TDCJ for proper recording and filing. The procedures pertaining to Record Set of contract documents are established in the Agency’s General Conditions and the Design Professional’s Agreement. These documents require the contractor to maintain a record set of contract documents which reflects the conditions and representations of the work performed, whether it be directed by addendum, change order, or otherwise. This information is to be recorded on a set of blue-line drawings and shop drawings located at the construction site. The contractor is*

required to update this set a minimum of once monthly. This set of documents is reviewed as part of project review meetings, and upon completion is furnished to the Design Professional for review and approval. Once approved, the documents are transmitted to the owner. TDCJ Facilities Acquisition is currently re-organizing the Records Retention, Document Control and Plans Room areas to have one person in charge of all three areas. Procedures to ensure proper control of record drawings will be developed and published. Estimated completion date December 2000.

- *Concur. No completion date this is an ongoing activity.*

Section 2:

Provide Continuity in Management of All Facilities Division Projects

In addition to the ICG project management issues discussed in Section 1, the Facilities Division needs to address inconsistency in the management of all of its construction and maintenance projects. Construction projects are subject to numerous delays and changes due to weather, unforeseen conditions, and contractor problems. Therefore, it is important to have a good system for managing projects' schedule, quality, and cost.

Section 2-A:

Strengthen Project Manager Function

Project management is fragmented, and the current process does not ensure that projects achieve their cost, quality, and schedule expectations. Supervisors are assigned to projects only for the duration of the actual construction. Therefore, they are not aware of assumptions made in the development of project budgets. In addition, because they are removed from projects before it is complete, documentation for projects is not consistently maintained or forwarded to Facilities Headquarters. Project files are compiled without the project manager, with whatever documentation is available. Also, the supervisor does not receive sufficient information to address budget overruns promptly. For example, all time and materials are charged to specific projects, but detailed information on who charges time to a project or what materials have been charged against a project has not been provided.

Documentation and quality issues have been addressed in Section 1 of this report as they relate to ICG projects. We found similar issues in contracted construction projects, although the occurrences were much less recent.

The Department has moved aggressively to address the fragmented project management. A recent Executive Directive requires that the Contracts Division become more involved in managing construction contracts. In addition, at a Facilities Division workshop held in January 2000, a new process was unveiled in which a project manager will be assigned during the design process, and will stay with the project until it is closed. This project manager will be held accountable for cost, scheduling, and quality variances. Project managers will be assigned both for projects constructed by outside contractors and for projects constructed by the Inmate Construction Group.

Recommendation:

- Ensure, as Executive Directive 10.07 is implemented, that the issues identified in Section 1 of this report are addressed for those projects performed by contractors.
- For all non-contracted construction, assign a project manager to each project, and hold him or her accountable for ensuring that all variances to cost and time budgets and all deviations from the planned level of quality are approved in advance.

Management's Response:

- *Concur. No completion date this is an ongoing activity.*
- *Concur. The new Small Projects Delivery Team procedures will hold project managers accountable for the deviations to cost, quality and schedule that the PM's have control over. In some cases, unforeseen site conditions, acts of God or changes to the scope in response to operational security concerns may cause deviations which the PM has no control over. Estimated completion date January 2001.*

Section 2-B:

Develop Criteria for Assigning Projects to Resources

Job Order Contracts

In 1998, the Texas Board of Criminal Justice approved two Job Order Contracts that awarded up to \$25 million over the course of three years to each of two companies. The Job Order Contracts were approved for repair and remodeling projects costing \$1 million or less.

The Department has several methods it can use when completing a project. However, it has no formal procedures for determining the most cost-effective method for each project. As a result, projects may be not assigned to the most cost-effective method. Options include use of individual contracts, Job Order Contractors, the Inmate Construction Group, or unit maintenance. (See Appendix 5 for advantages and disadvantages of each of these.)

Staff members have indicated that there are informal methods for assigning jobs to resources, but we found that these criteria were not consistently used. For example, Job Order Contracts were developed to address small projects with short deadlines. However, not all of these projects have been assigned to Job Order Contractors, and some have been assigned to outside contractors. In addition, three large projects, worth a total of \$9.4 million, have been assigned to the Job Order Contractors. When contract construction is used for small projects, the efficiencies of using the Job Order Contractor may not be realized. When large projects are assigned to the Job Order Contractors, the Department may not be realizing all the applicable economies of scale.

Table 1

Projects Completed During Fiscal Year 1999		
Method	Projects	Dollars Expended
Job Order Contracting	3	\$ 803,777
Inmate Construction Group	34	25,569,898
Maintenance	248	4,551,941
Outside Contractors	25	17,074,567
Total	310	\$ 48,000,183

Source: Department of Criminal Justice, Facilities Finance

Table 1 shows how projects completed in fiscal year 1999 were assigned to different construction methods.

In 1999, the Department's Internal Audit Division found that construction jobs were not being completed according to their priorities and recommended that the Construction Review Committee approve only as many projects as could be funded. This recommendation has been implemented starting in September 1999.

Recommendation:

- Develop and use formal, written criteria for assigning projects to a method of construction.
- Ensure, as the criteria are developed, that all ICG projects fall under the scope of the Small Project Delivery Team initiative, discussed in Section 1-A of this report, so that they receive appropriate project management.

Management's Response:

- *Concur. The report correctly notes that currently, there is an assignment process in place but not a formal written one. The decision is made by the Assistant Deputy Director of Construction on the method of construction. The Assistant Deputy Director uses a set of criteria in determining the appropriate method and documents the authorization form. This is a common management function in which experience and technical background are the important attributes needed for decision making. However, we will formulate formal written criteria to ensure adequate documentation exists to support our selected method of construction. Estimated completion date August 2000.*
- *Concur. Currently being implemented. Ongoing action.*

Section 3:

Define Information Needs for Construction, and Refine Use of Maintenance Data

Information on construction projects has not been available at the right level of detail, and has not always been accurate. This is because the Facilities Division has not determined what information its customers and managers need and because data has been scattered throughout the division.

Staff members state that maintenance information is becoming much more accurate and useful with the implementation of a new information system. As a result, the Facilities Division has already begun to use the data.

Section 3-A:

Improve the Quality of Available Information, and Use It as a Management Tool

The Facilities Division has not appropriately identified the information that its customers and managers need. In addition, the Facilities Division has not always ensured that the information it provides to its users is accurate. As a result, it has not always provided enough reliable information at the right level of detail to help these users make good decisions.

We believe that there are two separate problems at the root of these issues:

- **The Facilities Division has not identified the people who use the information it provides and has not identified the level of detail that those users need.** As a result, those users have not received the level of detail that they need to make good decisions.

- **Project information is scattered throughout the Department, and the Facilities Division has not ensured that the most authoritative version of information is always used as the source.** As a result, sometimes people receive inaccurate information. We identified at least four automated databases the Facilities Division uses. (See text box.) None of these databases exchanges information with the others — all transfer of data is done manually. One

Information Available

Several information systems track data on construction projects at different stages:

Primavera includes information on status and schedules of projects in the engineering and construction phases. Maintained by the Acquisitions Department.

Construction Management System includes information about all projects that have been requested by customer groups or prison units. Maintained by the Engineering Department.

Lonestars includes summary financial information by project. Maintained by the Department's financial division.

Individual employees spreadsheets spreadsheets maintained by individual employees. One of them is the only record of the detail about the basis for the overhead allocations to projects.

Project files detailed project files are supposed to be maintained in the field until a project is complete, and then moved to Huntsville to be archived either in the Facilities archives or in the Inmate Construction Group headquarters.

(There are plans to maintain detailed data on Expedition software. However, we were not able to review any projects maintained on this software.)

database includes information on the status of projects requested; another has information on projects currently scheduled. Summary financial information is included in the Lonestars database; detailed data on time and overhead

allocations is maintained in another database and posted to Lonestars. For example, the Facilities Division distributes information on the current status of projects under construction based on data from the database that tracks requests. However, this database is not reliable for anything past approval of the project.

These two problems affect the quality of the information received by the Facilities Division's customers (wardens and the customer group representatives) and those who oversee the Facilities Division.

Oversight entities (such as the Construction Review Committee and the Board of Criminal Justice) do not seem to get the level of detail that they need, or all of the information that they would normally need to make good decisions.

For example:

- The Facilities Division does not produce a periodic financial report. Overhead allocations are available by project but not by period. We were unable to determine how much money was charged to overhead or indirect salaries for fiscal year 1999.
- Requests for budget adjustments do not always include current information. For one project, an administrative change order was processed on June 10, 1999, requesting a \$44,000 increase in funds. The change order included a contingency of \$82,740, even though the project was essentially over by the time the change order was processed, and most of the contingency had already been spent. For example, the change order requested \$61,200 for salaries, but the project had already spent over \$101,000 in salaries.

Customers of the Facilities Division are not generally satisfied with the quality or the timeliness of the information that they receive. For example, in their responses to our customer satisfaction survey, 28 wardens (52 percent) made negative comments about the quality of the information that they receive. Only 14 (26 percent) indicated that they are satisfied or pleased with the information that they receive. (Fifty-three of the ninety-nine wardens we surveyed responded to our survey. Not all wardens responded to all questions.)

We also found that information that the units receive is not timely or accurate. One unit had not received notification on the status of three major work requests five months after they were submitted. At several units, we compared the unit's log of major work requests outstanding with the records from the Facilities Division. There were several projects that Facilities databases said were completed but that the warden thought were cancelled.

Recommendation:

- Identify the users of Facilities Division information, and identify the level of detail that each of them needs.

- Ensure that information is accurate by considering which of the many databases supplies data for different needs. Only the database with the most up-to-date and reliable data should be used as a source for information provided to members of the Construction Review Committee, the Board, wardens, and other users.

Management's Response:

- *Concur. The Facilities Division will make a concerted effort to address this issue by ensuring that Regional Directors and Unit Wardens are kept abreast of the status of construction projects in their Regions and on their respective Units. A survey of the CRC Customer Groups will determine what information they need. The SPDT procedures will include a customer feedback process. Estimated completion date January 2001.*
- *Concur. Facilities Division will continue efforts to consolidate as many databases as is possible and request additional Information Technology or contract support staff for the programming efforts described previously and database management to ensure the accuracy of information provided to the Customer Groups. The Division Director has recently personally briefed Unit Wardens and Regional Directors on the status of approved and funded CRC projects. The Division will strive to provide accurate information on all construction projects. Estimated completion date undetermined dependent upon availability of resources.*

Section 3-B:

Continue to Identify Useful Information Provided by Automation of Unit Maintenance Shops

In 1995, the Facilities Division began implementing a major project to automate unit maintenance operations for monitoring activity and efficiency. The new system, Computerized Maintenance Management System (CMMS) provides detailed information about labor hours, work order completion, and equipment maintenance for warranty records, among other things.

As of August 1999, 30 units and the 6 regional offices had made the transition to CMMS. Although CMMS has not yet been implemented at all units, the Facilities Division has already begun to use the data that CMMS provides. CMMS is useful to the Facilities Division for monitoring and comparing unit maintenance shops in a number of different ways.

CMMS will help ensure reporting consistency to allow for comparison of similar units. Units not yet on CMMS submit information to the Facilities Division every month. However, reporting inconsistencies between non-CMMS units makes meaningful comparison of similar units difficult. For example:

- One unit double-counted the first five days of work, including them in both the current and the prior month's report.

- Another unit did not include preventive maintenance work orders in the total reported to the Facilities Division.
- Although most units report each preventive maintenance occurrence on a separate work order, one unit reported all preventive maintenance needed in the kitchen on one work order.

These inconsistencies will all be addressed as the units begin to implement the new information system.

CMMS has already begun to improve the Facilities Division's ability to detect trends or patterns. Units on CMMS input detailed information on work including both preventive and corrective maintenance. CMMS allows input of specific information such as division of employee time, causes of corrective maintenance

(such as routine, inmate destructiveness, or defect) or reasons why preventive maintenance is not completed (such as equipment not in use or lack of man-hours). This level of detail would be cumbersome for non-automated units to develop and report.

Using Data Analysis to Address Preventive Maintenance Problems

Some units are not completing all of their scheduled preventive maintenance within the time frames established by Facilities.

- Of the 25 units on the Consolidated Maintenance Management System (CMMS) with data for 4 or more consecutive months, 5 were unable to complete between 10 percent and 30 percent of their scheduled preventive maintenance. The preventive maintenance work orders were reported closed incomplete due to lack of man hours.
- At five of the six units we visited, the unit Warden and/or Maintenance Supervisor noted that it was difficult to keep up with preventive maintenance. Our review of work orders supports their statements, showing that between 20 percent and 40 percent of scheduled preventive maintenance was not completed at these units within the time frames established by the Facilities Division.

A number of factors may influence a unit's ability to complete scheduled preventive maintenance. For example:

- A unit may have a large number of corrective work orders.
- Some units can use more inmate labor than others to augment maintenance staff.
- Special projects have sometimes occupied up to 15 percent of maintenance staff time, which otherwise would have been spent on corrective and preventive maintenance.
- Staffing levels do not generally reflect unique features of units, such as building age, campus layout, security staffing levels, or inmate destructiveness.

Analysis of data from CMMS and other sources will help identify units that have historically had problems completing preventive maintenance or which are at risk of having these problems. Facilities could then investigate the reasons, and address them by changing staffing patterns, using the Job Order Contractor, or sending in relief for temporary problems from another unit or from area maintenance.

Automation of information from unit maintenance improves reporting efficiency and reduces risk of errors.

Non-automated units spend extra time each month compiling information. The information is sent to the regional offices, which compile the information for all units in their region. This process is slow, and the duplication of effort to input and/or manipulate the data makes errors more likely.

Some units have found it easier to track preventive maintenance with CMMS. One unit reported that its office staff's workload has been almost halved as a result of implementing CMMS because the system provides detailed lists on a regular basis of required maintenance activities.

Facilities has already begun to use information captured in CMMS. For example, it has generated reports comparing overall maintenance, at units of similar sizes or comparing specific types of maintenance, such as kitchen maintenance, at selected units.

CMMS will not help the Department estimate the costs of maintenance deferred in the past. In the summer of 1999, the Department contracted with an engineering firm to estimate the costs of deferred maintenance at eleven of the oldest Department units. The results of this assessment are in Appendix 6.

Recommendation:

As more units' maintenance shops are brought onto the Consolidated Maintenance Management System, the Facilities Division should continue to explore how the system can be used to manage unit maintenance by helping to identify problems and their possible causes. (See text box on previous page for example.)

By analyzing the CMMS data, the Facilities Division could begin to profile the different units to determine the extent of the different units' abilities to perform preventive maintenance within the established time frames. The analysis could then be extended to other, non-automated units so that the Facilities Division could begin to determine the best support for the units.

Management's Response:

Concur. Operations and Maintenance will continue to find and develop better methodology to enhance the effectiveness of the Computerized Maintenance Management System (CMMS) as it continues to expand to the remaining units. Efforts are currently in progress to develop an individual unit profile or matrix containing authorized staffing level, number of beds, age, presence of agriculture and industry operations, state housing, etc. A procedure to measure performance indicators by comparing an individual unit matrix against assigned personnel and available man-day equivalents is being devised.

The Preventive Maintenance program is under continual review in an effort to tailor it to the individual unit, as each unit's construction and facility is different due to not being able to standardize equipment. Particular attention is being given to frequency as it also impacts directly on the unit's workload.

The Computerized Maintenance Management System has been installed at 37 units, all 6 Regional Maintenance Departments, and at the central headquarters. All required hardware and software for twenty-one additional unit applications have been approved and funded through August 2001. To complete CMMS installation Agency wide with the required Wide Area Network, an additional \$66,000 hardware (22 computers) and \$23,625 associated software costs will be required with an estimated operational date of CY 2003.

Reassess the Way Overhead and Indirect Costs Are Allocated

Currently, hours that cannot be charged directly to a project are allocated to all active projects by the proportion of direct hours charged to that project for the pay period. As a result:

- In some cases, the total costs for some projects look unreasonably high. For example, a 240-square foot Telephone Building cost about \$60,000, or \$250 per square foot. Of the \$60,000, almost \$23,000 was indirect labor.
- In other cases, the amount charged for indirect labor would skew the analysis of budget variances. For example, in one project, the budget showed about \$97,000 for all salaries, but the actual amount expended was almost \$450,000. Of this amount, about \$150,000 (or one and a half times the total salary budget) was for indirect salaries.

Because the Facilities Division does not prepare periodic financial statements, it is difficult to determine how much of the Facilities Division's expenditures are for overhead and indirect costs, and it is therefore difficult to control them.

Recommendation:

Consider the possibility of reviewing the method of overhead allocations, as discussed at a recent manager's retreat. Whatever method is chosen should:

- Ensure that all indirect costs are accounted for.
- Allocate indirect costs fairly.
- Allow for useful analysis of the data associated with the cost of a project.
- Ensure that direct costs are appropriately allocated to the projects.

Management's Response:

Concur. Alternative methods of allocating indirect costs are being evaluated. We agree it should be reviewed in greater detail. In the meantime, we are recommending a better method of tracking time. We are setting up different categories to account for our indirect labor: e.g., leave time, training, travel, inclement weather, and/or lockdowns. This will enable us to know what exactly is included in our indirect labor. The TDCJ Audit Team has been asked to look at this issue. It is currently being considered for inclusion in the 2001 Audit Plan.

Management's Response



TEXAS DEPARTMENT OF CRIMINAL JUSTICE

www.tdcj.state.tx.us

P.O. Box 99 • Huntsville, Texas 77342-0099

Wayne Scott
Executive Director

May 11, 2000

Mr. Lawrence Alwin, CPA
State Auditor
P.O. Box 12067
Austin, Texas 78711-2067

Dear Mr. Alwin:

Thank you for the opportunity to respond to the draft report. We concur with all the recommended improvements to the construction process and sincerely appreciate the effort your staff put into the audit.

Your report contains many opportunities for improvement that we will address. In fact, implementation has already begun on a number of recommendations. As we have discussed with the members of your audit team, we fully support the improvement of our construction processes outlined in your report and sincerely believe your work will greatly assist us in our ongoing efforts to improve agency operations.

As you know, during the period of time covered by this audit the Facilities Division was in the middle of another expansion program to bring critically needed beds on line as soon as possible. The vibrant construction economy in Texas made hiring of construction workers, quality assurance and design and construction management personnel difficult. To ensure the agency was getting the construction it was paying for, we devoted our limited resources primarily to the contract construction program, leaving the dormitory construction and other projects constructed by the Inmate Construction Group with quality assurance oversight only at critical construction points, i.e. soil compaction tests, concrete strength tests, etc.

With the high dollar value projects almost complete, the Facilities Division will be able to devote more effort to the execution of the smaller non-capacity projects. As recognized in this audit report, the procedural framework has been developed and the first of several Small Project Delivery Teams (SPDT) have been formed to test the new concept. We feel confident that this delivery process, which will allow for the assignment of a project manager and quality assurance personnel to each project, will adequately address the project management, quality assurance, and documentation concerns addressed in this audit.

SPECIFIC COMMENTS ON KEY FACTS AND FINDINGS

- ◆ The documentation and project changes concerns will be corrected with full implementation of the Small Project Delivery Team process. While the goals for Inmate Construction will be accountability and efficiencies comparable to a free world general contractor, the realities of using a largely apprentice level offender work force subject to lockdowns and other facets of prison life, will always affect the efficiencies and quality of the project delivery process. In addition, assignment of a project manager and quality assurance personnel to each project will ensure that the highest level of accountability and quality standards possible will be realized.
- ◆ The issue of project management fragmentation for inmate construction is being addressed via the small project delivery team process. The issue of project management fragmentation for contract construction has been addressed through recent requirements that the contracts division become more involved in administration of construction contracts. Changes to our accounting systems are underway to provide more timely and detailed labor reporting, allowing closer budget monitoring by project managers.
- ◆ Beginning in August 1999, the Construction Review Committee (CRC) began prioritizing the FY 2000/2001 program and the Facilities Director began personally briefing all unit wardens on their funded projects for this biennium. Changes to the program are now made at the monthly CRC meeting attended by the Directors of the major customer groups. The program design and construction schedule is also briefed at these meetings as well as the program cash flow. The Facilities Division is working on a more detailed labor reporting system, which should provide a clearer picture of true direct and indirect labor and provide our users with more accurate project estimates and actual labor expenditures. We wholeheartedly agree that this issue receive further study and have requested our in-house audit team do so.
- ◆ The condition surveys conducted at 11 of our older units revealed a significant backlog of deferred maintenance and repair. Condition surveys of the remaining System I units will be conducted as budget and time allows and the effort will be extended to the System II and prototype units in the future. The agency is committed to the continued utilization of all available capacity and to the preservation of its physical plant at the highest state of repair allowable within available resources.

Again, thank you for your staff's assistance. If we can provide further information, please do not hesitate to call on us.

Sincerely,


Wayne Scott
Executive Director

Objective, Scope, and Methodology

Objective

Our objective was to evaluate the financial and management controls over the Department of Criminal Justice construction and maintenance processes. Specifically, we focused on answering the following questions:

- Is the Department getting the construction and maintenance it pays for?
- Is the Department doing the right construction and maintenance activities at the right times?
- Are there duplications or gaps in the construction and maintenance processes?

Scope

The scope of this audit included the Department's decision-making processes and management controls over new construction and maintenance resources. We visited the Facilities' Division offices, six prison units, and the Inmate Construction Group's inventory warehouse. In addition, we reviewed the Department's process for managing construction for the Texas Youth Commission.

Methodology

We collected and analyzed information and performed selected audit tests and procedures.

Information collected:

- Interviews with Department and Division management and staff
- Documentary evidence such as:
 - Policies and procedures relating to construction and maintenance
 - Department Executive Directives and Board Policies
 - Project file documentation
 - Contracts
 - Maintenance work orders
 - Minutes of the Texas Board of Criminal Justice, the Construction Review Committee, and other departmental committees
 - Various project and budget reports generated by the Department and the Division
 - Internal Audit reports
 - Information regarding new management initiatives
 - Customer satisfaction survey

Procedures and tests conducted:

- Risk assessment for projects to test
- Review of policies and procedures, contracts, work orders, and project documentation
- Review of automated information systems
- Testing of inventories
- Review of committee and Board meeting minutes
- Review of project budgets and reports
- Analysis of customer satisfaction survey

Criteria used:

- State Auditor's Office Accountability Project Methodology: Construction Criteria
- Project management principles from *Project Planning and Control for Construction*
- Contract management principles from *Managing Construction Contracts, Operational Controls for Commercial Risks*
- Texas Government Code
- General Appropriations Act, 75th Legislature, 1998 – 1999 Biennium
- Other standards and criteria developed through secondary research sources, both prior to and during fieldwork

Other Information

Fieldwork was conducted from July 1999 through December 1999. The audit was conducted according to applicable professional standards, including generally accepted government auditing standards. There were no instances of noncompliance with these standards.

The following members of the State Auditor's staff performed the audit work:

- Rachel Cohen, CPA (Project Manager)
- Amy Dingler, MPAff (Assistant Project Manager)
- Michael Burris, MBA
- Michael Dean, MPAff
- Lee Laubach
- Tony Patrick, MBA
- Juan Sanchez, MPA
- Worth Ferguson, CPA (Quality Control Reviewer)
- Julie Ivie, CIA (Audit Manager)
- Deborah Kerr, Ph.D. (Audit Director)

Background

Although the Facilities Division does not develop financial statements for its internal use, Division staff was able to compile data on how much had been spent in fiscal year 1999 and developed projections for fiscal year 2000 based on actual expenditures from the first six months of the fiscal year.

Table 2

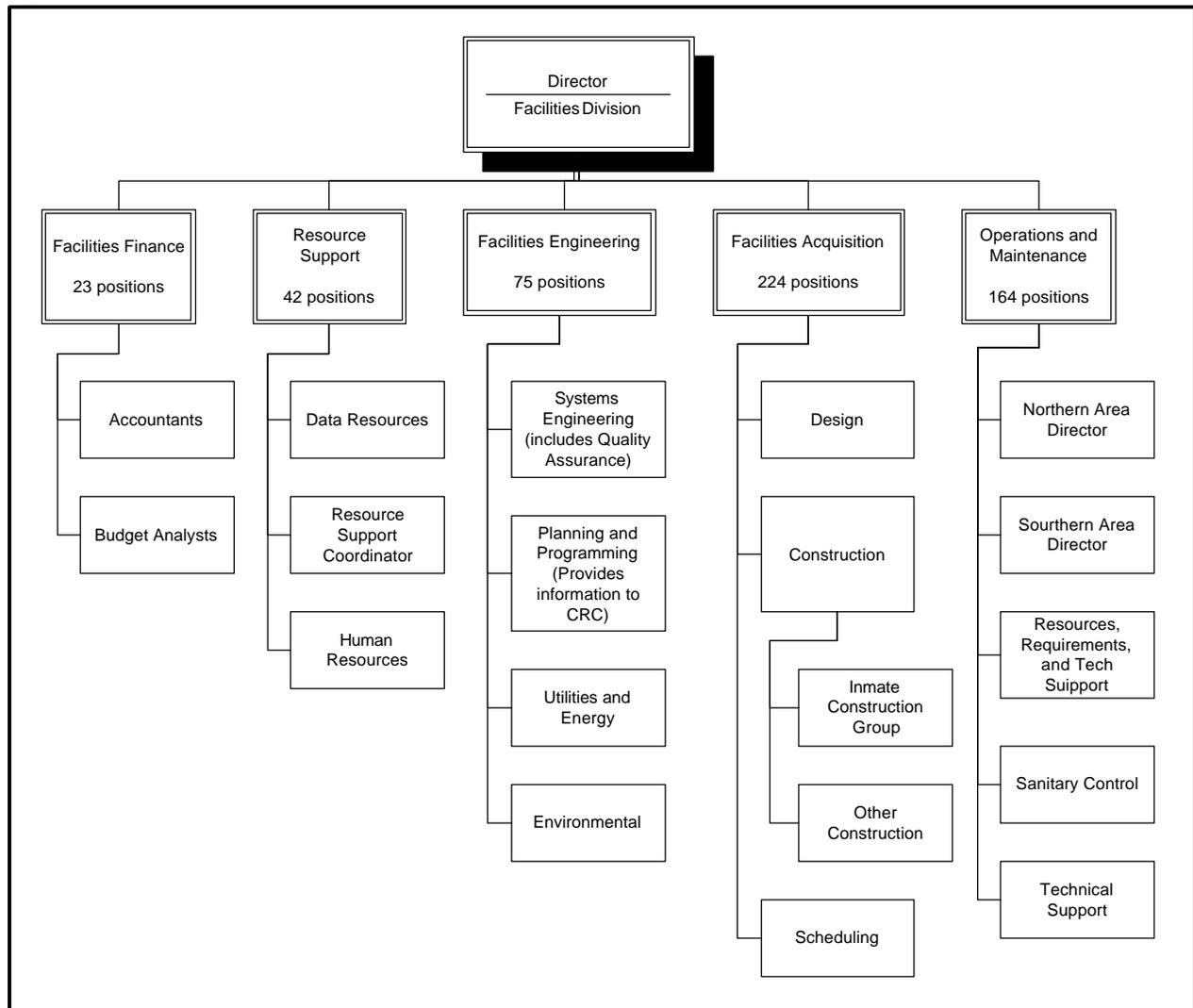
	Fiscal Year 1999 Expenditures	Fiscal Year 2000 (Budgeted)
Operations and Maintenance (Institutional Division)	\$ 51,999,897	\$ 41,633,052
Operations and Maintenance (State Jail Division)	4,702,627	4,099,544
Bond Funds	125,976,730	84,776,745
Total	\$ 182,679,254	\$ 130,509,341

Organizational Chart

The Facilities Division's organizational structure follows. Not all positions are filled. In April 2000, a reorganization was to eliminate a number of positions. Operations and Maintenance positions do not include the unit maintenance staff on each unit. Facilities Acquisition positions do not include the inmates who work in the Inmate Construction Group.

The Facilities Division also receives support from other parts of the Department. For example, purchasing and payables are taken care of by the Department's Financial Division; most human resources services are performed by the Department's Human Resources Division.

Figure 1



Source: Department of Criminal Justice

Activities During Different Phases of Construction

The owner ensures that what is purchased is what was needed by:		
Planning	Administration	Monitoring
<p>Determining what needs to be built.</p> <p>Determining how to pay for it (lump sum contract, cost plus, cost plus to a limit, etc.).</p> <p>Identifying the controls it will use to ensure that it gets what is needed for the best price.</p>	<p>Ensuring that communication occurs and is documented.</p> <p>Assessing progress, and tie to progress payments (or, for ICG, compare budgets to expenditures).</p> <p>Evaluating need for, amount of, and time for change orders (<u>before</u> change occurs).</p> <p>Minimizing claims by ensuring rapid resolution of Requests for Information.</p> <p>Performing or reviewing inspections and tests, to ensure that the contract is faithfully executed.</p> <p>Tracking deviations from specifications, and ensure that either they are corrected or reimbursed. (Identify backcharges due because of contractor errors).</p> <p>Ensuring that drawings are kept current.</p> <p>Closing out contract, which involves being sure that (1) all performance is acceptable, (2) all expected documentation is received and adequate, (3) any other deliverables have been received, and (4) that all contract obligations were met.</p>	<p>Reporting (receiving reports from contractor, providing reports to oversight).</p> <p>Auditing (costs and operations).</p>
The contractor ensures that he/she stays in business by:		
Bidding	Administration	Monitoring
<p>Bidding high enough to ensure a profit, but low enough to get the job.</p> <p>Accurately assessing how much it will take in materials and time to perform the contract.</p> <p>Identifying opportunities for value engineering and bring them forward.</p>	<p>Building or otherwise perform, according to the contract. Usually, this includes (1) maintaining current drawings, (2) ensuring that specifications are tested according to the contract (3) maintaining agreed-upon documentation.</p> <p>Scheduling subcontractors, etc.</p> <p>Identifying opportunities for value engineering and bring them forward.</p> <p>Documenting as necessary.</p>	<p>Providing documentation to owner as required by contract.</p> <p>Making other data available to owners or auditors as required by the contract.</p> <p>Monitoring subcontractors.</p>

Advantages and Disadvantages of Different Resources

Resource Type	Advantages	Disadvantages	Other Considerations
Contracted Construction	<p>The Department can hold the contractor responsible for meeting specifications and other terms of the contract.</p> <p>The contractor is responsible for procurement of materials, equipment, and expertise.</p>	<p>Contracting construction may be more expensive than the other methods.</p> <p>It takes time to develop a bidding package, send it out for proposals, and negotiate the final price.</p>	<p>The Department's Purchasing section will provide some contract administration services with the implementation of Executive Directive 10.07.</p>
Job Order Contractor	<p>Since contractors bid for the entire contract, the individual jobs do not need to be bid separately. This saves time.</p> <p>Price is established as a cost coefficient in the contract between the Department and the Job Order Contractor. Therefore, only the scope of a project needs to be established.</p>	<p>Since this is a new program, it will require additional oversight to ensure that it is implemented as intended.</p>	<p>Each of the two Job Order Contractors is limited to \$25 million in work for the Department over the course of three years. The Department can decide not to award the full amount of work to a Job Order Contractor.</p>
Inmate Construction Group (ICG)	<p>ICG may be less expensive, since there is no profit motive, and inmates are not paid for their labor.</p> <p>Performing construction work occupies inmates' time.</p>	<p>There is no warranty on work performed.</p> <p>Work may not be performed by people with experience or expertise in this area of construction.</p> <p>Construction schedules could be affected by security issues. (Lock-downs, etc.)</p> <p>The wardens prefer not to have ICG perform the work.</p>	<p>Working in ICG may provide some training for inmates (although that has not been evaluated).</p>
Unit Maintenance	<p>Maintenance can fit small jobs with no urgent deadline in between other jobs.</p> <p>The Facilities Division would not need to send a separate construction team in to a location.</p> <p>The wardens prefer to have Unit Maintenance perform the work.</p>	<p>Not all preventive maintenance is getting done as it is; increasing the amount of construction would decrease the amount of time available to do maintenance work.</p>	<p>Unit maintenance does not charge its time to the projects; as a result, the projects look cheaper than if the projects were done by Facilities Division staff members.</p>

Deferred Maintenance at Eleven Units

In the summer of 1999, the Department contracted with an engineering firm to evaluate the condition of physical facilities at 11 of its oldest units. The firm evaluated structures, systems, and infrastructures for all of the buildings for these units. Table 3 shows dollar amounts identified by the engineering firm.

Table 3: Estimated Costs of Deferred Maintenance at 11 Units

Unit	Two Years (Immediate)	Four Years (Intermediate)	Six Years (Long-Term)	Other	Total
Byrd	\$ 5,976,249	\$ 8,533,683	\$ 1,122,154	\$ 15,588,459	\$ 31,220,545
Eastham	11,424,753	22,132,729	0	29,059,188	62,616,670
Ellis	19,934,398	27,086,667	1,145,205	32,533,436	80,699,706
Estelle	20,419,866	6,823,582	903,223	20,092,673	48,239,344
Ferguson	11,969,662	34,877,761	50,528	34,228,882	81,126,833
Goree	1,584,195	12,806,778	123,044	10,323,035	24,837,052
Huntsville	9,097,950	42,866,799	215,996	9,917,513	62,098,258
Luther	3,761,978	3,357,583	343,563	5,425,277	12,888,401
Pack	4,317,582	1,644,354	580,794	5,718,337	12,261,067
Skyview	2,108,680	3,597,460	0	4,981,437	10,687,577
Wynne	24,637,317	27,162,549	705,842	10,236,975	62,742,683
Total	\$ 15,232,630	\$ 190,889,945	\$ 5,190,349	\$ 178,105,212	\$ 489,418,136

According to Facilities Division staff members, these totals represent the amount that the engineering firm believes it would cost to contract the projects.