

REPORT TO THE
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A Performance Audit
of the
Division of Facilities and Construction
Management

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Digest of A Performance Audit of the Division of Facilities Construction & Management

Although the agency had serious problems with one past project, the Division of Facilities Construction and Management (DFCM) has learned from its mistakes. Today the division is a well-managed organization that provides quality construction management services for the state. This report addresses legislator's concerns regarding the mismanagement of the University of Utah Student Housing Project. We found that DFCM, its architect, the University of Utah and several contractors all share responsibility for the problems that occurred on the project. This report also describes how some contractors were impacted financially by the project and the manner in which the division responded to their claims. Finally, this report examines the division's current method of selecting contractors for state construction projects and, in particular, the division's "value-based" approach to awarding state construction contracts.

Due to ongoing litigation, the audit team did not attempt to identify the precise degree that DFCM, the university, the design team or some contractors were responsible for the problems with the Student Housing Project. To do so would have required an in-depth analysis of the project schedule, the division's management practices, the contracts and project costs. That level of analysis was not within the scope of this audit.

DFCM Contributed to Problems with the Student Housing Project. First of all, the division did not ensure that the project had an effective management team. In addition, some contractors were not particularly qualified for the scale and scope of work they were hired to do on the project. Numerous delays and cost overruns resulted because of project mismanagement and under-qualified contractors. In addition, DFCM's use of a new method of selecting contractors caused confusion and exacerbated problems between the project management team and contractors.

DFCM's improved management procedures should help the agency avoid repeating the problems it experienced on the Student Housing Project. DFCM had difficulty both managing the Student Housing Project and then responding to the claims filed by contractors on the

project. However, DFCM has since addressed the procedural weaknesses that were exposed by the University of Utah project. First, the division now selects the best qualified construction management teams to oversee state projects. Second, the division now prequalifies contractors and does not use low-bid selection on projects valued over \$1.5 million. DFCM has improved general contractor accountability, the management of its projects, and its method of selecting contractors. If the division continues to follow its new practices and the recommendations described below, it is unlikely to have another project with as many problems as the Student Housing Project.

**Chapter II
Recommendations**

1. We recommend that before each monthly payment is made to the general contractor, the division should require the contractor to submit a “payment waiver” signed by each of the subcontractors attesting that they were paid the prior month.
2. We recommend that the division’s project manager periodically do an analysis of the cash flow on the project.

**Chapter III: Financial
Impact on Student
Housing Project
Contractors**

Many Contractors Experienced Financial Difficulties. Delays in the project schedule and confusion about the project’s designs increased the cost of construction and led some contractors to file claims with the division. Some contractors filed bankruptcy shortly after their involvement with the Student Housing Project. However, it would be inaccurate to suggest that these firms went bankrupt because of the project. Many of the firms were already facing financial difficulties when the project began and others suffered a financial loss because of their own mistakes. The following recommendations can help DFCM avoid future disputes about the amount of compensation paid to contractors and subcontractors.

**Chapter III
Recommendations**

1. Unless it is a design build project, we recommend that bidding documents be completed before contractors are asked to submit their bids.
2. If a change in the designs is needed or if additional work is necessary, we recommend that a formal change order or construction change directive be prepared, and that the terms of reimbursement for the cost of labor and materials be agreed to before the work is performed.
3. We recommend that contractors and subcontractors be put on notice that no compensation will be provided unless they maintain a separate accounting for all of the expenses associated with the change order.

**Chapter IV:
Impediments to
Dispute Resolution
with the Student
Housing Project
Contractors**

DFCM Had Difficulty Resolving the Claims Associated with the Student Housing Project. DFCM spent several years trying to resolve claims associated with the Student Housing Project. Two disputes are still ongoing. DFCM's dispute resolution procedures are supposed to encourage a quick and informal resolution of contractor claims. The disputes took a long time to resolve because the division did not follow its dispute resolution process. Instead, the division's response actually encouraged contractors to take a litigious approach towards resolving their claims.

Today, the division is unlikely to become as entangled in the kind of legal disputes it encountered at the end of the Student Housing Project. As long as the division follows its new dispute resolution policy, future disputes will be solved quickly and informally.

**Chapter IV:
Recommendations**

1. We recommend that the division continue to follow its new dispute resolution policies.

**Chapter V: Analysis
of DFCM's Value
Based Selection
Contractor
Procurement
Process**

Procurement Process Has Improved but Needs Minor Adjustments. DFCM's new Value Based Selection method of choosing a contractor has produced positive results. In an effort to avoid the failures of the selection procedures used in the past, the division began to award construction contracts based on which contractor offered the best value—not just the lowest bid. Since that time, projects are more likely to be completed on time, within budget and with less spent on change orders than in the past. However, the selection process can be subjective and some contractors question whether the division is entirely fair in how it selects contractors. In order to improve the fairness of the Value Based Selection process, the division needs to implement the following recommendations.

**Chapter V
Recommendations**

1. We recommend that DFCM provide specific, detailed descriptions of the Value Based selection criteria in the project RFP;
2. We recommend that DFCM provide contractors, when requested, with complete and accurate feedback regarding the strengths and weaknesses of their proposals.
3. We recommend DFCM ensure that selection committee base their decisions on the selection criteria described in the request for proposal and avoid considering other factors.
4. We recommend DFCM complete its implementation of the remaining Value Based Selection Procurement Committee's recommendations.

Few Concerns Found with Remaining Audit Issues. Few problems were found with several of the concerns raised by legislators. After a brief review, the audit team determined that:

1. DFCM construction delivery methods are used wisely and according to industry standards,
2. DFCM promptly pays its general contractors,
3. DFCM and its general contractors employ a wide variety of subcontractors on state projects,
4. General contractor conflicts of interest are managed properly, and
5. The Owner Controlled Insurance Program (OCIP) is obsolete since the program was dropped last year.

Because few problems were found, the audit report only briefly describes the audit findings with regard to each of the five above areas of concern.

**Chapter VI: Several
other areas of
concern were
examined. Few
problems found.**

Chapter I

Introduction

The Division of Facilities Construction and Management (DFCM) is the state agency that oversees all state-funded construction projects. In 1998, the division began construction of the Student Housing Project on the campus of the University of Utah at Fort Douglas. The Student Housing complex was built to provide on-campus housing for university students and to serve as the Olympic Village for the athletes attending the 2002 Winter Games.

Although the project resulted in an attractive student housing complex, a number of serious problems were encountered during construction. Due to errors and omissions in the designs, difficulties coordinating the project schedule, and mistakes made during construction certain phases of the project were significantly delayed. Some phases of the project greatly exceeded their budgets. The project ended in a bitter dispute between the division and certain contractors who believed they should have been compensated for the extra costs they incurred during the project. After several years of litigation, some contractors received large settlements. Other contractors who did not file claims reported that they also suffered financially due to their involvement in the project. Some said they were forced into bankruptcy.

At a meeting of the Legislative Management Committee in 2003, DFCM officials were asked to describe the problems with the project. They identified the following concerns:

1. The project designs contained many errors and omissions that required between 600 and 700 change orders.
2. The original architectural drawing failed to comply with the Federal Housing Administration requirements for disabled individuals. Once the problem was discovered, contractors were forced to redo some of their work.
3. The division tried a new method of selecting contractors called “performance based procurement system.” Confusion about the

A student housing complex was designed to meet student needs as well as serve as the Olympic Village.

new selection process created a number of problems for contractors and the design team.

4. Contractors submitted several claims against the division—some seeking more than \$1 million in additional compensation. Some claims required two or three years to resolve.
5. Several contractors said they were approaching bankruptcy because of the financial strain they suffered during the project and because the division did not pay them for all of the added costs due to delays and the extra work they were required to perform.

Legislators also heard many complaints from individual contractors who worked on the Student Housing Project and on other state construction projects. They expressed concern about the division's method of resolving claims and disputes, its method of selecting contractors and the division's timely payment to contractors for services provided.

Audit Scope and Objectives

Due to the problems with the Student Housing Project and other concerns about the state's management of construction projects in general, the Legislature asked the Legislative Auditor General to conduct an audit of the Division of Facilities Construction and Management. Specifically, auditors were asked to

1. Describe the causes for the problems with the U of U Student Housing/ Olympic Village Project.
2. Find out how many companies lost money or went out of business due to working on the Student Housing Project.
3. Review DFCM's claim resolution process and the timely dispatch of claims.
4. Determine whether the Value Based Procurement process is saving the state money and whether the division has encountered any unintended problems with this method of selecting contractors.

5. Review the construction delivery methods including self-construction performed by construction managers and the benefits or costs of each used by DFCM.
6. Verify that payments to firms under a state contract are made on a timely basis according to industry and private sector standards.
7. Determine whether a wide variety of sub-contractors are working on state projects.
8. Determine whether general contractors are placed in a conflict of interest position through DFCM's procurement method.
9. Review the Owner Controlled Insurance Program.

The first four issues described above are addressed in Chapters II through V of this report. Chapter II describes some of the causes for the problems that occurred at the Student Housing Project. Chapter III describes the financial impact that the Student Housing project had on the contractors who worked on the project. Chapter IV reports on the division's handling of contractor claims and complaints. Chapter V describes our findings regarding the process used to award state construction contracts. Finally, Chapter VI describes our audit findings with regard to the five remaining areas of concern described above.

The purpose of this report is to identify improvements that can be made to the Division of Facilities Construction and Management. The report does not identify improvements that might be made by the University of Utah, the design team or the contractors that worked on the project and therefore no recommendations are directed to them. While the report describes the problems that occurred on one specific project, no attempt was made to identify the extent to which one group might be liable for any damages suffered by project participants. That level of analysis was not within the scope of this audit. For example, we did not perform a schedule analysis or attempt to determine which delays were on the critical path of construction.

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Chapter II

DFCM Contributed to Problems with The Student Housing Project

Although many groups share responsibility for the problems that occurred during the Student Housing Project, this chapter focuses on three ways the division contributed to the problems. First, the division did not make sure that the project had a qualified construction management team to oversee the project. Second, the division hired two general contractors that were not adequately qualified for a project as large and complex as the Student Housing Project. Third, during the final phase of the project the division tried a new, untested procurement method that created serious conflicts between the architect and the contractors.

While DFCM contributed to many of the problems that occurred on the Student Housing Project, others share responsibility as well. The design team, the university, and several contractors each made mistakes that contributed to the delays and cost overruns that occurred on the project. Because responsibility for the problems was shared by several different groups and because some contractor claims and disputes are still unresolved, the audit team made no effort to determine the extent to which each individual group was responsible.

Fortunately, the division appears to have learned from its mistakes. In recent years, the division has improved both the management of its projects and its method of selecting contractors. If the division continues to follow its new practices, it is unlikely to have another project with as many problems as the Student Housing Project.

Project Lacked a Qualified Project Management Team

The division should have done more to make sure that the Student Housing Project had a management team capable of overseeing a large, complex construction project. We found that the design team hired to oversee the project did not have an effective management team. In addition, there were conflicts between the division and the university that

Project management was not well coordinated and was, thus, ineffective.

prevented them from working together in order to help the design team overcome the management problems it faced.

The Student Housing Project was a 2,200 bed student housing complex for graduate, married and single students. It included 19 residential buildings plus a student center and university guest house located on 63 acres of historic Fort Douglas. A design team of architects and engineers was selected to prepare the designs and to oversee the construction of the 21 buildings. The work was to be divided among three general contractors who were hired to build different phases of the project. However, the design team did not have enough expertise in construction management and was unable to properly coordinate the efforts of the general contractors that were working on the job site.

The Design Team Did Not Have the Skills Needed To Manage a Large Construction Project

Initially, the efforts by the division and the university to create a project management team were a bit misguided. They did not seem to appreciate the importance of having a construction manager who had experience with large and complex construction projects. Instead, their focus was on hiring a good team of architects. They wanted a design team that could create an attractive student housing complex to compliment the historic nature of Fort Douglas where the site was located. However, even more important, this same design team, comprised mainly of architects, was also asked to coordinate and manage the project.

Design team's expertise was in project design not management.

An expert panel that was asked to examine the project said one problem was that "DFCM's approach to this project [was that of] an 'architectural project' rather than an 'engineering project.'" The panel also suggested that the design team lacked the level of management skills required for such a large project:

Processes that may have proven adequate in the past to monitor schedule and performance... for the completion of a building, were inadequate and inappropriate to manage construction of the civil infrastructure of what amounts to a small city.

Division staff also told us that the main concern of the panel asked to select a design team was to find a firm that would be the most capable of

preparing an attractive design for the complex. Less attention was given to the design team's ability to actually manage the project's construction.

Design Team Was Told to Reduce its Construction Management Staff. The design team that was awarded the contract to design and manage the Student Housing Project originally included two firms with exactly the kind of management experience required for a large, complex construction project. The team included personnel from Draper and Associates which was a large construction management firm based in Atlanta. In fact, Draper helped manage the construction of the student housing complex at Georgia Tech University, which served as the Olympic Village for the 1996 Summer Games in Atlanta. Draper and Associates was hired to perform a very similar task in Utah. They were asked to manage the project schedule and budget for Utah's Student Housing Project. The design team also included personnel from Turner Construction, a large firm that manages construction projects world wide. Turner was hired to control the project costs.

As a cost cutting measure, DFCM reduced project management staff.

Shortly after the design team was awarded the contract, DFCM's director asked the Project Manager of the design team to drop Draper and Associates from the team as a cost-cutting measure. According to the design team's project manager, the division director asked him to manage the project budget and schedule on his own with assistance from Turner Construction.

For some reason, Turner Construction was never given much responsibility for either the project schedule or the budget. In fact, once the project began to have problems, Turner Construction offered to take a greater role in managing the project but was turned down. Then, as problems mounted, Turner Construction chose to leave the project early. Apparently, Turner decided to remove its employees from the project team because they were not allowed to help solve problems and because the firm was concerned about the liability it might face if the project were to fail.

So, it appears that the design team originally had sufficient expertise to manage the project. However, some of the best construction managers on the design team were either dropped as a cost-cutting measure or they chose to leave on their own because they believed the project was not well managed and their skills were not being used.

Lack of Effective Project Management Contributed to Poor Coordination

Because the design team was not equipped with an effective project management team, they quickly lost control of the project schedule. According to its contract with the division, the design team was required to coordinate on-site contractor activities through a comprehensive project schedule. According to an expert panel that was asked to examine the project as part of a claims resolution process, the project schedule was not followed or enforced. The panel said that each contractor on the project:

...should reasonably have expected that conflicts and access issues, including road closures and other areas where the sequence of work might conflict with other prime contracts would also be actively managed by the [design team] pursuant to a comprehensive project schedule of which all were aware. It was not. Instead, the project was essentially coordinated through the weekly meetings with one-to-three-week “look-ahead” schedules.

Several contractors reported that scheduling conflicts with other contractors created serious problems. For example, the contractor hired to install the underground utilities was delayed because the university took weeks to act on requests to close certain roads, and in some cases the requests were denied. Clearly, the division, the design team, and the university should have coordinated the project schedule so contractors could work with each other while addressing specific scheduling issues. Instead, contractors were not required to follow a comprehensive project schedule, and they were forced to sort out scheduling conflicts on their own. These conflicts led to delays, cost overruns, and a reduction in crew productivity. As a result, some phases of the project were completed well after the scheduled completion date and at a significantly higher cost than the amount budgeted.

Confusion about Who Was in Charge

The problem of not having qualified construction managers on the project was compounded by a lack of cooperation between the division and the university. The two organizations seem to be competing for control over the project. For example, we cite the fact that the two organizations were deeply involved in the review of change orders, and

Ineffective project management led to scheduling conflicts which caused many delays.

The university funded the project, but the state signed the contracts and managed the construction.

felt they needed their own inspectors to sign off on work as it was completed. In addition, when the project fell behind schedule, the two organizations disagreed over which organization should take control over the day-to-day supervision of the project.

Throughout the project, the University's Department of Campus Design and Construction and the State's Division of Facilities Construction and Management both tried to exercise control over change orders and inspections. As a result, delays occurred while contractors waited for one or both of the organizations to review and approve a change order. Sometimes contractors had to reconstruct certain work that was approved by one organization's inspectors but rejected by the other.

For example, the university became quite involved in decisions regarding change orders. Although DFCM normally gives agencies the opportunity to approve change orders, especially when those changes increase the cost of the project, it appears the university was quite deeply involved in reviewing the details surrounding each change order. It appears that the university staff thought that there would be no contractor-initiated change orders on the project. When the contractors began to submit change orders, the university decided that they needed to scrutinize each one. However, the result was that certain phases of the project were delayed significantly because change orders needed to be reviewed first by the design team, then by the division, and finally by the university. As a result, the process of reviewing change orders took too long and delayed certain phases of the project.

Because they were concerned about the quality of construction, the university also did some of its own inspections. Even after certain work was approved by the division's inspectors, it was sometimes rejected by the university's inspectors who required that the work be rebuilt according to the university's standards. Because the two agencies did not coordinate their inspections, the project was delayed. The delays, in turn, increased the cost of construction.

Division Took Control of the Project, Then the University. Initially, the design team was responsible for both designing the Student Housing Complex and for managing its construction. Eventually, the design team had difficulty completing designs on time and could not handle all of the change orders that had been submitted. In response, DFCM relieved the design team of its responsibility to manage the project

schedule and asked them to focus exclusively on completing the project design. At that point, the division assigned one of its project managers to directly supervise contractors on the project.

The division was no better than the design team at keeping the contractors on schedule and within budget. When it became apparent that the project might not be completed on time, the director of the university's Department of Campus Design and Construction requested that DFCM staff leave the project site so the university could assume control of the project. However, the university had no formal agreement with any of the construction firms on the project and eventually realized that it needed the division's participation in order to hold the construction firms to their contracts. Eventually, the division, the university and the design team agreed to work together in order to complete the project, but as a group they continued to have difficulty providing the project with the direction and guidance that was needed.

In conclusion, the division's first mistake was to allow the Student Housing Project to proceed without a strong team of construction managers. The design team did not have the skills it needed to manage the project schedule and the budget. In addition, conflicts between the division and the university prevented the project from having the quality of management that was needed.

DFCM Hired Two Contractors That Were Not Adequately Qualified

The poor performance by two contractors also contributed significantly to the delays and cost overruns on the Student Housing Project. If the division had followed the practice of pre-qualifying contractors before accepting bids, they would have avoided hiring the less-qualified firms. The practice of pre-qualifying bidders was common in the construction industry at the time but was not often used in state government. Even though it was allowed to pre-qualify its bidders, the division decided that every contractor should be allowed to bid on a project without considering the contractor's qualifications.

One Construction Firm Abandoned the Project Early and Did Not Pay its Subcontractors. The second stage of the project was a housing complex for single students. The firm hired as the general

One general contractor was selected even though the firm had a history of poor performance.

contractor for that phase had a prior history of not paying its subcontractors. The extent to which the division knew of the firm's prior history is unclear. However, the division was already having some difficulty with the contractor on another project when it requested bids for the Student Housing Project. At the time, the contractor was not paying the subcontractors on another state project. In addition, a representative from the design team told us that they warned the division that the contractor was not reliable. However, the firm had performed reasonably well on yet another state project, so the division did not believe there was justification for excluding the firm from the bidding process.

Unfortunately, the firm was a poor general manager on its phase of the Student Housing Project. The design team reports that the firm got behind schedule because it did not hire enough workers. Furthermore, certain work was not done according to specifications, and the "punch list" of finish work that needed to be fixed at the end of the project was never completed. In fact, the firm abandoned the project without completing its work and did not pay everything that it owed to its subcontractors. At least 10 of the 22 subcontractors were forced to submit claims to the general contractor's bonding agent. Fortunately, they were able to collect a settlement. However, some subcontractors did not submit claims and were never paid completely for their work.

Because of the poor performance of the general contractor, the second stage of the project was completed behind schedule, and the division was required to spend additional funds to complete the work. Extra resources were also spent by the division and design team to provide additional supervision of that phase of the project. In addition, the contractor's poor performance also affected the subcontractors and the progress of other phases of the Student Housing Project.

Utilities Contractor Not Adequately Qualified. The division also hired a utility contractor that was not adequately qualified. Even though the division blamed the firm for many of the delays on the project, the division knew that the firm was not well suited to a construction project the size and complexity of the Student Housing Project. Still, the division hired the firm based on the fact that it was the lowest bidder. In addition, because so many other construction projects were underway at the time, no highly qualified firms were even interested in doing the utility work for the Student Housing Project. As a result, the division ended up hiring a

The contractor selected was not adequately qualified for a large and complex construction project.

firm whose primary business was not underground utilities although it had done some utility work for a few housing subdivisions.

During the Student Housing Project, the utility contractor made errors in the installation of some utilities and was required to correct the problems at its own expense. The firm also had difficulty following a construction schedule and, for a variety of reasons, fell behind. An expert panel reviewing the project stated that the “magnitude and complexities of this project were considerably beyond [the contractor’s] previous experience.” In addition, the panel observed that the contractor’s management of their schedule demonstrated a “naive approach to this job.”

Although the division blamed its utility contractor for many of the delays and cost overruns associated with the project, the division should have recognized that it had hired a firm not ideally suited to install underground utilities on a project as large and with as many complex technical demands as were associated with the Student Housing Project.

The division blamed the two above mentioned firms for some of the delays and cost overruns on the Student Housing Project. However, the division bore some responsibility as well. The division should have known that its use of a low bid approach to selecting contractors would not provide it with the most qualified contractors. In addition, if the division had pre-qualified its bidders, it would have been able to avoid the delays, poor workmanship and cost overruns that resulted from having less qualified contractors working on the project.

New Procurement Method Caused Confusion

Many of the problems with the Student Housing Project can be attributed to the division’s decision to use an untested procurement method to hire a general contractor for the final phase of the project. After having so much difficulty with its low-bid contractors, it is easy to understand why the division would want to try a new procurement method. However, the new approach, called the Performance Based Procurement System, created so much confusion that it caused more problems than it solved.

The contractor selection process was still evolving.

DFCM Wanted Contractors Who Would Provide the Best Quality Within the Existing Budget. Because of the division’s poor experience with low-bid contractors, the director of DFCM decided to adopt a new procurement method for the final phase of the Student Housing Project. The problem with using the low-bid method is that some contractors submit bids that are so low that they cannot finish the project for the contracted amount. Some contractors then attempt to make up for their low bids by compromising on the quality of the work performed and by submitting change orders to obtain additional fees. For example, a contractor could be awarded a change order if flaws were found in the architectural drawings or if there were unknown problems with the construction site. Typically, the contractor would be compensated for any added cost of the change order.

Recognizing the flaws of low-bid procurement, the division chose to switch to a “performance based procurement system” developed by a university professor from Arizona State University. After announcing the division’s shift to the new procurement method, the division invited the professor to Salt Lake City to provide a series of seminars to any of the locals contractors who were interested in future DFCM projects. Figure 1 lists some of the features of Utah’s “performance based procurement system.”

Figure 1. Features of the Performance Based Procurement System. Contractors were expected to submit no change orders and to complete the project on time and on budget.

1. Contractor is selected based on a combination of price and past performance.
2. Contractor guarantees that the project will be completed on time and within budget.
3. No contractor-initiated change orders.
4. Contractor has an incentive to seek out opportunities to provide additional value to the owner without adding to the cost of the project.
5. Contractor has an incentive to rectify flaws in the construction at his own expense and without excessive monitoring by the owner.
6. Design team takes less time to prepare specifications because top performing contractors can fill in any gaps or omissions in the plans.

The Student Housing Project was the first project awarded through the performance based procurement system. That phase of the project

The division said no change orders would be allowed, but the contract permitted change orders.

involved the construction of 21 buildings and had a budget of \$53 Million.

DFCM Sent Mixed Messages about Performance Based Procurement. When the division set out to select a contractor under the performance based procurement system, they gave conflicting messages regarding their expectations. The design team believed that the division was serious when they said there would be no change orders and that they would require a firm completion date for the project. On the other hand, the general contractor hired to build the third stage of the project understood things differently. That contractor observed that the construction contract he signed with the division allowed for change orders.

At a pre-proposal meeting, the division listed the following requirements for the third stage of the Student Housing Project:

- DFCM expects quality construction that meets code, within schedule, and no “contractor generated” change orders.
- [The contractors’ proposed budgets] have to be within a maximum amount of \$53 Million,...

As the construction firms prepared their proposals for the project, they were told that no change orders would be allowed for the project and that project costs had to stay within budget. As a result, some contractors prepared their budgets with the assumption that they would have to cover the cost of any change orders. On the other hand, the project specifications included a traditional DFCM contract that said something very different— that changes in the design would be made by the architect not the contractor and that the contractor could request payment for any increased cost of construction that might result. The contract said:

- Any defective Drawings, Specification or other Contract Documents furnished by the Architect shall be promptly corrected by the Architect ...
- Claims, including those alleging an error or omission by the Architect, shall be submitted in writing by the Contractor or Owner to the Architect...

So the construction contract for the Student Housing Project indicated that the architect, not the contractor, would be responsible for any design problems. The contract also acknowledged that any errors and omissions in the plans could result in a change order and, if necessary an additional payment to the contractor.

The misunderstanding surrounding the performance based selection would not have occurred if the new procurement method was consistent with the contract signed by the contractor. However, the division assumed that it could require contractors to follow a certain set of expectations even though they were only communicated verbally to contractors and were not supported by the contract. In contrast, the firm that was eventually hired as the general contractor believed the division could not impose a verbal requirement on a contractor that was contractually obligated to follow a very different set of requirements. That firm did not incorporate the cost of change orders into its budget proposal.

Design Team Expected a No Change Order Project. Once the contract was awarded and construction began, the design team operated under the assumption that they were no longer required to resolve any problems with the project designs and specifications. The design team had signed a contract requiring them to handle any change orders and requests for information. However, they believed that the new procurement policy required that any redesign work or change orders would be handled by the contractor—not by the design team. In fact, the chief architect said he was reluctant to approve any change orders because he thought if he did approve a change order, he could be held responsible for allowing the project to go over budget. The chief architect believed that because the firm hired as the general contractor was selected as a “high performing contractor” that the firm was, therefore, responsible for resolving any problems with the designs on its own.

On the other hand, the firm hired as the general contractor maintained that they had an obligation to follow the terms of the contract they had signed with the division. The contracts signed by both the general contractor and the design team required them to follow a traditional approach for handling design changes, errors, and omissions, that is, to submit requests for information and change orders to the architect for approval.

Performance Based Procurement was new and untested in the local market.

Confusion Created by Performance Based Contracting Contributed to Delays and Cost Overruns. The confusion surrounding performance based procurement made it difficult for the third stage of the project to be completed on time and on budget. Contractors discovered that the designs were so incomplete they had to submit 68 change orders that were comprised of 169 construction change directives, 223 proposal requests, 38 contractor changes, and 48 other changes. According to Dr. Brian Baggett, an expert in construction management who served as a consultant to the audit team, it is unusual to have so many requests for information and change orders on a single project—even one as large as the Student Housing Project.

Due to the confusion surrounding change orders, the design team did not provide a set of plans that was 100 percent complete and they did not respond quickly to the contractor’s requests for information. Consequently, some contractors were not able to work as efficiently as they should have if they had been given a complete set of plans. In some cases, contractors decided that they could not wait for the design team to resolve the problems with the designs and decided on their own how to complete the work. Eventually, the division agreed to follow the contract and pay the cost of the change orders. In all, the change orders increased the cost of the third phase of the project by 19 percent—from \$48 Million to \$57 Million.

Division Has Corrected Its Past Mistakes

We are pleased to report that DFCM has worked hard to correct the mistakes it made on the Student Housing Project. During the past several years, the division has improved both the management of its projects and the contractor selection process. As long as it continues its new practices, we believe the division will use the best construction management techniques while selecting high quality contractors for state projects. As a result, the division is not likely to have another project with as many problems and claims as the Student Housing Project. The claims associated with the Student Housing Project are described in Chapter 4.

More projects are now managed by professional construction managers.

Improvements in Project Management Should Allow The Division to Avoid Claims

One way the division can avoid the problems that occurred during the Student Housing Project is to make sure that future projects are managed by highly qualified construction managers or a general contractor. We were able to verify that the division has improved the overall management of its projects. We also verified that the appropriate management controls are being used on projects although a few additional controls could be used. Finally, we found that improvements to the selection process have helped the division procure accountable, experienced contractors.

DFCM Relies More on Outside Construction Managers.

Currently the division is less involved in the day-to-day management of projects than it was during the Student Housing Project. Instead, the division typically hires general contractors to act as the construction manager on larger construction projects. By relying on outside firms to manage the projects, the division is able to hire some of the best contractors in the state to manage its projects. In addition, it allows the division to distance itself from daily management decisions so they minimize the liability risks they encountered on the Student Housing Project.

Project Management Has Improved. With the assistance of our consultant, Dr. Brian Baggett, we were able to verify that the division's current projects have the type of management controls needed to avoid the problems that occurred on the Student Housing Project. We visited the construction site of the new Health Sciences Building at the University of Utah that is being built by Big-D Construction. We interviewed Big-D's project management team and asked them to describe how they manage conflicts in the designs, change orders, requests for information, etc.

One-by-one, we examined the current management systems that should prevent the problems that DFCM encountered on the Student Housing Project. For example, we verified that the architect and project manager have taken steps to eliminate conflicts in design. The designs for every trade (that is the electrical, mechanical, and structural designs, among others) have each been examined by a "cold team" of outside experts. These teams have reviewed the plans for errors and conflicts and have offered suggestions for how the designs can be improved.

We also verified that the division reviewed the plans for compliance with the Americans with Disabilities Act (ADA), which had been an issue raised during the Student Housing Project. We found that a division staff person examined the plans during the design phase of the project and was able to verify that designs complied with ADA requirements.

Additional Controls Could Strengthen Project Management. Our consultant did suggest a few ways that the division could strengthen its oversight of construction projects. For example, during the Student Housing Project one general contractor did not pay its subcontractors. Dr. Baggett suggested that the division adopt a new control that would prevent similar problems from occurring again. Before each monthly payment is made to the general contractor, that contractor should submit a “payment waiver” signed by each of the subcontractors attesting that they were paid the prior month.

Dr. Baggett also suggested that the division obtain a copy of the daily reports prepared by the general contractor. If a project were to run into problems and if claims were made, it would be important to have those daily reports as documentation of the work done on the project.

As noted earlier and demonstrated by the Student Housing Project, delays can be extremely costly to any project. Dr. Baggett suggested that the division’s project manager on each project periodically do cash flow analysis to monitor for potential problems. At the onset of the project, a DFCM project manager should review a contractor’s projected cash flow requirements to verify that all is normal and the contractor has not overly front-loaded their capital needs before work begins. As work progresses, it is a simple matter of consistently comparing the actual cash flow of payments made to the contractor against its initial projected cash flow. Allowances must be made for change orders, but implementation of such a cash flow analysis is an effective management control to monitor the health of a project. If, for example, the project manager finds that the project is 40 percent done but 60 percent of the budget has been spent, then it would be a warning sign that something is wrong.

Except for the few minor suggestions described above, we have concluded that the division and its contractors are doing a good job of controlling the designs, schedules, and budgets of state projects. If DFCM continues to use outside construction managers who use all of the project controls available to them, we believe that the State of Utah will

Some simple controls and oversight would improve contractor selection and relations.

avoid having another project with as many problems as the Student Housing Project.

Selection Process Has Improved

DFCM has also made significant improvements to its selection process and, as a result, is less likely to have the same kinds of problems with contractors that it had on the Student Housing Project. By focusing on a value-based method of awarding contracts, the division is now contracting with some of the best firms in the state. As a result, state projects are much better managed. On the other hand, we still have some concerns about the fairness of the division procurement method. These concerns are described in Chapter V.

Recommendations

1. We recommend that before each monthly payment is made to the general contractor, the division should require the contractor to submit a “payment waiver” signed by each of the subcontractors attesting that they were paid the prior month.
2. We recommend that the division’s project manager periodically do an analysis of the cash flow on the project

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Chapter III

Many Contractors Experienced Financial Difficulties

Many contractors suffered a financial setback due to their involvement with the Student Housing Project at the University of Utah. Delays in the project schedule and confusion about the project's designs increased the cost of construction. Through change orders, most of those costs were borne by the division and the university. However, some contractors report that they were required to bear some of the added costs as well. In fact, several contractors went bankrupt shortly after the project was completed, and others are no longer in business. However, we found that most the firms would probably have gone bankrupt even if they had not participated in the Student Housing Project. Most of the contractors that filed bankruptcy were already facing serious financial difficulties when the project began.

Some Contractors Filed Bankruptcy, Others Ceased Business Operations

Ten companies actually filed for bankruptcy after working on the Student Housing Project. However, six of these business failures appear to be coincidental and not related to the problems on the Student Housing Project. Approximately 21 other contractors did not renew their business licenses and appear to have ceased business operations shortly after the project was completed. Critics of DFCM have suggested that the division was responsible for the business failures. However, as indicated in this chapter, the contractors themselves must share some responsibility for the failure of their business.

Four Contractors Filed Bankruptcy as a Result of Work Problems on the Student Housing Project

Four companies filed bankruptcy shortly after finishing work on the Student Housing Project. Each had worked on the final phase of the project and had been hired by the same general contractor. They included subcontractors in a variety of different trades. Each company indicated that payments were delayed for their work on the Student Housing

Several companies went bankrupt, and many others were hurt financially from working on this project.

Project. Some also claimed that they were not paid for some of the additional work that they were required to provide beyond the scope of their original contract.

Some Contractors No Longer Licensed

Many of the subcontractors who worked on the project are no longer licensed and appear to have ceased their business operations in the State of Utah. In all, there were about 92 subcontractors who helped build the 21 buildings on the project site. Of the 92 subcontractors, we found that 31 subcontractors (or 34 percent) either filed bankruptcy or are no longer licensed with the State Division of Professional Licensing. After talking with many of the owners of the firms that are no longer operating, we found that most went out of business for reasons not related to the Student Housing Project. However, there are some who blame the financial losses they suffered on the delays they experienced on the project and on the late payments they received from their general contractor.

Several Factors Contributed To Contractors' Financial Difficulties

Several factors contributed to the financial setbacks suffered by the contractors who worked on the Student Housing Project. First, poor project management created some serious delays. As a result, some contractors did not operate as efficiently as they should have. Second, numerous problems with the designs required contractors to perform additional work for which they claim they were not fully compensated. Third, the division and several contractors were involved in litigation that took up to 3 years to complete. Although the claims were eventually settled, some of the firms say they were not fully compensated for the cost of pursuing their claims.

Delays Were Caused by Poor Project Management

Contractors that worked on the Student Housing Project encountered many delays. For example, there were physical problems with the construction site that no one could have anticipated. However, delays caused by the physical site problems themselves were not nearly as significant as the delays caused by the slow response to the problems by

Poor coordination, design problems, and work-related claims caused many delays which led to financial stress.

Unexpected site problems interrupted the progress.

project managers. Additional delays can be attributed to the poor coordination of the contractors working on the project site by the project managers. The delays were costly because they disrupted the contractors' construction schedules. As a result, the work crews, equipment, and materials were not used as efficiently as they should have been.

Physical Problems and Site Conditions Caused Delays. Physical problems with the construction site occurred that contributed to the delays on the project. For example, several utility lines were not described in the original site plans and needed to be relocated. At one location the excavators uncovered a mass of organic material which had to be dug out, removed and replaced with appropriate fill material. At another site, excavators discovered what appeared to be the remains of an old army dump buried long ago previously unknown to the design team and the contractors.

Although underground conditions created some delays, more serious delays were caused by the project manager's slow response to the problems they encountered. After uncovering an old sewer line, one utility contractor had to wait more than two weeks for the design team and the university to decide whether the line was active and whether to relocate it. The contractor reports that the delays were very costly because they prevented him from using his crews and equipment as effectively as he should have.

Poor Coordination of Contractors Caused Delays. The project was also delayed because of poor coordination of the various contractors working on the construction site. For example, the utility contractor responsible for laying the main utility lines to each building discovered that the elevation of one building had been changed. The utility lines had to be reinstalled because the utility contractor was not told by the design team of their decision to change the building's elevation.

The final phase of the project was delayed when the general contractor discovered that a vault for the electrical power system was located on the site where his first building was supposed to be built. Apparently, the design team knew the vault was there but decided to locate a building on the site anyway, assuming they would have time to either relocate the vault or adjust the designs. Because of the mistake, the general contractor had to abandon a very good construction management plan. Instead of building each housing unit in sequence and in the most efficient manner

Conflicts over project management created problems.

possible, the contractor had to delay construction of the first building and modify the order of the buildings to be constructed.

Administrative Conflicts Between the DFCM and the University Caused Delays. Although the state was the contractual owner of the project, the university provided most of the financing for the Student Housing Project. As a result, university officials believed they had a responsibility to make certain the project was completed properly. This assumption created a number of conflicts between the university, DFCM, and the design team because it was unclear who had authority to make important decisions. As mentioned in Chapter II, DFCM inspectors would go on site and approve certain work only to have university inspectors reject the work and require that it be done another way.

In another example, a contractor asked the university if they would close a road where they needed to install a utility line. DFCM was the project manager and, as such, needed to have control over the project site. However, the university would not agree to close the road and, as a result, delayed that contractor's work and prevented him from completing his construction plan on schedule. We found that much of the delay in the overall project schedule was caused by the confusion among DFCM, the design team and the university about which group had authority to make decisions.

Review and Approval of Changes Took Too Long. As mentioned in Chapter II, another cause for some of the delays was the lack of a sufficient number of on-site architects and engineers to answer contractors' questions about the plans. Due to some errors and omissions in the designs, contractors often found they could not proceed with their work without consulting the designers. In fact, incomplete designs led to an overwhelming number of contractor inquiries to the design team. The friction between the design team and the contractors became a very serious problem during the final phase of the project because the design team expected that under the performance based procurement system the contractors would handle all of the design issues.

Delays Are Costly to Contractors. Delays can significantly increase a contractor's operating costs. Contractors' bids usually include a small amount for contingencies, but serious delays can easily use up the amount set aside for contingencies and hurt the contractors' ability to cover the cost of construction. Some contractors calculated the cost of the delays

Many delays were caused by the need to resolve problems with the designs.

and submitted those costs as a claim to the DFCM. Although the division eventually reimbursed the contractors for some of those costs, it appears that other contractors agreed to settle their claims for an amount that was less than what they had actually spent on the project.

Some contractors said they did not attempt to seek reimbursement for the delays and loss of productivity. They told us they could not document many of the costs of the delays and, given the circumstances, decided that it would be too difficult to hire an attorney and pursue a formal claim against their general contractor or the division. In addition, some subcontractors seemed reluctant to file a lawsuit against their general contractor or the division because they feared it might hurt their chances of receiving a state contract in the future.

Contractors Performed Extra Work Because of Design Problems

As mentioned in Chapter II, the project designs were not as complete as they should have been. The design team was of the opinion that the plans were adequate and the contractors should resolve questions about design issues on their own. As a result, a considerable amount of additional design work was performed by contractors without the authorization that should have been provided through a formal change order.

One of the most common complaints we heard from contractors was that the design team did not have enough personnel on the job site to answer questions about the designs and to solve the design problems they encountered. Some requests for clarification of the designs took anywhere from several days to several weeks. According to one contractor, the construction on one building was halted for 42 days while they waited for the design team to resolve a problem with the designs.

Contractors Were Compelled to Resolve Design Problems on their Own. Because of a tight deadline caused by the approaching Olympic Games and because the design team was taking a long time to address requests for information and to process change orders, many contractors and subcontractors were forced to solve design problems on their own. Contractors and subcontractors also told us that due to some omissions in the designs, they were required to perform additional work that was not described in the project specifications.

Contractors spent extra time working through design issues without input from the designers.

The design team did not feel obligated to address minor omissions to the plans.

Unfortunately, after the final phase was completed, the general contractor and many subcontractors could not agree on the cost of the additional work performed. Some subcontractors report that they had made a verbal agreement with a certain project superintendent to perform additional work. That project superintendent died before the project was completed and before the terms of payment were documented. The subcontractors told us that when they requested payment from the general contractor, they were asked to provide evidence that they had performed the extra work, but they could not provide the documentation requested.

We determined that many contractors were paid for the additional work performed. However, it was impossible for us to determine whether contractors were fully compensated for the cost of the design changes they had to make on their own. In some cases, it appears the contractors vastly overstated the amount of additional compensation they were due. In other cases, contractors say they agreed to a settlement that did not cover the full cost of the extra work they performed.

Confusion about Performance Based Procurement Caused Many Delays. As mentioned in Chapter II, one of the underlying cause for the errors and omissions in the plans, particularly during the final phase of the project, was the confusion surrounding the performance based procurement system. The design team and some division staff believed that the contractor and not the design team should be responsible for resolving any errors and omissions in the designs. For this reason, the design team did not feel obligated to address what they believed were minor omissions in the designs or to provide additional staff on the job site to answer contractor questions. On the other hand, contractors expected that the project managers would take a more traditional approach towards handling design issues and that the design team would take responsibility for omissions in the designs and for change orders.

Legal Posturing and Work Disputes Delayed Payments

Some contractors experienced a serious financial strain because payments were delayed up to 3 years for the extra work they performed on the Student Housing Project. Payments were delayed for a variety of reasons. For example, claims and legal issues had to be resolved before payments would be authorized. In addition, some contractors could not provide adequate documentation of their work to justify payment.

Claims and other legal issues caused payments to be delayed.

Finally, in some cases payments were retained because work was not satisfactorily completed.

Legal Issues Caused Many Payment Delays. Several contractors experienced severe financial strain because payments were held up by claim disputes with the division. In some cases the contractors' claims took as long as three years to resolve. During that time, the contractors not only had to finance their ongoing operations but also had to pay the cost of attorneys and consultants to resolve their disputes with the division. In some cases, the contractors may not have been fully compensated for the interest expense and legal fees they incurred during the process of resolving their claims.

A utility contractor on the Student Housing Project claims to have spent hundreds of hours of staff time in order to pursue its claim for additional compensation on the project. Because the request for additional compensation was challenged by the division, the company filed a formal claim that took nearly three years to resolve. During that time, the division, university and the contractor spent a great deal of time filing claims and counterclaims and negotiating such matters as who should sit on the expert panel that was to review the claim. While the claim was being litigated, the company reports that it had to liquidate about \$2.5 million of assets and several of the partners in the company had to mortgage their homes to save the business. Eventually a settlement of the claim and counter claim was reached, but the firm still reports that it incurred a loss on the project. They claim there was no compensation for the cost of loans to keep the business going or for the legal fees incurred to pursue the litigation. The company was able to avoid bankruptcy, but according to company officials, they are not as financially strong as they were prior to the Student Housing Project. They also claim they no longer have the financial resources to do large construction projects.

One subcontractor hired to install a heating ventilation and air conditioning (HVAC) system also reported having a problem with payments being held up by dispute resolution. Claims were filed because the company was not paid for added costs required by change orders. Although this claim took nearly three years for the state to settle, the delay was not completely the fault of the state. The general contractor's attorney took nearly a year and a half to prepare and file the claim on behalf of the subcontractor. The claim was for damages of about \$2

million, but the HVAC contractor settled for \$1 million. The subcontractor reports that he accepted the settlement offer because he did not have the time nor resources to pursue the claim in court. Although the HVAC subcontractor recovered a settlement of \$1 million, he claims they were not compensated for an additional million dollars of costs incurred for attorney/consultant fees needed to help the company pursue the claim and for the interest they were owed on the delayed payments.

Some Contractors Were Not Paid Because of Insufficient Documentation. Several subcontractors claimed they were not fully compensated for all the materials and labor they provided for the project. One contractor said he made many changes and modifications to the landscaping that were not covered by formal change order. Instead, the work appears to have been performed under a verbal agreement with the general contractor's site superintendent. Apparently, the site superintendent instructed the contractor to make certain modifications for which he would be reimbursed at the end of the project. However, the contractor failed to maintain any documentation for the extra work provided. Then, when the superintendent died before the project was completed, the new site superintendent would not authorize payments for any work that was not documented.

On the other hand, the same general contractor said that his subcontractors were always compensated for any costs that were properly documented. He also said that contractors were always paid promptly as long as the reimbursement request was not under review or part of a claim. He recognizes not all subcontractors are effective record keepers, and documentation of costs can be complicated and time consuming. Several subcontractors admitted that such detailed cost documentation may not be worth the effort. We suspect that some subcontractors did not recover all of their costs or they were paid late because some of the documentation was missing and/or costs were under review.

Other Contractors Were Not Paid Because Work Was Not Finished. A few of the subcontractors we interviewed said that their general contractor required them to do extra work that was not part of their contract if they expected to get paid.

The general contractor refuted this accusation and reports that each contractor was paid for all the work they had completed. General contractors are allowed to retain part of the total compensation until after

Payments were withheld if work was not completed or if documentation was incomplete.

the final completion to assure that subcontractors don't walk off the job if their work does not pass final inspection. The general contractor said that one subcontractor had actually left the project early without finishing the work and then claimed he was not paid for all the work he performed. Another subcontractor making similar accusations was not paid his final retention amount because he didn't complete the work. In both cases the general contractor had to hire other subcontractors to finish the work that should have been completed by the contractors who left the project early.

Contractors Share Some Responsibility for Their Financial Losses

It is unfair to place all the responsibility for the business failures on the Student Housing Project. Certainly, some firms suffered financially because of their involvement in the project. In some ways, the division, its architect and the university each contributed to the project's delays and cost overruns. However, many of those additional costs were paid for through change orders. On the other hand, each of the firms that filed bankruptcy also made mistakes that contributed to their own financial losses on the project. Furthermore, some of the companies were already facing serious financial difficulty before they even began the project. We were not asked to determine the extent to which any one party should be held responsible for the problems with the project nor did we have the time and resources to make such a determination.

Subcontractors Faced Financial Difficulties Before the Project Began

The court documents filed show that each of the subcontractors who filed bankruptcy was already facing serious financial problems before they began the Student Housing Project. The court documents show that the losses attributed to the project were only partly responsible for the firms' bankruptcies. For example, one subcontractor's bankruptcy filing shows that the firm had over \$1.9 million in uncollected debts. Of that amount, \$330,000 (or 17 percent) was listed as uncollected debt from the Student Housing Project. Even the \$330,000 debt that was allegedly owed by the state was in dispute.

The other bankrupt companies also had financial problems not related to the Student Housing Project. For example, they all had substantial

**Some contractors
had financial
problems from
previous projects.**

personal debt from credit cards and bank loans, mortgages, and other problems with consumer credit. The amount of debt listed on their statements typically exceeded greatly the amounts of retainment they could have collected from the Student Housing Project. In addition, one contractor had several claims filed against him from previous jobs that added to his financial burden.

Some Subcontractors Did Not Complete Their Work

Several of the contractors claimed that they were not paid for all the work they performed. However, we found that several left the project early without completing their work. The general contractor admits that they did withhold payment from several subcontractors. However, it was only because the subcontractor failed to complete all the work he had been hired to perform.

For example, one subcontractor reports that he lost \$120,000 on the project because the general contractor did not pay him for the additional work he performed. However, we found that the general contractor did pay the subcontractor for a substantial amount of additional work on the project. In fact, due to change orders, the subcontractor was paid far more than the original contract amount. However, when the firm left the project without completing some work and after his suppliers complained that they had not been paid, the general contractor withheld the portion of the amount retained on the contract and directed those funds be used to pay the subcontractor's suppliers and for another subcontractor to finish the work.

Some Subcontractors Made Mistakes in Their Bids

Several subcontractors reported they were required to do additional work that was not included in their original contracts and they were not paid for that work. Although there certainly were problems with the project designs, we found that at least two contractors who later went bankrupt, did not clearly understand the specifications and made some serious mistakes in their bids. For example, one of the partners in a firm now bankrupt told us that there were substantial scope and design changes made to the project after the bid. Although he was required to perform the additional work, he claims his firm was not compensated for the additional labor and materials provided.

Several contractors left the site without finishing their work.

There were some costly mistakes on subcontractor bids.

It appears that some of the subcontractor's claims are not accurate. An independent consultant was asked by DFCM to examine the contractor's claims, and he concluded that the majority of the so-called design changes were identified in a contract addendum issued shortly before the bid closing date. It is possible that the subcontractor did not receive notice of the addendum or was not provided the addendum by the general contractor, but the division does not appear to be responsible for the additional work the subcontractor was required to provide on the project.

There was also a subcontractor that made several mistakes in the preparation of his bid for the installation of siding on the project. For example, he included the cost of steel gutters in his bid when the specifications required much more expensive aluminum gutters. Due to the mistakes made by the contractor, a bid was made and a contract was signed for a much lower amount than that portion of the project should have cost. It is difficult to blame the general contractor or the division when a subcontractor prepares a bid that is too low.

Steps to Avoid Problems In the Future

The division can do several things to avoid putting so much financial strain on contractors and subcontractors. Obviously, unless it is a design/build, bidding documents and design requirements need to be complete before the contract is put out for bid. If a change in the designs is needed or if additional work is necessary, a formal change order must be prepared, and the terms of reimbursement for the cost of labor and materials needs to be agreed to before the work is performed. In addition, contractors and subcontractors must be put on notice that no compensation will be provided unless they maintain a separate accounting for all of the expenses associated with the change order.

In addition, the division needs to make sure that those firms hired to work on large construction projects have sufficient financial resources and are otherwise qualified to handle a large project. More detailed recommendations regarding the division's procurement process is described in Chapter V of this report.

Recommendations

1. Unless it is a design build project, we recommend that bidding documents be completed before contractors are asked to submit their bids.
2. If a change in the designs is needed or if additional work is necessary, we recommend that a formal change order or construction change directive be prepared, and that the terms of reimbursement for the cost of labor and materials be agreed to before the work is performed.
3. We recommend that contractors and subcontractors be put on notice that no compensation will be provided unless they maintain a separate accounting for all of the expenses associated with the change order.

Chapter IV DFCM Had Difficulty Resolving Project Claims

The litigated claims on this project took a long time to settle, and two are still unresolved.

After completing the Student Housing Project, DFCM spent several years trying to resolve the claims submitted by the contractors who worked on the project. Two claims are still not resolved. DFCM should have resolved the disputes quickly and informally. One reason it took such a long time to resolve the disputes is that the division, its architect and the university were unable to recognize they shared some responsibility for the project’s delays and cost overruns. Even though there were serious problems with the way the project was designed and managed, the division director believed the problems were primarily the responsibility of the contractors who filed the claims. Furthermore, the division did not follow its dispute resolution process when responding to the claims. Instead, the division’s response actually encouraged contractors to pursue their claims in court rather than to try to reach an informal settlement. Figure 2 lists the six contractors that submitted claims at the conclusion of the Student Housing Project.

Figure 2. Contractor Claims Associated with the U of U Student Housing Project. Six contractors filed claims against DFCM for the extra costs they incurred on the project.

Contractor	Claim Amount	Settlement Amount
Utility Contractor	\$ 3,580,921	\$ 1,169,732
Architect/Engineer	2,400,000	1,000,000
Tile and Flooring Contractor	274,797	205,645
Mechanical Systems Contractor	1,643,191	1,000,000
Electrical Contractor	525,439	unresolved
General Contractor for Student Housing Phase	1,200,000	unresolved

Because two of the claims are still in litigation, the audit focused on the four claims that were settled. Comments made in this chapter apply only to those four claims.

Today the division is unlikely to become as entangled in the kind of legal disputes it encountered after the Student Housing Project. First, as mentioned in Chapter 2, projects are better managed than in the past. As a result, it is unlikely that state projects will have the same kinds of problems that can lead to claims. Second, when claims are filed, the division's new dispute resolution procedure should help the agency resolve the claims quickly through an informal process.

Procedures Existed to Resolve Disputes Quickly, Informally

The division's dispute resolution process was not followed.

The division's dispute resolution process is designed to help the parties resolve their disputes quickly, informally, and with less expense than litigation. However, the division did not always follow its procedures when it responded to the claims associated with the Student Housing Project. The following lists the features of the dispute resolution process that was in effect at the time when the Student Housing Project was underway:

- Claims shall be submitted in writing to the architect for an initial determination.
- Claims shall be submitted within 21 days of an event giving rise to the claim or after the event producing the claim is known.
- All claims shall state the specific grounds relied upon and the specific relief requested.
- The architect shall have 15 days to respond to a claim.
- The architect's decision can be appealed by requesting an informal hearing with the division director.
- The director may rely on an expert panel to investigate the claim, file a report and make a recommendation.
- The division may also require that the claim be reviewed by a mediator who is selected by the contractor from a list of three mediators provided by the division.

The alternative to the above procedures was litigation. Litigation normally results in large attorney and consultant fees and requires a great

deal of staff time. It is also quite possible that the cost of litigation will equal the amount of the claim itself. We examined some of the contractor disputes during the past several years and found that the dispute resolution procedures were largely effective at helping the division resolve disputes without litigation. In most cases, the architect or division staff were able to resolve the claims quickly. Only a few claims ever went as far as requiring an informal hearing with the division director. In most cases, division staff were able to verify the claim's validity and reach a settlement with the claimant. The only claims that the division was not able to resolve quickly were some of those associated with the Student Housing Project.

DFCM Actions Encouraged Litigation Instead of Conflict Resolution

DFCM did not follow all of its dispute resolution procedures when it responded to the claims of contractors who worked on the Student Housing Project. The division's reaction to the claims actually encouraged contractors to pursue litigation rather than an informal dispute resolution. Instead of two parties trying to resolve a claim respectfully and informally, each claimant and the division hired expensive attorneys and consultants in an effort to prove that the other party was responsible for the problems with the project. As a result, some of the claims took several years to resolve.

Disputes could have been settled more quickly if they had been turned over to an expert panel sooner.

If the division had followed its dispute resolution procedures, DFCM would have given the claims to expert panels much sooner than it did. Eventually, the division did give each of its claims to an outside expert panel. The panels helped the division and the other parties recognize that they each shared some responsibility for the claims. So while the division's use of expert panels was a success, they should have been used much sooner.

To demonstrate our concern about the division's handling of the student housing claims, we describe the division's response to two contractor disputes—one submitted by the utility contractor and the other by the mechanical contractor.

A Utility Contractor’s Claims Took Three Years to Resolve

Since DFCM did not follow its dispute resolution process, it took three years to reach a settlement with the utilities contractor. In 1999, a utility contractor on the project submitted two claims. The first was for the cost of the long delays that the contractor experienced on the project. In a second claim, the company asked to be compensated for the extra cost of installing an underground utility line that had to be placed much deeper than the plans required.

The division made several mistakes which inhibited quick resolution.

The division and the architect made several mistakes in the way they responded to the claim. It should be noted that the utility contractor settlement was expedited by the contractor’s bonding agent. All of the parties involved were at fault for problems on the project, and had the dispute resolution process been followed, an expert panel could have resolved the disputes early and could have avoided litigation. In fact, we concluded that the division’s response to the claims gave the contractor no choice but to pursue litigation rather than seek an informal settlement. The following describes some of the mistakes the division made during the dispute resolution process:

The Utility Contractor Was Required to Thoroughly Document its Claims Before the Division Would Consider Them. At the time the claim was filed, the division’s dispute resolution policy allowed claims to be submitted without detailed, supporting documentation. However, the division and the architect decided that the contractor’s claims would not be considered because the claims didn’t have detailed supporting documentation. In their response to the contractor’s first claim, the project architect said:

After reviewing the letter we categorically reject your claims for damages. We consider the claim to be unfounded and lacking in appropriate information to support your claim.

So, one reason given for “categorically” rejecting the claim appears to be that it was not accompanied by “appropriate information” to support the claim. However, the notion that contractors must provide documented evidence with each claim is inconsistent with the division’s dispute resolution procedures. The procedures state:

The division’s reason for denying the contractor’s claim was inconsistent with its dispute resolution policy.

All Claims shall state the specific grounds relied upon and the specific relief request. Detailed records supporting the Claim need not accompany the Claim, but must be maintained and made available, to the extent that such records are customarily maintained... .

According to the dispute resolution policy, contractors are encouraged to submit their claims early so the division might consider the claim and maintain open dialogue with contractors to resolve any disputes. Because of the complex nature of the contractor's claims, it would have been extremely difficult to prepare supporting evidence for the claim within the 21 day submission deadline. In addition, DFCM paid out another contractor's claims even though they were not accompanied by supporting documentation. Clearly, in the interest of resolving disputes quickly and informally, the division should not expect a great deal of documentation with each claim. To do so would greatly increase the time and expense of submitting claims and encourage contractors to focus on preparing documents rather than on completing the project.

DFCM's Director Did Not Respond to Requests for a Hearing.

The division's dispute resolution policy gives contractors the opportunity to have their claims considered by the division director. Section 4.4.4 of the dispute resolution policy states:

The Architect's decision... shall be final and binding unless a party files... a written appeal of the decision with the Director... . The Director... shall hold an informal hearing open to the parties and thereafter issue a written decision regarding the Claim.

The division director was unreceptive to the contractor's appeal.

The above policy gives contractors the ability to appeal directly to the division director so disputes can be resolved quickly and informally. As mentioned, if the Director did not wish to make a decision based on an informal hearing, he or she had the option of creating an expert panel to investigate the claim and recommend a settlement.

After its first claim was rejected by the architect, the utility contractor asked for an informal hearing with the division director. Similar requests were made at the end of 1999 and during the first part of 2000. Unfortunately, it was two years later before the contractor had his first informal discussion with the division director about his claims. The director's decision not to hold an informal meeting with the contractor

It seemed that the division was unwilling to settle the dispute.

gave the contractor no other option except to take formal legal action against the division.

DFCM Refused to Pay the Utility Contractor a Settlement Amount Offered by its Architect. As mentioned, the utility contractor submitted a claim for the additional labor and materials to lower the depth of a utility line. The architect determined the claim had merit and prepared a settlement offer. Although the offer was much lower than the amount originally claimed, the contractor was prepared to accept that amount. However, DFCM and the university both decided that they would not pay the settlement offer unless the contractor agreed not to pursue their first claim or any additional claims. Their decision to withhold the settlement was inappropriate for two reasons:

- (1) Contract documents required the project architect to identify the amount to be paid for each claim. The contracts states that the architect's decision is binding unless a formal written appeal process is conducted, which the division did not do, and
- (2) The contractor provided labor and materials that were above and beyond the scope of its contract, for which the division was obligated to pay. Withholding funds for actual materials and labor provided on the project was not in compliance with the contract.

Whether or not it was their intent, the manner in which the division responded to the contractor's claims sent a message that the division was not prepared to make good faith efforts towards fairly resolving the dispute.

Many Shared Some Blame. The unfortunate truth about the contractor's situation was that everyone involved in the litigation shared some responsibly for delays and cost overruns associated with the claim. After two years of bitter dispute, the division and the contractor finally agreed to allow an expert panel to review the claim and recommend a settlement. The panel concluded that the division, the architect, and the utility contractor had all contributed to project delays and cost overruns. The panel said:

All parties contributed both to the genesis and the perpetuation of problems encountered...though their contributions were not equal in degree. Unfortunately for purposes of resolving [the utility

contractor's] claims, both during the job and since, all parties have taken extreme positions and increasingly entrenched positions in their efforts to absolve themselves from responsibility for the delays and costs encountered.

The panel then recommended that the utility contractor be paid about \$1.1 Million which was approximately the same amount that the division would have paid if they had given the contractor what he asked for in his first claim plus the amount that the architect suggested should be paid for the second claim.

The Claim Should Have Been Given to an Expert Panel Earlier Than it Was. The mistake the division made was to sidestep its dispute resolution policies and to pursue strategies that led to litigation rather than an informal settlement. If the division had used an expert panel early in the process, the panel might have helped the utility contractor and the division recognize how they both contributed to problems on the project. In our opinion, the underlying reason for such a lengthy dispute is that the division director and his staff could not look past the contractor's mistakes in order to view their own mistakes. It appears to us that DFCM was so focused on the problems the contractor caused that they were unable to consider that others shared responsibility for the project's problems as well.

Mechanical Contractor's Claims Took Nearly Three Years to Resolve

As mentioned in Chapter II, the division took three years to resolve claims submitted by a mechanical contractor. One cause for the delay was that the general contractor's attorney took over a year to prepare and file the claim on behalf of the subcontractor. However, as soon as it was filed with the division, the mechanical contractor's claim was immediately rejected by the architect. In addition, the division director did not respond to appeals for an informal hearing.

As in the prior example, the underlying problem was that the division and the architects bore some responsibility for the conditions that led to the mechanical contractor's claim. First of all, the mechanical contractor was delayed due to design errors and omissions. Second, the design team failed to recognize their fault in the matter and defended their inadequate designs instead of making the plans workable. The architectural team

The claim was initially rejected because the division and design team did not believe they were to blame.

believed it was justified in following the principles set out by the division new Performance Based Procurement System which meant there would be no change orders and that the contractor would bear the responsibility of solving any design problems. However, the mechanical contractor had a traditional contract that allowed for change orders if there were design problems. As a result of the conflicting perceptions of how the job should run, a number of conflicts arose between the design team and the mechanical contractor.

The division and the design team were not convinced that they shared any responsibility for the mechanical contractor's claim until it was reviewed by an outside panel of experts. The panel concluded that the division should pay the mechanical contractor for the extra costs he incurred on the project. The division's handling of the mechanical contractor's claim is another example of how important it is for the division to follow its dispute resolution process and to use expert panels when claims are contested.

A Mechanical System's Contractor Was Delayed by Design Errors. A contractor installed the plumbing, heating and air conditioning systems for the 13 buildings in the last phase in the project. On several occasions, the mechanical contractor found that it could not proceed with the work because of errors and omissions in the plans. For example, the design for certain plumbing system were in conflict with structural building designs. Plans indicated that the plumbing was to be installed within the same space occupied by structural beams. Because it was physically impossible to install the plumbing as designed, the construction on some buildings had to be stopped while the mechanical contractor and the architect tried to resolve the problem. Eventually, the design team refused to offer a solution to the problem and insisted that the mechanical contractor solve the problem on its own.

Design errors and omissions delayed the project and were very costly.

The architectural design errors proved to be very costly. They delayed the project and reduced the mechanical contractor's productivity. In addition, design changes and solutions required additional materials and labor that otherwise would not have been used. To recover those costs, the contractor was careful to send the architect a notice of claim each time he encountered a problem. After the project was completed, the contractor submitted a formal claim requesting compensation for the delays and cost overruns due to the following four problems:

- Conflicts between the underground piping and the footings of certain buildings;
- Conflicts between the mechanical rooms piping and electrical and fire sprinkler systems;
- Conflicts between the plumbing system and the structural steel beams; and
- Spacing errors where the plumbing systems were to be installed in the attic.

The mechanical contractor raised concerns about the above design issues and repeatedly requested instructions from the architect regarding how the work should proceed.

The Design Team Failed to Recognize Its Own Errors. Each time the mechanical contractor submitted a claim, the architect indicated that the contractor was responsible for resolving the design issues on its own, not the architect. For example, in response to the mechanical contractor’s question about plumbing conflicts with structural systems, the architect quoted the design specifications that said the drawings are merely “diagrammatic” and that it was the contractor’s responsibility to:

carefully study building sections, space, clearances, etc., and then provide offsets in piping or duct work to accommodate the building structure, without additional cost to the Owner.

The architect maintained that the plans were adequate, and the contractor needed to work around any conflicts that it found in the designs. Based on this understanding, the architect also decided not to approve any payment for additional costs caused by design errors and omissions.

The Architect Followed the Performance Based Procurement System. According to the architect, designs were supposed to act as a general guide for the contractors to follow. Such thinking had its roots in the division’s new method of selecting contractors. As mentioned in Chapter II, the architect assumed that new guidelines for the performance based procurement system relieved the architect of its contractual obligation to address any errors and omissions in the designs and review and change orders. In keeping with the requirements of that procurement method, the design team observed that:

The design team believed design modifications would be resolved by the builder, and there would be no change orders allowed.

Under PBPS there are no change orders. A project is bid as a complete project, no change orders are allowed and there is no haggling. Bidders are asked to anticipate where architectural drawings are incomplete and build that into their bids.

Based on the above statement, it appears that the design team was only trying to follow the rules that it thought governed the last phase of the project. In keeping with those rules, the design team felt contractors needed to address design problems on their own without any change orders.

The Mechanical Contractor Followed the Contract. In contrast to the design team's belief in the performance based selection process, the mechanical contractor believed that he was obligated to follow the traditional rules found in the division's basic construction contract which had been signed by all the parties involved in the project. Although the contracts were awarded based on a performance based selection, the contract allowed change orders and required the owner and its architect, not the contractor, to address any problems with the designs. The contract states:

Any defective Drawings, Specifications, or other Contract Documents furnished by the Architect shall be promptly corrected by the Architect at no cost to the Owner, and the Architect shall promptly reimburse the Owner for all damages, if any, resulting from the use of such defective Drawings.

The contractor believed and the contract indicated design changes should be resolved by the owner and the design team.

For approximately three years the division and the contractors could not resolve their disputes because they had different expectations regarding the contractor's role. The architect believed he was implementing the division's requirements according to its new Performance Based Procurement System. However, the contractors followed the division's contract which described a traditional relationship between the architect and the contractor in which the architect was responsible for any changes in design.

An Expert Panel Concluded the Division and the Design Team Were Responsible. It took nearly three years for the division to decide that the mechanical contractor claim should be reviewed by an expert panel. There were several reasons for the delay, but the primary problem was that the division and the architect did not believe that the owner

should have to pay for errors in the plans. However, the expert panel concluded that the division and the architect were largely responsible for the design errors. Only after the panel expressed its opinion did the division finally acknowledge that it was obliged to cover the added costs due to design errors.

In a DFCM report, a division staff member admitted that he had incorrectly accepted the architect's position on the claims. He said:

In each of the changes [made by the contractor], the [architect] could have avoided the costs by coordinating the design appropriately ...At this point it is clear to me that the costs to the contractor are extra to the contractor's agreement. Up until this time I have defended the [architect's] position of these issues, but with the information which the contractor has provided and with further analysis, I now make recommendation for payment.

The above statement was made in September 2002. It is a concern that the division took almost three years to arrive at this conclusion. We can only speculate about what might have happened if the division had closely followed its dispute resolution procedures. If an expert panel had been assembled soon after the claim was filed, the division might have recognized its responsibility and avoided three years of litigation.

Future Disputes Will Be Resolved Quickly and Informally

The division has taken steps to improve its dispute resolution process. The division's new policy requires that certain steps be carried out after a claim is submitted and that each step be completed within a certain time period. These requirements should ensure that informal remedies, such as an expert panel, are used immediately.

DFCM's New Rules Clarify the Steps For Administering a Claim

The new policy reaffirms the division's intent to resolve claims quickly, through an informal process if possible, and in a way that minimizes costs to involved parties. The old dispute resolution policy was found only in the division's standard contract documents and was described in rather

The dispute resolution process has been clarified and formalized.

general terms. The new policy formalizes the dispute resolution process in the division's administrative rules. The new rules describe a much more detailed process than the contract documents, leaving little doubt as to the steps that must be followed by those submitting a claim. This policy will eliminate many of the problems that prevented the quick resolution of the claims from the Student Housing Project.

The new rules help clarify the requirements for initiating a claim. They require contractors to first submit a "preliminary resolution effort" or PRE. A PRE allows a contractor to ask that the division make an informal, preliminary review of a problem in an effort to resolve any issue before it becomes a formal claim. In addition, the rules specify that a PRE contains (a) a description of the issue, (b) possible impact on cost, time, or other breach of contract, and © an indication of the relief sought. DFCM can request additional information if the claim cannot be resolved immediately.

The new policy also establishes time requirements for completing each step in the dispute resolution process. The new rules allow 14 days after a claim is filed for the contractor and the division director to decide upon the method of evaluating the claim. They may choose an expert panel, a mediator, an arbitration process, or any other method that the two parties agree to. The rules also indicate the division should resolve claims within 60 days, unless the claimant agrees to a time extension. In our view, the new time requirements for each step in the dispute resolution process will encourage the division and its contractors to resolve claims quickly. We encourage the division to continue to follow its new dispute resolution policies.

Recommendation

1. We recommend that the division continue to follow its new dispute resolution policies.

Chapter V

Procurement Process Has Improved but Needs Minor Adjustments

In recent years, the division's new method of selecting contractors called "Value Based Selection" (VBS) has produced positive results. In 2001 the division began to award construction contracts based on which contractor offered the best value—not just the lowest bid. Since implementing VBS, the division is receiving better quality work that is completed earlier and without as many expensive change orders. Furthermore, increases in the division's reserve fund suggest that contractors are doing a better job of keeping project expenses within budget. However, the selection process partially relies on subjective evaluations of contractor past performances, management plans, schedules, etc. and some contractors question whether the division is entirely fair in how it selects a contractor. The division can improve the fairness of its Value Based Selection process by: (1) communicating project expectations, (2) following its selection procedures, and (3) providing contractors with feedback about their proposals. The division also needs to complete the implementation of the recommendations of the ad hoc committee that reviewed its selection procedures.

Value Based Selection Is Saving Time and Money

By selecting contractors based on qualitative factors as well as cost, DFCM is hiring better general contractors for its projects. The factors considered include the contractor's proposed management plan, the staff's qualifications, the firm's past performance, and the strength of the management team. Because the division is hiring better qualified contractors, more projects are completed on time and within budget, less money is spent on change orders, and the division's reserve funds have increased.

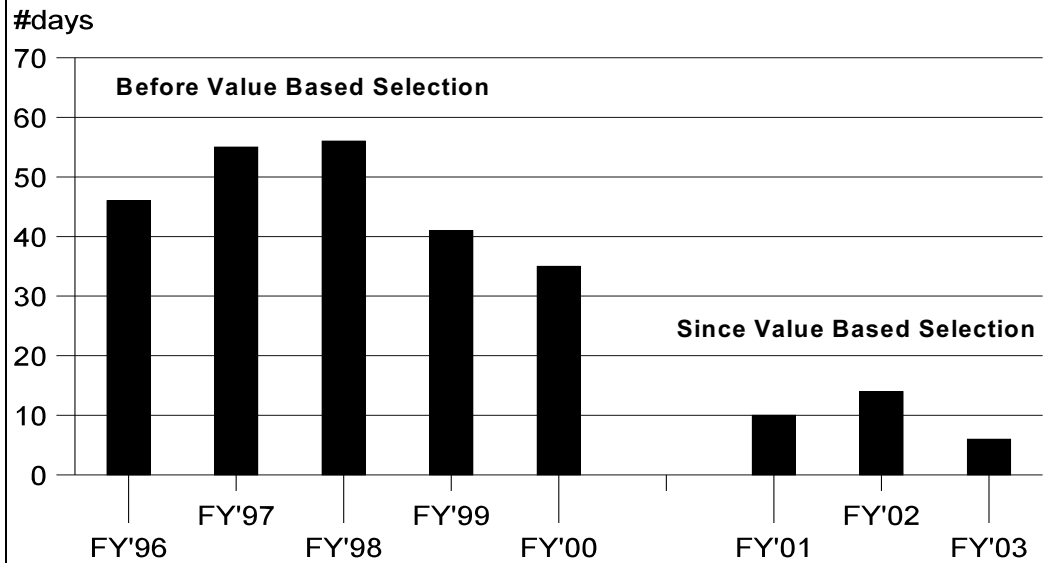
Contractors Are Completing More Projects on Time

Before Value Based Selection was used, projects were usually completed more than a month behind schedule. However, since 2001

Value Based Selection (VBS) procures contractors based on experience, management skills, and quality.

when the division began the new selection process, most projects have been finished within a week of their scheduled completion date. Figure 3 shows that during the years before Value Based Selection was used, contractors usually finished their projects well after the scheduled completion date. During Fiscal Year 2000, for example, projects were completed an average of 35 days late.

Figure 3. More Projects Are Completed on Schedule. Value Based Selection has reduced the average number of days that projects are completed past the scheduled completion date.



In Fiscal Year 2001, after the division began using Value Based Selection (VBS) to award contracts, the contractors had an incentive to complete their projects on schedule. They knew that their performance on the project would be considered the next time they competed for a state contract. As a result, projects are being completed much closer to their scheduled completion date. For example, contracts that were awarded in Fiscal Year 2003 were completed in 6 days, on average, after the scheduled completion date.

Additional Project Costs Have Dropped Significantly

The use of Value Based Selection has also reduced the cost of state construction projects. We found that the amount spent on change orders

VBS has helped to reduce contractual time overages by 83 percent since 2000.

has declined significantly since the time that Value Based Selection has been used to award contracts.

As mentioned in Chapter II, a change order is produced whenever a change is made to the project's original design. Usually a change order increases the cost of the project. Between 1996 and 2000, DFCM spent about \$11 million each year on change orders. Since 2000, the cost of change orders dropped to only \$2 million a year. Figure 4, below, describes the number of change orders per contract before and after the division began using Value Based Selection. This figure also shows the division's annual expenditure on change orders before and after the new selection process began.

Figure 4. Change Order Costs Dropped Significantly. Costs dropped 80 percent after instituting Value Based Selection (VBS).

	Before VBS FY 1997 - 2000	After VBS FY 2001 - 2003
Average Annual Expenditure for Change Orders	\$11,198,000	\$2,279,000
# Change Orders Per Contract	1.28	1.88

The average annual expenditures for change orders declined from \$11 million per year to only \$2 million per year. This decline occurred at a time when the state was increasing its expenditures on construction. At the same time, the number of change orders per contract increased slightly in recent years. During the 1997 to 2000 time period, there were 1.28 change orders per contract. The number increased to 1.88 per contract during the 2001 to 2003 period.

The contractor community told us that the division's use of Value Based Selection is the cause for the reduction in change orders. General contractors told us that they have an incentive to show the division they can control costs so they can obtain a favorable evaluation at the end of the project. Contractors put together their best teams for state projects resulting in better communication, scheduling, responsiveness, and cost savings.

VBS has reduced average change order costs from \$11 million to \$2 million annually.

Reserve Fund Balances Have Increased

Another benefit of Value Based Selection is that the division's Contingency Reserve and Project Reserve Funds have increased. The Contingency Reserve Fund is used to deposit five percent of budgeted funds for any additional and unexpected costs on a project. DFCM deposits savings from state projects into the Project Reserve fund. Excess dollars from these funds are used by the Legislature for future projects or DFCM administrative costs. Recent increases in the reserve funds suggest that DFCM contractors are doing a better job of keeping project expenses within budget. Figure 5 shows the increases in the Contingency Reserve and Project Reserve Funds since the year 2000.

Figure 5. Reserve Funds Have Increased Since 2000. Since Value Based Selection was implemented, more than \$30 million has been added to the division's reserve funds.

	2000 Balance	2004 Balance	Funds Expended 2000-2004	Net Increases 2000-2004
Contingency Reserve Fund	\$1,702,000	\$ 6,380,100	\$15,740,900	\$20,419,000
Project Reserve Fund	3,050,700	4,390,800	8,409,300	9,750,00
Reserve Fund Totals	\$4,752,700	\$10,770,900	\$24,150,200	\$30,169,000

The Legislature has been able to re-appropriate \$9.1 million from project savings.

Since the year 2000, the reserve fund balances described in Figure 5 increased from \$4.7 Million to \$10.7 Million. Over \$24 million of the \$30.2 million in net fund increases have been expended. Approximately \$9.1 million was reappropriated by the Legislature for additional projects and administrative costs. The remaining \$15.1 million in funds were expended by the division according to their statutory directives. The growth in the two funds along with Legislative reappropriations indicate that Value Based Selection has provided cost savings for state construction.

Since VBS was implemented, contractors have provided better quality for the state's dollars.

In summary, the use of Value Based Selection has helped the division improve the quality of contractors it hires. For the most part, the division is receiving better quality work that is completed earlier and without as

many expensive change orders. However, the following describes some of our concerns about the fairness of the selection process.

DFCM Must Address Perception That Selection Process Is Unfair

One concern we have about Value Based Selection is that many contractors believe the process is unfair. Some believe that the contracts are not always awarded to the firm that best meets the published selection criteria. In fact, we observed instances in which members of the selection committee based their decisions on factors other than the value-based criteria. We recommend several improvements to help the division make sure the selection process is fair and selection of a contractor or architect is based on the published criteria.

Division Must Communicate Project Expectations

DFCM can do a better job of communicating what it expects from contractors and the criteria they will use to evaluate each proposal. Even though the division publishes the selection criteria in its request for proposals, many contractors still told us they did not understand what was required to prepare a winning proposal. For example, a representative from one major firm told us his firm has submitted proposals they thought would surely win the contract and were surprised when it did not. In contrast, he said they have submitted other proposals they thought were not as well prepared that won contracts. The experience of this contractor and others has led some to question whether the process is really based on the selection criteria or if other factors are considered as well.

Clearly, the division has an interest in helping contractors understand exactly how their proposals will be evaluated. The more contractors understand about the division's expectations, the better contractors will be able to submit proposals that meet DFCM's needs. On the other hand, we also found that some contractors can do a better job of listening to what the division and the user agency have to say about a project.

The Division Should Clearly Describe its Selection Criteria. Many of the criticisms we heard from contractors regarding Value Based

Selection process must be fair and credible.

DFCM must communicate what it expects from contractors and the criteria they will use to evaluate each proposal.

DFCM will receive better bid proposals if they improve their explanations of project and selection criteria.

Selection dealt with the lack of information regarding the division’s selection criteria. Many contractors complained they did not know which of all the division’s selection criteria was the most important— whether the proposed management plan, the project schedule or the prior experience is given the most weight. As one firm suggested, “The division needs to be more clear about the criteria and be systematic in how they evaluate proposals.”

We found that the division does not provide much written information regarding its expectations for each project. The bulk of each request for proposal contains standard boilerplate language. Some requests for proposal only contain a few paragraphs describing the criteria that will be used to select a contractor. (See Appendix A for the selection criteria used to award the contract for a \$30 million housing project at Utah State University which contains only three paragraphs of information). Contractors believe the document does not provide enough information, and some suspect there are other factors considered by the selection committee that are not described in the request for proposal.

In contrast, one local contractor provided us with the requests for proposal they had received for four private sector projects. The requests for proposal contained many pages describing the information needed in the proposal and even described how the contractor should organize the information.

Lack of Detail Suggest Division Does Not Know How it Will Evaluate Proposals. On four occasions we observed the selection committee carrying out its process of reviewing proposals and awarding contracts. Sometimes, we felt the committee and the division staff supervising the selecting process did not know beforehand exactly what criteria they would use or the precise method they would use to evaluate the proposals. Perhaps the division had not spent enough time consulting with the user agency to define their expectations for the project. On the other hand, the Value Based Selection process may be so new and untested that division staff are still developing the criteria and the procedures for evaluating proposals.

Some Contractors Can Also Do a Better Job of Listening to the Division and User Agencies. Some contractors can also do a better job of listening to what the division and the user agency wants from a contractor. Several contractors did not seem to listen to what the division

DFCM does not always communicate selection criteria effectively to the selection committee.

Contractors need to understand what the owner wants and make their bids accordingly.

and the user agency were trying to tell them about their expectations for the project. For example, during the selection process for a major design-build project, the division and the user agency held three meetings during which contractors and architects were briefed about the user agency's expectations for the project. The user agency also allowed architects to present some of their preliminary drawings and to receive feedback from the agency staff. Although we thought the user agency gave some helpful criticism about some of the architect's designs, we were surprised that the architect did not address the concerns of the user agency and submitted the designs with relatively few changes. While it appears that the division and the user agency can do a better job of communicating expectations to contractors, some contractors and architects can also do a better job of listening to the instructions they are given.

DFCM Needs to Follow its Own Selection Procedures

We observed four instances in which the selection committee did not follow the division's rules and procedures. Part of the problem may be that the division is still in the process of developing its value-based selection process. Our concern, however, is that the division may lose credibility and be perceived as unfair if the selection procedures are not followed exactly and if the selection committee considers other matters besides the published selection criteria.

Selection Procedures Not Followed. We examined the process used to award two major construction contracts and were surprised at how different the procedure was each time. It appears that the division didn't have a formal procedure for conducting a selection process. For example, each committee seemed to use a different method of scoring the proposals. There were differences in how the scores were tallied and the degree to which the committee relied on the score to make their final decision. In addition, sometimes the scores in each category were given a weighting, and sometimes they were not. From our perspective, the inconsistencies we observed must be eliminated from the division's selection process.

One concern, however, is that the division risks having its selection challenged because the division's procurement procedure was not followed. For example, on one occasion the selection committee's vote resulted in a tie when one of the five committee members abstained due to a conflict-of-interest. As a result, two members voted to award the

**DFCM has not
always followed
their selection
procedures.**

contract to one firm, and two voted in favor of another firm. After a lengthy debate, the group was still deadlocked, so they decided to award the contract based on a coin toss.

The problem with the coin toss is that it was a solution that was not provided for in the division's selection procedures. Instead, the written procedures required the committee base its decision on the selection criteria described in the request for proposal. The committee should either have compared the scores they had given for each selection criteria (which they appear not to have done), or they should have compared the fee proposal issued by the two firms. Though only slight differences existed in these areas, the committee still should have relied on one of the selection criteria to break the tie rather than selecting the firm through chance.

Although the division has developed a new procedure to address the problem of what to do with a tie vote, the case describes the risk of not following a systematic and consistent process of selecting a contractor. The division's credibility will be questioned and the decisions made by the selection committee may be challenged in court. In fact, a representative from the firm that was not awarded the contract in the example above questioned the result because his firm did submit a lower fee proposal than the winning firm. His comment was that:

We believe that in the absence of rules, other contractors and our professional associations would not endorse this precedence of selecting a construction manager....

DFCM and end-user agencies need to make sure project criteria and expectations are clearly articulated for their building projects. In addition, the division needs to make sure the criteria are applied. Otherwise, contractors will question the fairness of the division's selection process.

Some Decisions Were Not Based on the Selection Criteria. After observing four selection committee meetings, we noted two cases in which members of the selection committee based their decision on factors other than those listed as criteria in the request for proposals. For example, during two selection procedures, some committee members appear to have been influenced by the fact that one particular firm had already done several other projects for the user agency. The committee members suggested that selecting the contractor once again might make it

Contractors will lose faith in the selection process if DFCM does not follow its procedures.

Contractors should be selected based on the selection criteria.

If selection committees and contractors are focusing on project criteria, selections will provide quality contractors for state projects.

appear that the selection committee members were giving unfair preference to that firm.

In another case, the member of the selection committee gave preference to the contractor that committed to work with local subcontractors. Again, the selection criteria made no mention that preference should be given to firms who promise to hire local subcontractors.

In each of the above mentioned cases, the DFCM Project Manager that conducted the selection meeting should have directed the selection committee to focus on the scoring criteria. As noted, DFCM should also clearly explain their scoring criteria in the request for proposals so that committee members and contractors understand how the committee will make its decision. If selection committees and contractors are focusing on project criteria, selections will continue to improve and provide quality contractors for state projects.

Contractors Need Honest Feedback about their Proposals

Once the selection process has been completed and a contractor is chosen, DFCM needs to give clear and honest feedback to those contractors who did not win the contract. By doing so, DFCM will help contractors understand why they were not awarded a contract and how they might prepare better proposals in the future.

Firms Are Given Inadequate and Sometimes Inaccurate Feedback Regarding Their Proposal. After a selection process is completed and a contractor is chosen, contractors are invited to visit with division staff and receive feedback about the strengths and weaknesses of the proposals they submitted. This service is provided by the division in order to help contractors be aware of the weaknesses in their proposal and to help them submit a better proposal the next time. Each of the contractors we interviewed agreed, with one exception, that they have not been helped by the division's feedback. Most contractors told us that even after meeting with division staff and comparing their proposal to the winning proposal, they could not understand why they were not the contractor selected. Even some firms that were awarded contracts told us they did not know why their proposal was the one chosen by the division. As a result, the

DFCM should provide contractors with specific feedback about their bid proposals.

process of receiving feedback from the agency has only reinforced the perception that the selection process is arbitrary.

The division could provide contractors with more specific and honest feedback about the strengths and weaknesses of their proposals. When we observed the selection committees in action, we found that some of the reasons they gave for giving a contractor a low rating were not always disclosed to the contractor after the committee made its selection.

For example, we observed the process of selecting the general contractor who would oversee the construction of a large building at one of the state's universities. The selection committee observed that the contractor proposed a much shorter schedule than the other contractors—which should have been viewed favorably by the committee if the schedule was considered viable and well-prepared. However, the committee members also commented that the contractor was too quick to dismiss the committee's concerns about certain problems, such as the problem of having to work around all of the utilities on the construction site. Some members of the committee assumed the contractor had not spent much time on the site and was, therefore, naive about the challenges he would face on the project. The committee members suggested that if the contractor had a better understanding of the schedule and the utility problems, the contractor would not have submitted such a short schedule and would not have minimized the utility problem.

Better feedback will yield better bid proposals for DFCM to consider for future projects.

At the conclusion of the selection process, the committee identified their reasons for selecting the winning proposal and the reasons for rating other proposals lower. We found the committee did not describe all of the reasons why they were concerned about the contractor mentioned. Perhaps the committee and the division staff did not want to provide too many details because it might have offended the contractor. In addition, they may have also wanted to avoid an argument with the contractor about how well, for example, the contractor really did understand the challenges presented by the utilities on the project site.

In other cases we found the committee gave low ratings to proposals because they included individuals who did not perform well on prior projects. In order to avoid offending the contractors, the committee and the division staff seem reluctant to explain all the reasons why the proposal was not given a high rating—including the fact that they did not want certain individuals on the project. Instead of telling them exactly

why they did not like the makeup of their management team, the committee provided just a minimal amount of information regarding the weaknesses in the proposal. However, we believe that contractors need to know if certain personnel are making it difficult for them to receive state contracts.

Committees Changed Their Scores Before Making Them Public.

DFCM has also provided inaccurate information regarding the scores given by its selection committees. On two occasions we observed that after a winning contractor was selected, the division staff member invited the selection committee to modify any of the low scores they had given. Because the scores are made public, the staff member said he was reluctant to disclose that a certain contractor received an extremely low score in a certain area. The division staff suggested that contractors that did not receive the project might believe they were blackballed by certain committee members unless the criteria scores were increased.

**DFCM should
publish the true,
unaltered selection
committee scores.**

In the long run, the division may be making it more difficult to convince contractors that the Value Based Selection process is fair if they do not provide an accurate reporting of why one firm was awarded the contract and why others were not. In fact, the division may be hurting itself because the contractors need honest feedback in order to help them prepare better proposals in the future. We recommend DFCM provide contractors with more accurate and complete information regarding the strengths and weaknesses of their proposals. The division should also publish the true, unaltered selection committee scores.

Implement All the Task Force Recommendations

In 2003, the division created two ad hoc committees to examine the Value Based Selection process. One committee examined how the process was being used to procure construction services. The other committee considered how Value Based Selection was used to obtain architectural and engineering services. In December 2003, the task force group presented over 35 recommendations to the State Building Board who then gave formal approval to the recommendations.

DFCM has implemented most of the task force recommendations, and, as a result, the selection process has improved. On the other hand, we determined that some of the recommendations had not yet been

DFCM has implemented most but not all of the VBS Procurement Committee's recommendations.

implemented. Other recommendations were only partially implemented. The following describes the recommendations that have not yet been implemented or only partially implemented:

- DFCM should provide specific detailed descriptions of the Value Based Selection criteria in the project RFP;
- DFCM should clarify RFP explanations of management plan, schedule, and statement of qualification requirements for contractors. A general outline for required documents should be included in the RFP so that contractor submissions will contain information necessary for evaluation. Appropriate page limits should be set for project submission documents;
- DFCM should weight criteria so qualification scores can be arrived at mathematically. Criterion weights of criteria importance to the success of the project will be enumerated in the RFP. Criteria should also be listed in order of importance;
- Non-voting user representatives should be allowed to observe interviews yet their participation should be limited to interaction with only the user's voting member. They should be dismissed from the selection committee once deliberations and voting commences.
- DFCM should conduct a mandatory financial audit at Construction Manager/General Contractor project closeouts.
- DFCM past performance evaluations should include contractor evaluations throughout and at the end of the project. Past performance reports should include a narrative component listing successes and concerns. The contractor should have an opportunity to review the evaluation and make any comments. Once completed, the evaluation should be reviewed by the DFCM director. The full evaluation should be provided to future selection committees;
- DFCM needs to improve training of project managers and selection committee members on the appropriate methods of scoring contractors in selections in order to achieve more uniformity in scoring;

DFCM is actively trying to strengthen the integrity, fairness, and consistency of the VBS process.

- DFCM should require committee members to complete a preliminary scoring of contractors based on submissions prior to the interview. DFCM must better indicate proper scoring techniques to selection committees and provide a scoring range such as: 1 = Poor, 3 = Average, 5 = Exceptional;
- DFCM should encourage selection committees to avoid rewarding excessive detail;
- In order to avoid disclosure of information about competitors' proposals, DFCM should only disclose the scores given to each firm not short listed at that time.

The division reports they are still in the process of implementing the above recommendations and all of them will be implemented soon. Although we strongly encourage the division to take action on these items, we recognize the division needs to exercise great care when changing its selection process. Each change requires careful thought and consideration in order to avoid any unintended consequences that might affect the outcome of a selection process.

By acting on the recommendations in this chapter, DFCM will send a message to all interested parties that it cares about strengthening the integrity, fairness, and consistency of its selection process. As the process continues to improve, Value Based Selection will provide quality contractors needed for state construction projects.

Recommendations

1. We recommend that DFCM provide specific, detailed descriptions of the Value Based selection criteria in the project RFP;
2. We recommend that DFCM provide contractors, when requested, with complete and accurate feedback regarding the strengths and weaknesses of their proposals.
3. We recommend DFCM ensure that selection committee base their decisions on the selection criteria described in the request for proposal and avoid considering other factors.

4. We recommend DFCM complete its implementation of the remaining Value Based Selection Procurement Committee's recommendations.

Chapter VI

Few Problems Found with Remaining Areas of Concern

We found few problems with several areas of concerns raised by legislators. In addition to the issues described in the previous chapters, we investigated a five areas in which we found few problems. After a brief review, the audit team determined that: 1. DFCM construction delivery methods are used wisely and according to industry standards, 2. DFCM promptly pays its general contractors, 3. DFCM and its general contractors employ a wide variety of subcontractors on state projects, 4. General contractor conflicts of interest issues are managed properly, and 5. the Owner Controlled Insurance Program (OCIP) issues are obsolete since the program was dropped last year. The following briefly details the findings regarding each of the above areas.

Construction Delivery Methods Are Used Appropriately

The division uses several methods of construction depending on the needs of the owner agency. Most major projects are built using the construction manager/general contractor method or “CM/GC.” Typically, the division begins a CM/GC project by hiring two separate groups. First they hire an architectural firm to prepare the designs and then a construction management firm to act as the general contractor and oversee the hiring of subcontractors and the actual construction of the project. The architect designs the project with input and cost evaluations from the general contractor. Once the design and construction plans are complete, the design team and general contractor work together to manage the project. The CM/GC method shifts much of the responsibility for the project’s success to the architect and the general contractor rather than on DFCM.

Design/Build is another method of construction that is often used by the division. The design-build method is best for construction projects that have tight time constraints and do not have demanding design requirements. A team of contractors consisting of a construction manager

DFCM uses 3 construction methods: CM/GC, Design/Build, and Design/Bid/Build.

and their architect are hired to simultaneously design and build the structure.

Finally, the traditional design-bid-build method is best suited for small projects that do not have complex design or construction management requirements. First, an architect is hired to design the project, then the division awards a construction contract based on the low bid method of selection, and then the winning contractor builds the project according to the designs.

We determined that the division is appropriately using each of its methods of construction. The division uses CM/GC for its larger projects, design/build for projects that require quick completion and which do not have demanding design requirements, and design-bid-build for small projects with minimal design requirements.

Payments to Contractors Made on a Timely Basis

We determined that the division is paying its contractors in a timely manner. The contract standard for DFCM is to make payments once a month. Payments must be first approved by the architect then by a DFCM project manager before a payment is issued to the contractor. We reviewed the payment schedules from a sample of 10 DFCM projects. Our test indicated that DFCM pays its general contractors in an average of 13 days which is within the time required both by the division's contracts and the industry standard.

Wide Variety of Subcontractors Work on State Projects

Some have suggested that the same select group of subcontractors receives most of the contract work on state construction projects. We examined the list of subcontractors who worked on 20 DFCM construction projects during a recent three-year period. Of the 20 projects examined, over 500 different subcontractors were utilized. The majority of all contractors in the sample (over 90 percent) worked on only 1 or 2 state projects. Only a few contractors (2 percent) worked on more

DFCM selects the appropriate construction method for each project.

DFCM pays its general contractors in an average of 13 days

Many different subcontractors are used on state construction projects.

than 5 of the 20 projects in the sample. From this analysis, we conclude that many different subcontractors are used on state construction projects and that the division's procurement method is giving many different subcontractors the opportunity to work on state projects.

Conflicts of Interest by General Contractors Are Managed Properly

General contractors are usually given a significant amount of responsibility when they manage state construction projects. That responsibility includes hiring a team of subcontractors to actually build the project. Subcontractors have expressed concern that general contractors are placed in a conflict of interest position. On the one hand, general contractors have an interest in providing excellent service for DFCM so they can receive future contracts. However, general contractors also need to resolve subcontractor disputes fairly – even if it requires submitting claims to DFCM. In an effort to increase general contractor accountability to their subcontractors, DFCM has improved their dispute resolution procedures. Under the new administrative procedures, subcontractors must first try to solve problems informally. If a disputed matter is not resolved by the general contractor within 60 days, the subcontractor can pursue a claim directly with DFCM. In the past, DFCM did not get involved with subcontractor claims against the general contractor.

Insurance Issues Not a Concern Due to Decision to Drop the Plan

The owner controlled insurance program (OCIP) was a fairly new concept of risk insurance that had not been utilized by the division prior to September 1998. Compared to conventional construction insurance, OCIP purportedly offered broader coverage on projects, significant savings on premiums, expedited claims handling, and better project safety.

DFCM had a number of questions about actual savings and the effectiveness of the coverage by one universal insurance agent representing different contractors on the same project, but they decided to try it for a five-year period. They tested the OCIP concept on 56 construction

projects between September 1998-2002, during which time 38 projects were actually started and completed. The OCIP did provide some savings overall, but it was not a success with every project. The cost/benefit analysis must consider several factors such as the cost of the project, the number of contractors involved, the likelihood of multiple claims being filed, and the willingness of contractors to adhere to the conditions imposed by the OCIP. The savings from OCIP are conditional on these factors.

We found many problems with the OCIP that appeared to offset any advantages it may have provided. The OCIP requires contractors to give back 1.5 percent of their margin to cover insurance during construction. At the end of construction, the amount withheld is adjusted to reflect the cost the contractor would have incurred, based on its insurance rates, if the contractor had provided the insurance for the project. Most contractors resist participation because they oppose the 1.5 percent reduction, and because of the excessive paperwork, and safety training. The contractors claimed their own conventional insurance provides adequate coverage with less cost, less administrative effort, and significantly less paperwork. DFCM made this audit area a moot point by deciding to back out of its OCIP plan in 2003 and going with conventional insurance on all subsequent projects.

Appendix

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Agency Response



State of Utah

Division of Facilities Construction & Management

Olene S. Walker
Governor

S. Camille Anthony
Executive Director

F. Keith Stepan
Director

Department of Administrative Services
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Salt Lake City, Utah 84114
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December 8, 2004

John M. Schaff, CIA, Auditor General
Office of the Legislative Auditor General
W315 Utah State Capitol Complex
Salt Lake City, Utah 84114-5315

SUBJECT: Response to Audit Report No. 2004-11, A Performance Audit of DFCM

Dear Mr. Schaff:

Thank you for the opportunity to respond to your audit entitled A Performance Audit of the Division of Facilities Construction and Management. We express our appreciation for the professionalism of your auditors and their efforts to identify ways in which we can improve.

We appreciate your acknowledgement of the substantial improvements that have been made in DFCM and in our processes for procuring and managing construction. Substantial effort has been made to respond to concerns identified by legislators and other officials, the construction industry, and our clients along with those identified by staff within DFCM. Utah has been and continues to be a leader among governmental entities around the country in utilizing alternative methods for managing projects and in developing procurement methods other than the traditional low-bid method. We concur with the auditors that these alternative procurement and construction management methods have substantially improved the cost control, timely completion and quality of state facility projects.

We concur with the recommendations made in the report and are working to implement them. Many of the recommendations are consistent with efforts that were already underway to improve DFCM's processes.

Much of the focus of the audit is on the Student Housing Project at the University of Utah which was also used as the Athletes Village for the 2002 Winter Olympics. We note that the programming and design for this project was initiated in 1997 and the construction was generally completed in 2000 enabling the University to use most of the facilities as dormitories for the 2000-01 academic year preceding the Olympics. DFCM was responsible for the construction of a large portion of the facilities that were used as venues for the Olympics at a total cost of \$221 million. While the Student Housing Project was the largest and most challenging of these projects, we note that the balance of the Olympic projects did not incur any major problems.

John M. Schaff
December 8, 2004
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We note that the State is still engaged in litigation regarding some of the issues on the Student Housing Project. This consists primarily of claims that a surety for one of the contractors notified us in 2003 that it would be pursuing. The report notes that responsibility for various problems that arose on the project is shared by a number of parties, including contractors working on the project, and that "no attempt was made to identify the extent to which one group might be liable for any damages suffered by project participants." In the outstanding litigation, DFCM and the University are asserting a number of defenses and counter claims that are not reflected in the report. While we do not question the qualifications of your office to conduct a performance audit of DFCM, we do not believe that the auditors' expertise in construction management, schedule analysis and other fields associated with the evaluation of claims involved with this litigation rises to the level required for expert testimony in court.

Sincerely,



F. Keith Stepan
Division Director

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