

**Joint Legislative Committee on Performance  
Evaluation and Expenditure Review (PEER)**

Report to  
the Mississippi Legislature



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# **The Department of Finance and Administration's Management of Construction Projects at Selected State-Owned Buildings**

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PEER reviewed the Department of Finance and Administration's management of construction projects at four selected state-owned buildings: the Department of Archives and History Building, the Underwood Complex of the Department of Health, the Sillers Building, and the Woolfolk Building.

The department's Bureau of Building has not managed the construction projects at the four buildings in a manner that best protects the state's interest. The bureau's actions have contributed to additional costs of approximately \$10.8 million for change orders (an amount that could have been reduced with improved oversight), including \$192,690 for contracts for personal services that should have been provided through DFA's operations budget. These costs added approximately \$6 million in debt service for the state.

The bureau has not consistently controlled projects to ensure that they are delivered on time at the lowest possible cost. The Project Accounting and Tracking System cannot be used to measure planned versus actual construction performance due to system design deficiencies for financial and time information associated with individual construction projects. Also, the bureau compensates contractors for change orders in a manner that violates its own standard construction contract and rewards professionals for performance that unnecessarily increases project costs.

December 17, 2002

## **PEER: The Mississippi Legislature's Oversight Agency**

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The Mississippi Legislature created the Joint Legislative Committee on Performance Evaluation and Expenditure Review (PEER Committee) by statute in 1973. A flowing joint committee, the PEER Committee is composed of five members of the House of Representatives appointed by the Speaker and five members of the Senate appointed by the Lieutenant Governor. Appointments are made for four-year terms with one Senator and one Representative appointed from each of the U. S. Congressional Districts. Committee officers are elected by the membership with officers alternating annually between the two houses. All Committee actions by statute require a majority vote of three Representatives and three Senators voting in the affirmative.

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The Committee assigns top priority to written requests from individual legislators and legislative committees. The Committee also considers PEER staff proposals and written requests from state officials and others.

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On December 17, 2002, the PEER Committee authorized release of the report entitled **The Department of Finance and Administration's Management of Construction Projects at Selected State-Owned Buildings.**

A handwritten signature in cursive script, reading "William Canon", written over a horizontal line.

Senator William Canon, Chairman

**This report does not recommend increased funding or additional staff.**



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# The Department of Finance and Administration's Management of Construction Projects at Selected State-Owned Buildings

## Executive Summary

The PEER Committee conducted a review of the Department of Finance and Administration's management of construction projects at four selected state-owned buildings: the Department of Archives and History Building, the Underwood Complex of the Department of Health, the Sillers Building, and the Woolfolk Building.

## Conclusion

The Department of Finance and Administration's Bureau of Building has not managed the construction projects at the Underwood Complex and the Archives and History, Sillers, and Woolfolk buildings in a manner that best protects the state's interest. The bureau's actions have contributed to additional costs of approximately \$10.8 million for change orders (an amount that could have been reduced with improved oversight), including \$192,690 for contracts for personal services (i.e., janitorial and groundskeeping) that should have been provided through DFA's operations budget. These costs added approximately \$6 million in debt service for the state. Also, the bureau has not consistently controlled projects to ensure that they are delivered on time at the lowest possible cost.

### *Impact of Change Orders and Personal Services Contracts on Long-Term Debt Service for Projects at the Four Buildings*

The Department of Finance and Administration has contributed to additional costs of approximately \$10.8 million due to change orders (an amount that could have been reduced with improved oversight), including non-construction personal services contracts for groundskeeping and building janitorial services. This increased project cost has resulted in an approximate \$6 million debt service cost for the state.

## ***Management and Control of Construction Projects***

The Department of Finance and Administration has not consistently controlled projects to ensure that they are delivered on time at the lowest possible cost.

The department's Project Accounting and Tracking System cannot be used to measure planned versus actual construction performance due to system design deficiencies for financial and time information associated with individual construction projects.

Also, the Bureau of Building compensates contractors for change orders in a manner that violates its own standard construction contract and rewards professionals for performance that unnecessarily increases project costs.

## **Recommendations**

1. The Legislature should amend MISS. CODE ANN. Section 31-11-30 (1972) to require the Department of Finance and Administration, in reviewing and reporting on project preplanning, to estimate and report to the Legislature the projected debt service costs for each preplanned project.
2. The State Auditor should conduct a compliance audit of the four personal services contracts associated with grounds or building cleaning at the Woolfolk Building.

If this audit identifies these expenditures as an unauthorized use of bond funds, the state should make a claim against the surety bond of the Executive Director of the Department of Finance and Administration under MISS. CODE ANN. Section 7-7-211 (1972).

3. The Bureau of Building should use a modified change order form that includes a cost summary sheet for the proposed work. This sheet should list the following costs for the general and each trade contractor:
  - labor;
  - labor burden (fringe benefits);
  - material;
  - equipment;
  - overhead and profit amount; and,
  - total cost.
4. The Bureau of Building should require the general contractor and each trade contractor to substantiate

with written documentation the labor burden (fringe benefit) rate that they will charge during the construction project.

This cost requirement could be made a part of the contract bid process for the general contractor and at the beginning of a trade contractor's participation in the project.

5. Upon the receipt of a change order request, the Bureau of Building should determine the total cost for the change order by estimating the long-term debt service costs, so that the total cost of this additional work can be considered in the approval process. If this change order is approved, the bond proceeds and debt service costs should be documented in the Project Accounting and Tracking System.
6. The Bureau of Building should modify the Project Accounting and Tracking System to capture milestones essential in tracking time and cost for the various phases and participants in the construction process and use these data elements for management purposes. The bureau should also modify PATS to provide management reports to DFA on a routine or real time basis and capture information concerning bureau and professional team visits to construction sites and project meetings.
7. The Bureau of Building should modify PATS to capture the following data elements for change orders and use the information for management purposes: initiator, category, type, and average processing days measured from the date the change order is formally requested.
8. The Bureau of Building should change its standard design professional contract to state that the bureau's policy will be to file insurance claims for all change order work that is caused by the professional's design errors, omissions, or documentation deficiencies. Further, the bureau should not pay any additional fees to the professional team for such change orders.
9. The Bureau of Building should consider reducing the overhead and profit percentage that it pays to general and trade contractors, taking into consideration the rates paid by other states. The bureau should set a maximum total percentage regardless of the number of participants involved in the contract. The bureau should allocate this

percentage proportionately based on the amount of work performed by each contractor.

10. The Bureau of Building should modify its bid process to require the general contractor to substantiate with written documentation a detailed breakdown of what is included in the overhead rate that they will charge. The general contractor should subsequently require the trade contractors to do the same at the point of their contract negotiation.

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# The Department of Finance and Administration's Management of Construction Projects at Selected State-Owned Buildings

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## Introduction

### Authority

In response to a legislative request, the PEER Committee conducted a review of the Department of Finance and Administration's management of construction projects at four selected state-owned buildings, pursuant to the authority granted by MISS. CODE ANN. Section 5-3-57 et seq. (1972).

### Scope and Purpose

PEER sought to determine whether the Department of Finance and Administration (DFA) minimized use of state financial resources and protected the state's interest in managing high capital value projects (i.e., with construction contracts totaling over \$1 million) at four selected state-owned buildings in Jackson, Mississippi.

PEER selected the following state-owned buildings because they had repair/renovation or construction projects that either had been recently completed or were in progress:

- **the new administration building for the Mississippi Department of Archives and History**, with a projected final completion date of May 22, 2003;
- **the repair and renovation of the Underwood Complex of the Mississippi Department of Health**, with a final completion date of March 27, 2001;

- **the repair and renovation of the Sillers Building, a multiple-user state office building,** with a projected final completion date of January 31, 2007; and,
- **the repair and renovation of the Woolfolk Building,** a multiple-user state office building, with a projected final completion date of December 31, 2002.

**PEER evaluated thirty-three building projects at these four state buildings.**

Within these four buildings, PEER evaluated thirty-three building projects—six at the Archives and History Building, five at the Sillers Building, five at the Underwood Complex, and seventeen at the Woolfolk Building. Specifically, PEER sought to:

- describe the status of the projects at the selected buildings;
- describe any cost or time deviations from the original building budgets and plans;
- describe the impact of project changes on the long-term debt associated with each building's bond funding; and,
- determine the extent to which DFA staff, professional contractors, or construction contractors caused cost or time deviations in the projects.

PEER did not attempt to evaluate the Walter Sillers Building projects for this final objective, since only the major repair and renovation contract is currently in progress. The project for a new parking facility is currently in the planning phase. The remaining three projects showed no expenditures as of October 8, 2002.

**PEER used cost and time factors as criteria for evaluating DFA's construction management process.**

The construction goal of any project is a satisfactorily constructed project that is delivered on time at the lowest possible cost. PEER used the cost and time factors as criteria for evaluating the construction management process of the Department of Finance and Administration. PEER did not assess the quality of each project, but instead assumed quality based on the agency's (or agencies') acceptance of the projects.

## Method

PEER collected and analyzed the following specific project information for each of the thirty-three projects:

- Project Accounting and Tracking System Records (as of October 8, 2002);
- design professional and construction contracts;

- DFA Standard Approval Forms for project management actions;
- salvage plans;
- space layout plans;
- change orders;
- construction change directives;
- long-term debt service schedules;
- contractor cost documents; and
- other related project materials.

PEER also reviewed information from the construction industry, state statutes, the State Treasurer, Attorney General's opinions, the State Auditor, DFA regulations and policies, and other states' offices governing the capital improvement projects. PEER also interviewed personnel and other government officials from Mississippi and other states.

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## Background

### Construction of Public Buildings in Mississippi

The state construction process for public buildings in Mississippi is a four-phased, sequenced construction process with multiple participants. These construction phases are: *pre-planning*, during which the state entity prepares a construction needs request with a tentative project budget; *planning*, during which design professionals prepare definitive plans and contract documents and the contract is awarded to a general contractor; *construction*, during which the general contractors and trade contractors complete the actual building work; and, *post construction*, when final acceptance, start-up, and occupancy occur. (Appendix A, page 31, contains a glossary of terms related to the construction of public buildings.)

**With some exceptions, DFA's Bureau of Building serves as the construction program manager for state building projects.**

To help entities through the construction process, the Department of Finance and Administration's Bureau of Building, Construction, and Real Property Management serves as the construction program manager for projects constructed with funds regardless of funding source. The only exceptions to this are projects exempted by statute or the state constitution, such as:

- public school district projects that are funded with state funds;
- institutions of higher learning, community and junior colleges, and State Military Department projects paid for by federal, self-generated, local, or other non-state funds; and,
- any construction project specifically exempted in legislation.

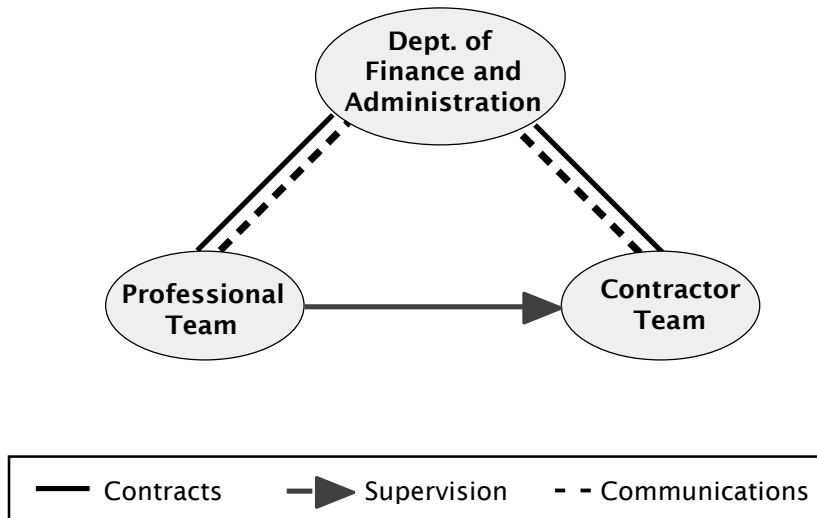
### Responsibilities of the Bureau of Building in the Construction of Public Buildings

For those projects for which it is responsible, the Bureau of Building represents the interests of the entity and exercises independent oversight of the constructor team (general contractor and sub-contractors). The Bureau of Building, professional team, and constructor team enter a contractual relationship for a project. Exhibit 1, page 5, illustrates the relationships that exist between these participants.



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**Exhibit 1: Relationship Between the Department of Finance and Administration, Professional Team, and Contractor Team**



SOURCE: PEER analysis of DFA Bureau of Building's Engineering and Construction Manual

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**The Bureau of Building exercises direct oversight of architects, engineers, and other contract professionals, while it indirectly supervises construction contractors through the primary professional contractor.**

In performing the construction program management function, the Bureau of Building exercises direct oversight of architects, engineers, and other contract professionals, while it performs indirect supervision of the construction contractors through the primary professional contractor. Because the bureau does not have the in-house capability to perform some of the design and construction tasks that some private construction program managers can provide, it may employ engineers, contract analysts, architects, or building inspectors to manage and monitor projects.

The bureau has authority to compel adherence to contract specifications and schedules, applying sanctions to firms or individuals within the constructor team that do not fulfill their responsibilities.

Following are the Bureau of Building's specific responsibilities within the four construction phases:

1. *Pre-planning phase*--A state entity submits its construction needs request, including a tentative budget, to the Bureau of Building through its own resources or a professional consultant. The bureau may also initiate projects and

contract for pre-planning and developing a master program.

After reviewing or modifying the project after consultation with the requesting entity, if necessary, the Bureau of Building includes the request, along with a schematic design, in its annual construction budget submission to the Legislature.

The Legislature determines which projects to approve and considers funding. Once funding is made available, the Bureau of Building is solely responsible for managing the funds through phases of the construction process. The bureau accomplishes its management responsibilities in this phase through a staff architect who works with the requesting state entity.

2. *Planning phase*--The Bureau of Building contracts with a design professional for definitive plans and contract documents for bidding and awarding the construction contract to a general contractor. The bureau is responsible for reviewing and analyzing the professional's deliverables to help ensure that the project will achieve its goals for budgeted cost, schedule, construction quality, and code compliance. The bureau approves the professionals that the professional contractor hires to perform contract work.
3. *Construction phase*--The Bureau of Building contracts with a general contractor to accomplish the construction project work in accordance with the architect's plans and any bureau-approved modifications through a change order process. The general contractor also conducts the contract award process for trade contractors and exercises contract administration. The bureau has no contractual relationship with the trade contractors.

During this phase, the Bureau of Building normally hires the architect (for an additional fee) to supervise and administer the work of the general contractor and trade contractors. The bureau retains responsibility for project management and accomplishes this responsibility through building inspectors who oversee the professional contractor and overall project management. Other actions include configuring and installing communications networks and computer infrastructure, as well as buying and installing furniture and equipment.

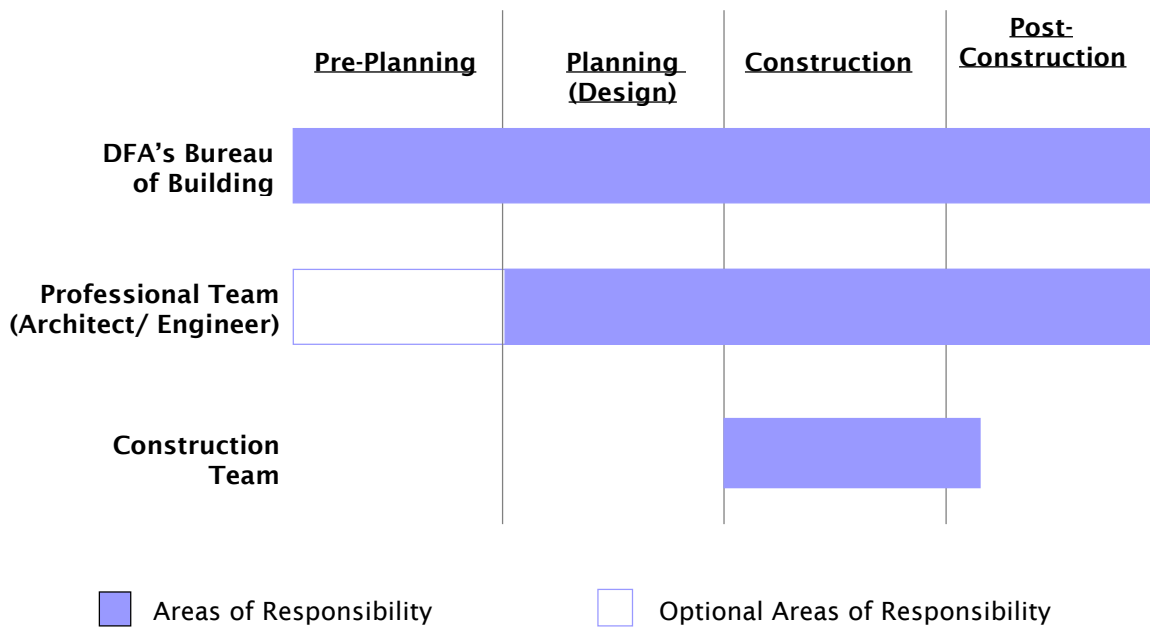
4. *Post Construction phase*--Working with the general contractor, the Bureau of Building, through its professional contractor, is responsible for final acceptance, start-up, and occupancy of the project. The bureau has the option of hiring the professional contractor to perform these responsibilities for an additional fee

since it is not a basic design service; however, it does not usually exercise this option.

Exhibit 2, below, shows the responsibilities of each participant in each of the four phases.

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**Exhibit 2: Distribution of Participant Responsibilities in the Four Phases of State Construction Projects**



SOURCE: PEER's review of state building construction process.

Note: DFA assumed pre-planning responsibilities when the Legislature changed the budgeting and funding process for new construction and renovation repair projects over \$1 million in the 2000 Regular Session, effective April 30, 2000.

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**Statutory Changes in the State Construction Process**

The Legislature has made two policy changes concerning the state construction process in the past eight years.

The Legislature passed Chapter 12, *Laws of 1995*, to provide separate accountability for supplemental construction funds transferred to the Bureau of Building from state, local, or other source funds. To accomplish this objective, the legislation

established a separate State Treasurer Fund (3931) and expressly authorized and empowered the Department of Finance and Administration to receive and expend this funding for construction and/or repair and renovation projects. The Legislature has continued to provide this authority in every bond bill subsequently passed after 1995.

**Recent changes in state law address budgeting of and accountability for construction funds.**

The Legislature passed Chapter 531, *Laws of 2000*, Section 6, codified as MISS. CODE ANN. Section 31-11-30 (1972) to establish a more accurate budgeting and funding process for new construction projects and proposed major repair and renovation projects over \$1 million. To accomplish this purpose, the Department of Finance and Administration must submit an itemized cost estimate that includes cost estimates for preplanning, constructing, furnishing, equipping, and property acquisition costs. This establishes a baseline budget for construction projects.

## Funding of the Selected Building Projects

The Legislature authorized and funded projects associated with these four buildings with bond bills passed between calendar years 1992 and 2001. These bills authorized the Department of Finance and Administration to sell bonds to finance the four building projects. Specifically, they included:

- Underwood Complex--Two bills authorized \$18 million for the building's five projects.
- Archives and History--One bill provided \$1.6 million for planning (through contract bid documents) the new administration building and other departmental construction projects. Another bill authorized \$34 million in expenditures to construct these department buildings. A final bill funded the furniture and equipment.
- Sillers Building--Two bills provided \$17 million for two of five planned projects. A final bill with multiple building projects provided an unspecified amount for renovation and repair.
- Woolfolk Building--Four bills with multiple building projects included unspecified funds for the Woolfolk projects, including pre-planning, renovating, constructing the addition for security and Central Mechanical Plant, Governor's Office, and unspecified supplemental funding.

Also, the Governor's Office and the departments of Health and Archives and History transferred funds appropriated to them totaling \$4,230; \$41,630; and, \$887,404, respectively, to the Bureau of Building. These funds were used to pay for project work.

Exhibit 3, below, shows the bill funding sources and amounts for each building.

**Exhibit 3: State Bond and Agency Supplemental Funding for Construction Projects in the Archives and History, Sillers, Underwood Complex, and Woolfolk Buildings (As of October 8, 2002)**

| Funding Type | Archives and History | Sillers      | Underwood Complex | Woolfolk     | Total Funding |
|--------------|----------------------|--------------|-------------------|--------------|---------------|
| Bond Funds   | \$28,466,058         | \$15,766,650 | \$17,929,476      | \$75,638,022 | \$137,800,206 |
| Agency Funds | 887,404              | N/A          | 41,630            | 4,230        | 933,264       |
| Total        | \$29,353,462         | \$15,766,650 | \$17,971,106      | \$75,642,252 | \$138,733,470 |

SOURCE: DFA and State Treasurer Records

**Project Bonding Actions**

The Bureau of Building used multiple issues of state bonds to finance the construction projects in the four buildings. The departments of Health and Archives and History and the Governor’s Office provided supplemental funding to the Bureau of Building to help pay some project cost. Exhibit 3, page 9, shows the funding of the construction projects for the four buildings by type of funds.

**The state funded projects at the four buildings with \$137.8 million in bond proceeds, with a total payoff of \$213.9 million (including \$76.2 million interest) in twenty years.**

The authorized general obligation bonds were not sold until the Bureau of Building acting through the Executive Director of the Department of Finance and Administration identified the annual or emergency funding needs to the State Bond Commission, which approved the sale of the requested bond. As a result, these bonds were sold in multiple issues at varying interest rates and times to raise the proceeds necessary to finance the projects at the four buildings, as well as other projects for other state-owned buildings.

The state funded projects at the four buildings with \$137.8 million in bond proceeds with a total payoff of \$213.9 million (including \$76.2 million interest) in twenty years. Exhibit 4, page 10, shows the legislative bond bills, their total principal proceeds, and their total debt service interest payments for projects at the four buildings.

**Exhibit 4: Total Bond Bills, Issues, Proceeds, Debt Service, and Debt for Archives and History, Sillers, Underwood Complex, and Woolfolk Buildings (As of October 8, 2002)**

| <b>Building</b>      | <b>Number of Bond Bills (Issues)</b> | <b>Bond Proceeds</b> | <b>Bond Interest (Interest Cost Per \$ Proceed Expenditure)</b> | <b>Total Bond Debt</b> |
|----------------------|--------------------------------------|----------------------|---|------------------------|
| Archives and History | 3<br>(12)                            | \$28,466,058         | \$14,919,493<br>\$0.52  | \$43,385,551           |
| Sillers              | 4<br>(7)                             | 15,766,650           | 8,847,277<br>\$0.56   | 24,613,927             |
| Underwood Complex    | 2<br>(11)                            | 17,929,476           | 9,825,634<br>\$0.55   | 27,755,110             |
| Woolfolk             | 3<br>(30)                            | 75,638,022           | 42,564,107<br>\$0.56  | 118,202,129            |
| Total                | 12<br>(60)                           | \$137,800,206        | \$76,156,511<br>\$0.55  | \$213,956,717          |

SOURCE: DFA and State Treasurer Records

Note 1: The Governor's Office and the departments of Health and Archives and History transferred funds appropriated to them totaling \$4,230; \$41,630; and \$887,404, respectively, to the Bureau of Building. These funds were used to pay for project work. See the discussion on Chapter 12, *Laws of 1995*, on pages 7 and 8, this report.

Note 2: The number of bond bills does not equal nine since H.B. 1582 (1995) and H.B. 1792 (1998) provided bond proceeds for the Archives and History, Sillers, and/or Woolfolk buildings.

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# Conclusions

The Department of Finance and Administration’s Bureau of Building has not managed the construction projects at the Underwood Complex and the Archives and History, Sillers, and Woolfolk buildings in a manner that best protects the state’s interest. The bureau’s actions have contributed to additional costs of approximately \$10.8 million for change orders (an amount that could have been reduced with improved oversight), including \$192,690 for contracts for personal services (i.e., janitorial and groundskeeping) that should have been provided through DFA’s operations budget. These costs added approximately \$6 million in debt service for the state. Also, the bureau has not consistently controlled projects to ensure that they are delivered on time at the lowest possible cost.

## Impact of Change Orders and Personal Services Contracts on Long-Term Debt Service for Projects at the Four Buildings

*The Department of Finance and Administration’s actions have contributed to additional costs of approximately \$10.8 million due to change orders (an amount that could have been reduced with improved oversight), including non-construction personal services contracts for groundskeeping and building janitorial services. This increased project cost has resulted in an approximate \$6 million debt service cost for the state.*

## Impact of Change Orders on Long-Term Debt for the Selected Buildings

*The Department of Finance and Administration’s actions have contributed to additional costs of approximately \$10.8 million in change orders, an amount that could have been reduced with improved oversight, and an associated increase of approximately \$6 million in interest cost to service the long-term debt.*

### *Change Orders in the Building Construction Process*

**Change orders are standard in the construction industry, with common reasons being changes in scope, unforeseen conditions, and professional errors and omissions.**

A change order is a written agreement between the parties involved to change a building construction contract. Change orders add to, delete from, or otherwise alter the work set forth in the contract documents at the time that the construction contract was awarded. As the legal means for changing contracts, change orders are standard in the construction industry. Common reasons for change orders are changes in scope, unforeseen conditions, and professional errors and omissions.

## ***Roles and Responsibilities for Change Order Approval***

MISS. CODE ANN. Section 31-11-1 (1972) et seq. designates the Department of Finance and Administration as the state agency responsible for the erection, repair, and renovation of state buildings. DFA's Bureau of Building, as the entity responsible for building construction for most state agencies, oversees the process of making changes to building contracts.

**The Bureau of Building, professional team, or construction team may initiate a change order request.**

The Bureau of Building, professional team, or construction team may initiate a change order request. Once a request is initiated by one of the parties, the design professional prepares the DFA change order form, obtains the general contractor's signature on the form, and forwards it with the appropriate construction team cost documentation for each item of proposed work to the Bureau of Building. The DFA building inspector responsible for the project then reviews the change order to determine the reasonableness of the proposed work, cost, and any additional requested project days. After completing the review, this individual recommends to the Bureau of Building's assistant director and director whether the change order request should be approved, modified, or disapproved and whether DFA should withhold payment of additional fees for an approved or modified change order.

## ***Problems with the Bureau's Change Order Management Process and How This Affects the State's Long-Term Debt***

### **Problems with the Bureau's Review of Change Orders**

**In a 2002 report, PEER noted that the Bureau of Building's oversight of change orders fails to assure that cost changes to building construction projects are reasonable.**

As noted above, the Bureau of Building, as the entity responsible for building construction for most state agencies, oversees the change order process. The PEER Committee reviewed the bureau's management of this process in its report *The Bureau of Building's Management of Construction Change Orders* (May 14, 2002). In that report, PEER noted that the bureau's oversight of change orders fails to assure that cost changes to building construction projects are reasonable. PEER concluded this because:

- The bureau's standard construction contracts do not require professionals to analyze the reasonableness of change order costs nor does the bureau require that contract professionals certify in writing that the cost of the change order has been analyzed and found to be reasonable.
- The bureau has no internal process for analyzing the costs of change orders presented by the contract professional for accuracy or reasonableness or for verifying that the change order is not already a part of the original contract.



- The bureau has no formal process to identify professional design errors and omissions, thus increasing the possibility that the state pays for changes that should be the responsibility of the contract professional.

These factors are compounded by the fact that the bureau has not developed a change order cost review process to protect the state against the inherent conflict of interest for contract professionals (i.e., a personal financial incentive to approve change orders that result in additional costs versus ethical obligations to the state).

**The Bureau of Building's actions regarding change orders contribute to significant increases in the long-term debt liability of the state. However, no one in the bureau calculates the long-term debt implications.**

While change orders and their inevitable cost are often necessary due to the unknowns in a construction project, the Bureau of Building still has the responsibility as a prudent steward of state funds to evaluate the total cost implications of a proposed change order. Since its current review process does not fulfill this responsibility, bureau approval actions for change orders contribute to significant increases in the long-term debt liability of the state. However, no one in the Bureau of Building calculates the long-term debt implications.

### **How Change Orders Impact the State's Long-Term Debt**

To determine the impact of the change order cost on the long term bond debt service, PEER first identified the bond bills, number of issues, and the proceed amount used to fund the projects in the four buildings. It then obtained the debt service interest rates and annual payment schedule (principal and interest) from the State Treasurer in order to determine the interest cost per bond proceed expenditure dollar. PEER then used this rate to calculate the interest cost for the actual dollars paid to the contractor and professional teams for the appropriate change orders.

**The bureau paid approximately \$10.8 million for change orders for these four buildings, or approximately 8% of the total cost of the projects. The additional project costs resulted in approximately \$6 million in bond interest costs.**

PEER determined that the Bureau of Building had paid approximately \$10.8 million to the professional and/or construction contractors for change orders for these four buildings. This represents approximately 8% of the total cost for the projects at the four buildings. The additional project cost in bond proceeds resulted in approximately \$6 million in bond interest costs for these change orders. Exhibit 5, page 14, shows the project change order cost, the interest cost per change order dollar expenditure, the interest cost for the change order cost, and total change order cost for the four building projects.

**Exhibit 5: Total Change Orders, Bond Proceed Cost, Estimated Interest Cost, and Total Change Order Cost for Archives and History, Sillers, Underwood Complex, and Woolfolk Buildings (As of October 8, 2002)**

| <b>Building</b>      | <b>Number of Change Orders</b> | <b>Bond Proceed Cost</b> | <b>Bond Interest<br/>(Interest Cost Per \$ Proceed Expenditure)</b> | <b>Total Change Order Cost</b> |
|----------------------|--------------------------------|--------------------------|---|--------------------------------|
| Archives and History | 13                             | \$860,909                | \$451,215<br>\$0.52   | \$1,312,124                    |
| Sillers              | 9                              | 1,666,349                | 935,052<br>\$0.56   | 2,601,401                      |
| Underwood Complex    | 24                             | 1,827,757                | 1,001,639<br>\$0.55   | 2,829,396                      |
| Woolfolk             | 90                             | 6,464,362                | 3,637,718<br>\$0.56   | 10,102,080                     |
| Total                | 136                            | \$10,819,377             | \$6,025,624<br>\$0.56   | \$16,845,001                   |

SOURCE: DFA and State Treasurer Records

Note 1: PEER estimated the bond interest cost for the change order expenditures in each building by multiplying bond proceeds cost by average interest cost per principal dollar expenditure.

Note 2: The Bureau of Building did not pay any additional cost to the professional for six change orders in the Underwood Complex and the Woolfolk Building since it determined that the professional contractor had caused the additional work through a design error or omission. PEER estimated this action saved the state \$80,789 (\$51,952 in principal and \$28,837 in interest.)

## Unauthorized Bond Expenditures for Personal Services Contracts

*The Department of Finance and Administration has expended bond proceeds on personal services contracts in the Woolfolk Building when they were not authorized in the bond fund bill. These contracts were for services (i.e., janitorial and groundskeeping) that should have been covered by DFA's operations budget and resulted in an additional \$192,690 in project expense, since they were paid as change orders, and an associated increase of \$109,833 in interest cost to service the long-term debt.*

In each multiple project bond bill, the Legislature gave discretionary spending authority to the Department of Finance and Administration that allowed it:

*. . .to pay the costs of capital improvements, renovation and/or repair of existing facilities, furnishings and/or equipping facilities, purchasing real property for public facilities for agencies or their successors...*

**Authorized expenditures for bond proceeds are generally limited to capital improvements unless specifically authorized in the bond law.**

H.B. 1782 (1998) and H.B. 1792 (1998) specifically authorized the expenditure of bond funds for the personal services of moving expenses for state agencies for the Archives and History, Woolfolk, and/or Sillers construction projects. Thus, the Legislature clearly established the principle that the authorized expenditures for bond proceeds were generally limited to capital improvements unless specifically authorized in the bond law.

While evaluating the change orders, PEER found that the Department of Finance and Administration had paid bond proceeds and long-term debt service cost for personal services contracts for two Woolfolk Building projects. Their total cost was \$302,523, including \$192,690 and \$109,833 in bond proceeds and debt service, respectively.

These projects and their change orders included:

- \$1,516 for a grounds keeping agency to provide grounds work associated with the initial maintenance of the yards, including trash pick-up, mowing, etc. The total interest cost related to this change order was \$864.12.
- \$43,445 for a cleaning agency to provide additional cleaning for Floors 11 through 15 prior to the move over and above the construction contract requirements. The total interest cost related to this change order was \$24,763.65.
- \$145,929 for owner-requested janitorial services, including construction cleanup in addition to that required in the construction contract. The total interest cost related to this change order was \$83,179.53.

- \$1,800 for additional contractor cleaning in the dining room, kitchen, and toilet for the food service area in the new cafeteria. The contractor had accomplished this cleaning in accordance with his responsibility in Section 01710 of his construction contract. The total interest cost related to this change order was \$1,026.

**According to the change order documentation, Bureau of Building staff requested that these personal services contracts be paid as change orders.**

According to the change order documentation, the senior staff of the Bureau of Building requested that these contracts be paid as change orders.

The Bureau of Building's standard construction contract describes the cleaning requirements for the contractor in Standard Section 01710 of the General Requirements (Division 1). This section consists of three sections: Scope, Products, and Execution (During Construction and Final Cleaning).

The Scope paragraph states that the contractor must:

*Maintain the premises and public properties from accumulations of waste, debris and rubbish caused by operations. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials and clean all sight-exposed surfaces; leave Project clean and ready for occupancy.*

The Final Cleaning requirements in the Execution paragraph state that the contractor must:

*Employ experienced workmen, or professional cleaners, for final cleaning. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces and concealed spaces. Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from sight-exposed finishes. Repair, patch and touch up marred surfaces to specified finish to match adjacent surfaces. Broom clean paved surfaces; rake clean other surfaces of grounds. Replace air conditioning filters, if units were operated during construction. Clean ducts, blowers and coils if air conditioning units were operated without filters during construction. Maintain cleaning until Project, or respective portions thereof, is occupied by Owner.*

**The bureau executed contracts for services that should have been covered by DFA's operations budget.**

Thus the bureau executed personal services contracts for services that should have been covered by DFA's operations budget.

The bureau's spending actions have a twofold impact on state resources. These bond funds could have been spent for other related capital improvement projects instead of borrowing new money for them. They also could have been used to reduce outstanding debt service of the state instead of having to appropriate additional funds in the total amount to pay debt service.

## **Management and Control of Construction Projects**

***The Department of Finance and Administration has not consistently controlled projects to ensure that they are delivered on time at the lowest possible cost.***

As noted on page 4, the Bureau of Building manages and controls construction projects through the process discussed in the Background Section on pages 4-7, this report. To provide the management information for its construction projects, the bureau uses the Project Accounting and Tracking System that was designed in the early 1980s by the Department of Finance and Administration.

### **Time and Cost Deviations for the Selected Buildings**

PEER compared budgets and schedules to actual expenditures and completion dates in the original contracts to determine time and cost deviations for projects at the selected buildings. PEER found that:

- three of the four buildings had experienced increased costs:
  - Archives and History Building (approximately \$690,000, or 2% of projected total costs);
  - Woolfolk Building (approximately \$2.6 million, or 4% of projected total costs), and;
  - Underwood Complex (approximately \$2 million, or 12% of projected total costs).
- three of the four buildings had experienced delayed completion times:
  - Archives and History Building (254 calendar days, or 35% of the projected total days);

- Woolfolk Building (2,037 calendar days, or 82% of the projected total days); and,
- Underwood Complex (539 calendar days, or 103 % of the projected total days).

The Sillers Building had only two of five projects in progress: the renovation and repair project and the planning of the parking garage. In both cases, they were still within project budget estimates.

**Three of the four buildings experienced time and cost deviations in their construction projects.**

These cost and time deviations for the three buildings were due to the bureau's use of a project management information system that was missing critical cost and time information, payment for unauthorized change orders or unnecessarily high percentages to contractors, and payment for professionals' mistakes that could have been covered by errors and omissions insurance. The following sections discuss these causes.

## **Project Accounting and Tracking System Deficiencies**

*The Project Accounting and Tracking System cannot be used to measure planned versus actual construction performance due to system design deficiencies for financial and time information associated with individual construction projects.*

The Project Accounting and Tracking System (PATS) is designed to account and track actual data contained in its four major components. These components are:

- Project Profile--This component contains the data for project status, phase, category, occupancy code, square footage, construction cost per square foot, final acceptance cost per square foot (includes all costs), and fee complexity rating to determine the professional team contract cost. It also includes the actual completion dates for project initiation, schematic design, design documents, contract documents, bid award, notice to proceed, substantial completion, final acceptance, warranty, projected completion, and project closure dates.
- Project Budget--This component contains the financial data for the actual project budget and how much of this budget has been awarded and expended on the various project contracts. This project budget amount is changed each time an approved change order results in additional project cost (constructional and professional teams) and time (professional team only). While this profile includes columns for award balance and unobligated budget funds, PATS does not compute these dollar amounts.
- Project Funding--This component contains the funding source data for each project. For each source, it includes the type of funding, fund number, allocated and expended

amounts, receivable balance, cash balance, and a grand total for each component category.

- Project Awards--This component contains the basic contract awards and individual change order costs for each project. For each general, professional, and other contractor, it includes the award number, award description/title, amount of additional days and/or cost, the expended amount, unexpended balance, and the approval date and minute number for the Public Procurement Review Board.

The Project Accounting and Tracking System also provides a way to make queries and the capability to change project data as needed. The system design allows bureau managers to obtain project reports on an as-needed basis. The project report items are the accounts receivable, budget, cash receipts, contract or change order awards, fund codes, funding sources, profile, paid or outstanding requisitions, and vendors.

The Bureau of Building also uses the Project Accounting and Tracking System to manage the additional fees for the professional team when it approves a change order for the construction team. These fees are computed with a special bureau program using a logarithmic formula that depends on the project construction cost and the fee complexity rating, as determined by the assigned building classification. Once these fees are computed, they are added to PATS project records.

### ***Information Critical to Project Management***

PEER analyzed the components of the Project Accounting and Tracking System to determine whether it contained other elements needed to achieve timely completion of projects:

- performance standards for cost and time;
- computation of the total project time from project initiation to end of warranty period;
- planned versus actual for cost and time;
- routine project reports for managers on a scheduled basis; and,
- information concerning bureau and professional team visits to construction sites and the construction project meetings with the professional and construction teams.

**The Project Accounting and Tracking System does not capture critical management information for controlling cost or time.**

PEER determined that the Project Accounting and Tracking System was not designed to provide all of the above information. Specifically, it does not provide cost and timeliness performance measures for the professional and construction teams or for contracts for the design professional or general contractor; time information for the preplanning phase (including budget estimation and space utilization studies); performance deadlines (other than actual completion dates) for the basic project contract; performance deadlines for change orders; or routine management reports that would allow for identification and resolution of problems.

Thus the Project Accounting and Tracking System does not capture critical management information for controlling cost or time. As a result, the bureau managers did not have access to some project information that would help to identify and correct project management problems. The system also was not designed to measure the actual project accomplishments at various milestones from project initiation to project completion and to identify all time deviations from the planned project budgets and schedules.

#### ***Missing Change Order Information***

PEER evaluated the Bureau of Building's Project Accounting and Tracking System records to determine whether the system collects change order information that would enable the bureau to make appropriate management decisions concerning individual change orders.

PEER determined that the system should capture the following types of information that would enable the bureau to evaluate individual change orders more effectively and also to build a database for trend analysis:

- *initiator of the change order*--The system should identify the requestor (contractor, agency, design professional, or a combination of these). Knowing the initiator of the change order would enable the bureau to assign responsibility for the request and help to establish patterns, when applicable.
- *category of the change order*--The generally used standard categories for the industry are program change, unforeseen conditions, code interpretations, weather conditions, design errors and omissions, documentation deficiencies, construction impediments, and miscellaneous. By knowing the category of the change order, the bureau could determine information such as which types of change orders were unavoidable (weather conditions), which were the responsibility of the professionals on the constructor team (design errors and omissions), and so forth.
- *type of change order*--The usual types of change orders are stipulated sum (automatic percentage increase that requires



the least amount of cost and materials documentation and is the least likely to prevent overpayment for additional work), unit price (requires the median amount of cost and materials documentation and is the most likely to prevent overpayments for additional work under certain conditions), and time and materials (requires the most cost and materials documentation and is the most likely to prevent overpayments for additional work).

- *cumulative and average processing time, measured from original "need identification" date to approval date*--Capturing this information would help in keeping track of performance deadlines and which party is responsible for delays in certain phases.
- *administrative and profit overhead percentage* paid to the contractor team.

Although PEER found the above-listed types of information in the bureau's hard files, the bureau's PATS system does not capture this information.

#### ***Other System Data Problems***

PEER evaluated the Project Accounting and Tracking System records, as of October 8, 2002, to determine if the existing data components were maintained accurately and included the required data entries. To accomplish this evaluation, PEER used the system records, change order information, and the professional team contracts for the twenty-one projects with professional and/or construction team contracts.

PEER determined that DFA did not maintain the Project Accounting and Tracking System records in an accurate and timely manner to reflect complete project information. Specifically:

- four of thirteen projects had incorrect projected completion dates. Document-reflected dates ranged from 31 to 255 days beyond the dates in PATS;
- thirteen of twenty-one projects had some missing completion dates for the various project phases; and,
- thirty-six of a possible 139 project date entries were missing completion dates (professional or construction dates).

## Payment Practices

*The Bureau of Building compensates contractors for change orders in a manner that violates its own standard construction contract and rewards professionals for performance that unnecessarily increases project costs.*

The Bureau of Building contracts with the professional and contractor teams to perform their services to accomplish the state's construction goal of a facility that is delivered on time at the lowest possible cost. In order to help ensure that goal, the state requires each team to post liability insurance, based on the project size, to cover any additional state cost that results from any negligent actions in the project.

**The bureau pays both general and trade contractors the maximum 20% overhead and profit for change orders, pays the general contractor 20% of the trade contractor's overhead and profit payment, and pays specific fringe benefit rates to construction contractors without any supporting documentation.**

The professional contracts state that such insurance will provide protection from claims resulting from errors and omissions or negligent acts arising out of the performance of professional services and operations under the agreement. It also notes that the Bureau of Building may hold contractors responsible for these actions.

The Bureau of Building establishes in its construction contract what costs it will pay the contractor for up to a maximum of 20% overhead and profit for change order work. If a trade contractor performs the work for the general contractor, both parties receive up to this maximum amount. These costs include all taxes, fees, permits, insurance, bond, job superintendent, job, and home expenses.

PEER evaluated the eleven building projects with 136 change orders and the contractor's payment requests for the change order including the supporting cost documentation. The purpose of this analysis was to determine whether the Bureau of Building was practicing good stewardship of state resources.

### ***Questionable Bureau of Building Practices Contributing to Change Order Cost Escalations***

PEER found payment practices that contribute to cost escalations and increases in associated debt service costs.

#### **Contractor-Related Practices**

PEER found that the bureau was:

- *paying both the general and trade contractors the maximum 20% overhead and profit for a change order when work is performed solely by a trade contractor.* This combined contractor 40% rate is the highest rate among eleven other surveyed states, with Georgia being the next highest state with a combined rate of 27.5%. Exhibit 6, page 24, shows the survey results for these other states compared to Mississippi.

- *paying the general contractor 20% of the trade contractor's overhead and profit payment, which violates its own change order payment policy.* The Bureau of Building states its payment policy in Section 700.20 of its procedure manual and Article 7, paragraph 7.2.3 of its standard construction contract. The standard construction contract states:

*. . .the maximum cost included in a Change Order for profit and overhead is **limited to twenty (20%) percent of the total of the actual cost for materials, labor, and subcontracts.** (PEER emphasis)*

PEER estimated the general contractors received approximately \$44,797 from this type of billing for projects whose trade contractor documentation showed their overhead and profit. This amounts to charging overhead costs on top of overhead costs for the general contractor and increases the additional professional fee payment proportionately, since the Bureau of Building uses the total revised construction contract cost to compute these fees.

- *paying specific fringe benefit rates to construction contractors without any supporting documentation.* While the rates used (30% to 35%) may be the correct rates for contractors, the bureau should verify these rates to ensure that costs are minimized.

These practices have resulted in excessive payments to the contractor and professional teams. While these payments represent relatively small amounts, such practices could result in significant state expenditures over the long term, considering the number and dollar volume of the state construction program.

**Exhibit 6: Change Order Overhead and Profit Maximum Percentage Paid to Construction Teams in Mississippi Compared to Eleven Other States (As of August 28, 2002)**

| Item | State          | Maximum Percentage Paid for Change Order Work Regardless of Who Accomplishes The Work | General Contractor Only | Trade Contractor<br>General Contractor<br>Total Percentage |
|------|----------------|---|-------------------------|--|
| 1.   | Mississippi    | 40.0%   | 20.0%                   | 20.0%<br><u>20.0%</u><br>40.0%                             |
| 2.   | Georgia        | 27.5%   | 20.0%                   | 20.0%<br><u>7.5%</u><br>27.5%                              |
| 3.   | Connecticut    | 26.0%   | 20.0%                   | 20.0%<br><u>6.0%</u><br>26.0%                              |
| 4.   | Louisiana      | 25.0%   | 15.0%                   | 15.0%<br><u>10.0%</u><br>25.0%                             |
| 5.   | Missouri       | 25.0%   | 25.0%                   | No Survey Data   |
| 6.   | New Mexico     | 25.0%   | 25.0%                   | No Survey Data   |
| 7.   | North Carolina | 25.0%   | 20.0%                   | 15.0%<br><u>10.0%</u><br>25.0%                             |
| 8.   | Virginia       | 25.0%   | 10.0%                   | 15.0%<br><u>10.0%</u><br>25.0%                             |
| 9.   | Maryland       | 20.0%   | 15.0%                   | 15.0%<br><u>5.0%</u><br>20.0%                              |
| 10.  | Tennessee      | 20.0%   | 15.0%                   | 15.0%<br><u>5.0%</u><br>20.0%                              |
| 11.  | Arkansas       | 17.0%   | 17.0%                   | 12.0%<br><u>5.0%</u><br>17.0%                              |
| 12.  | Wisconsin      | 15.0%   | 15.0%                   | No Survey Data   |

SOURCE: National Association of State Facility Administrators (NASFA) Survey (January 2001) and PEER Interviews with state construction management staff in Arkansas, Georgia, Louisiana, Mississippi, North Carolina, and Tennessee

Note 1: "No Survey Data" means the NASFA survey did not contain a breakdown of the maximum percentage payments between the trade and general contractors.

## Professional-Related Practices

**For the four buildings, the bureau paid an additional \$389,450 for design error and omission or documentation deficiencies.**

**Part of these costs would have been recoverable through errors and omissions insurance claims; however, the bureau has not pursued this reimbursement for any of the evaluated projects.**

PEER found that the bureau paid professional contractors for design error and omission or documentation deficiencies that caused an additional \$389,450 in state construction cost, representing 4% of the total change order costs for the four buildings, and gave the professionals an additional \$18,476 in associated fees. The overall professional design error and omission or documentation deficiency rate was 11% on change orders. Exhibit 7, page 26, summarizes the reasons for change orders.

This financial management practice has resulted in increased state project costs. The professional's costs would have been recoverable through errors and omissions insurance claims; however, the Bureau of Building has not pursued this reimbursement process for any of the evaluated projects.

**Exhibit 7: Rank Order of Building Construction Project Change Order Categories from Highest to Lowest Total Work Items (As of 10-8-02)**

| <b>Rank Order</b> | <b>Category of Change Orders</b> | <b>Archives and History</b> | <b>Sillers</b> | <b>Underwood Complex</b> | <b>Woolfolk</b> | <b>Total Work Items</b> |
|-------------------|----------------------------------|-----------------------------|----------------|--------------------------|-----------------|-------------------------|
| 1                 | Program Changes                  | 18<br>(30.0%)               | 13<br>(40.6%)  | 38<br>(51.4%)            | 137<br>(33.0%)  | 206<br>(35.5%)          |
| 2                 | Construction Impediments         | 21<br>(35.0%)               | 5<br>(15.6%)   | 13<br>(17.6%)            | 141<br>(34.0%)  | 180<br>(31.0%)          |
| 3                 | Unforeseen Conditions            | 6<br>(10.0%)                | 6<br>(18.8%)   | 2<br>(2.7%)              | 50<br>(12.0%)   | 64<br>(11.0%)           |
| 4                 | Design Errors and Omissions      | 7<br>(11.7%)                | 1<br>(3.1%)    | 12<br>(16.2%)            | 34<br>(8.2%)    | 54<br>(9.3%)            |
| 5                 | Miscellaneous                    | 6<br>(10.0%)                | 5<br>(15.6%)   | 7<br>(9.5%)              | 33<br>(8.0%)    | 51<br>(8.8%)            |
| 6                 | Code Interpretations             | 1<br>(1.7%)                 | 2<br>(6.3%)    | 2<br>(2.7%)              | 9<br>(2.2%)     | 14<br>(2.4%)            |
| 7                 | Documentation Deficiencies       | 0<br>(0.0%)                 | 0<br>(0.0%)    | 0<br>(0.0%)              | 11<br>(2.7%)    | 11<br>(1.9%)            |
| 8                 | Weather Conditions               | 1<br>(1.7%)                 | 0<br>(0.0%)    | 0<br>(0.0%)              | 0<br>(0.0%)     | 1<br>(0.2%)             |
|                   | <b>Total</b>                     | <b>60</b>                   | <b>32</b>      | <b>74</b>                | <b>415</b>      | <b>581</b>              |
|                   | <b>(Change Orders)</b>           | <b>(13)</b>                 | <b>(9)</b>     | <b>(24)</b>              | <b>(90)</b>     | <b>(136)</b>            |

SOURCE: PEER analysis of project change orders.

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# Recommendations

## Legislative

1. The Legislature should amend MISS. CODE ANN. Section 31-11-30 (1972) to require the Department of Finance and Administration, in reviewing and reporting on project preplanning, to estimate and report to the Legislature the projected debt service costs for each preplanned project.

## Other State Entities

2. The State Auditor should conduct a compliance audit of the four personal services contracts associated with grounds or building cleaning at the Woolfolk Building.  
  
If this audit identifies these expenditures as an unauthorized use of bond funds, the state should make a claim against the surety bond of the Executive Director of the Department of Finance and Administration under MISS. CODE ANN. Section 7-7-211 (1972).

## Change Orders

3. The Bureau of Building should use a modified change order form that includes a cost summary sheet for the proposed work. This sheet should list the following costs for the general and each trade contractor:
  - labor;
  - labor burden (fringe benefits);
  - material;
  - equipment;
  - overhead and profit amount; and,
  - total cost.
4. The Bureau of Building should require the general contractor and each trade contractor to substantiate with written documentation the labor burden (fringe benefit) rate that they will charge during the construction project.  
  
This cost requirement could be made a part of the contract bid process for the general contractor and at the beginning of a trade contractor's participation in the project.

5. Upon the receipt of a change order request, the Bureau of Building should determine the total cost for the change order by estimating the long-term debt service costs, so that the total cost of this additional work can be considered in the approval process. If this change order is approved, the bond proceeds and debt service costs should be documented in the Project Accounting and Tracking System.

### **Project Accounting and Tracking System (PATS)**

6. The Bureau of Building should modify the Project Accounting and Tracking System to capture milestones essential in tracking time and cost for the various phases and participants in the construction process and use these data elements for management purposes. The bureau should also modify PATS to provide management reports to DFA on a routine or real time basis and capture information concerning bureau and professional team visits to construction sites and project meetings.
7. The Bureau of Building should modify PATS to capture the following data elements for change orders and use the information for management purposes: initiator, category, type, and average processing days measured from the date the change order is formally requested.

### **Payment Practices**

8. The Bureau of Building should change its standard design professional contract to state that the bureau's policy will be to file insurance claims for all change order work that is caused by the professional's design errors, omissions, or documentation deficiencies. Further, the bureau should not pay any additional fees to the professional team for such change orders.
9. The Bureau of Building should consider reducing the overhead and profit percentage that it pays to general and trade contractors, taking into consideration the rates paid by other states. The bureau should set a maximum total percentage regardless of the number of participants involved in the contract. The bureau should allocate this percentage proportionately based on the amount of work performed by each contractor.
10. The Bureau of Building should modify its bid process to require the general contractor to substantiate with written documentation a detailed breakdown of what is included in the overhead rate that they will charge. The general contractor should subsequently require the trade



contractors to do the same at the point of their contract negotiation.



# Appendix A: Glossary of Terms Related to the State Construction Process

| Report Term                  | Definition  |
|------------------------------|---|
| Public entity                | any state or local governmental entity, excluding any state entity construction project exempted by the Mississippi Legislature.  |
| State entity                 | receives state funds or expends self-generated funds for construction; can also include a <u>local public entity</u> if the Legislature gives DFA control of its appropriated state funds for construction projects.        |
| Local entity                 | has the authority to enter into construction contracts paid with public funds or self-generated funds.  |
| Construction process         | delivers a state-managed construction project through a professional and contractor team of private firms after the public entity plans, programs, schedules, budgets, and finances the project.                            |
| Professional team            | includes the professional contractor and the architect, electrical engineer, mechanical engineer, structural engineer, or other professional consultants.   |
| Contractor team              | includes general contractor(s), trade contractors, and contractor consultants who perform the construction project work.  |
| General contractor           | is a firm or individual that contracts with a public entity to construct the project. These contractors usually contract directly with the trade contractors and directly supervise their work on the construction project. |
| Trade contractor             | is a firm or individual specializing in a building trade necessary to construct a project; examples are brick masons, electricians, painters, plumbers, roofers, or specialty skill consultants                             |
| Construction program manager | is an independent third party that oversees designated phases of a construction project. This party represents a public entity's interest and exercises oversight independent of the professional and contractor teams.     |
| Construction goal            | is a project that is delivered on time at the lowest possible cost.   |

SOURCE: PEER analysis of public and private sector construction delivery systems.

## Appendix B: Current Financial Status of Selected DFA-Managed Building Construction Projects (As of 10-8-02)

|   | Information Item                                  | Archives and History             | Sillers                         | Underwood Complex                | Woolfolk                                 | Total                           |
|---|---|----------------------------------|---------------------------------|----------------------------------|--|---------------------------------|
| 1 | Project type                                      | New Construction                 | Renovation/Repair/Addition      | Renovation/Repair/Addition       | Renovation/Repair/Addition               | N/A                             |
| 2 | Project initiation date                           | 5/24/96                          | 5/5/98                          | 4/29/96                          | 10/26/92                                 | N/A                             |
| 3 | Final construction acceptance date (Last Project) | 5-22-03<br>(Projected)           | 1-31-07<br>(Projected)          | 3/27/01<br>(Completed)           | 12-31-02<br>(Projected)                  | N/A                             |
| 4 | Number of Projects                                | 6                                | 5                               | 5                                | 17                                       | 33                              |
|   | Number of Change orders                           | 13                               | 9                               | 24                               | 90                                       | 136                             |
| 5 | Original contract days                            | 730                              | 548                             | 525                              | 2,495                                    | 4,298                           |
|   | Change order days                                 | <u>254</u>                       | <u>0</u>                        | <u>539</u>                       | <u>2,037</u>                             | <u>2,830</u>                    |
|   | <b>Revised Contract Days</b>                      | <b>984<br/>(34.8%)</b>           | <b>548<br/>(0.0%)</b>           | <b>1,064<br/>(102.6%)</b>        | <b>4,532<br/>(81.6%)</b>                 | <b>7,128<br/>(65.8%)</b>        |
| 6 | Type of Funding                                   | State Bonds and Department Funds | State Bonds                     | State Bonds and Department Funds | State Bonds and Office of Governor Funds | N/A                             |
| 7 | DFA master budget                                 | \$28,663,252                     | \$50,025,000                    | \$15,968,769                     | \$73,004,395                             | \$167,661,416                   |
|   | DFA actual budget                                 | <u>29,353,462</u>                | <u>15,766,650</u>               | <u>17,971,106</u>                | <u>75,642,252</u>                        | <u>138,733,470</u>              |
|   | <b>Over (Under)</b>                               | <b>\$ 690,210<br/>(2.4%)</b>     | <b>(\$34,258,350)<br/>(N/A)</b> | <b>\$2,002,337<br/>(12.5%)</b>   | <b>\$2,637,857<br/>(3.6%)</b>            | <b>(\$28,927,946)<br/>(N/A)</b> |

SOURCE: PEER Analysis of DFA Project and Accounting Tracking System Records & DFA staff

1. Master Project Budget--This budget is the original estimated total project cost after legislative authorization and initial funding that the Bureau of Building adopted for it, as documented in its Standard Action Forms. It includes cost estimates for construction, professional fees, miscellaneous expenses, furniture and equipment, and contingency funds for change orders or other unknown expense items. *(This budget is not used in the Project Accounting and Tracking System of the Bureau of Building.)*
2. Actual Project Budget--This budget is the Master Project Budget modified to reflect any additional planned budget funding increases or decreases for the project budget categories that are identified after starting a project. As a result, this budget changes numerous times during the planning and construction phases of the project. The Bureau of Building also documents these budget changes in its Standard Action Forms. *(This budget is used in the Project Accounting and Tracking System of the Bureau of Building.)*

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## Appendix C: Definitions for Construction Project Change Orders

1. Program Changes are new project scope requirements that were not in the project design and/or construction contract documents.
2. Unforeseen Conditions are unidentified or undocumented conditions in project design or contract work requirements.
3. Code Interpretations cause a changed work requirement in the project design and/or construction contract due to disagreements over building codes or non-compliance with codes.
4. Weather Conditions cause changes in the number of allowed project days or actual construction requirements and cost.
5. Design Errors and Omissions are discrepancies between the actual work requirement and the project design and/or construction contract documents.
6. Documentation Deficiencies are deficiencies for which the general contractor could not have reasonably foreseen the explanation or instruction.
7. Construction Impediments cause changes to be made to accelerate the work, deal with unforeseen work problems, or combine related projects into one project for either reason or better project management.
8. Miscellaneous includes any work requirement that does not fit one of the other categories, such as changes to adjust contract allowances.

SOURCES: PEER analysis of project change orders and generally accepted industry categories.

# Appendix D: Rank Order of Initiating Parties for Building Construction Project Change Orders from Highest to Lowest Total Work Items (As of 10-8-02)

| Rank Order | Initiating Party                | Archives and History | Sillers       | Underwood Complex | Woolfolk       | Total Work Items |
|------------|---------------------------------|----------------------|---------------|-------------------|----------------|------------------|
| 1          | Owner/User                      | 20<br>(33.3%)        | 4<br>(12.5%)  | 39<br>(52.7%)     | 189<br>(45.5%) | 252<br>(43.4%)   |
| 2          | Professional Team               | 24<br>(40.0%)        | 17<br>(53.1%) | 30<br>(40.5%)     | 130<br>(31.3%) | 201<br>(34.6%)   |
| 3          | Contractor Team                 | 11<br>(18.3%)        | 5<br>(15.6%)  | 5<br>(6.8%)       | 72<br>(17.3%)  | 93<br>(16.0%)    |
| 4          | Contractor & Professional Teams | 0<br>(0.0%)          | 2<br>(6.3%)   | 0<br>(0.0%)       | 17<br>(4.1%)   | 19<br>(3.3%)     |
| 5          | Owner & Professional Team       | 5<br>(8.3%)          | 4<br>(12.5%)  | 0<br>(0.0%)       | 7<br>(1.7%)    | 16<br>(2.8%)     |
|            | <b>Total</b>                    | <b>60</b>            | <b>32</b>     | <b>74</b>         | <b>415</b>     | <b>581</b>       |
|            | <b>(Change Orders)</b>          | <b>(13)</b>          | <b>(9)</b>    | <b>(24)</b>       | <b>(90)</b>    | <b>(136)</b>     |

SOURCE: PEER Analysis of DFA Project and Accounting Tracking System Records

1. PEER used the “Contractor & Professional Teams” and “Owner & Professional Team” categories when it could not clearly determine which party either actually identified the work requirement first or the two parties jointly identified or agreed to it.
2. PEER’s analytical results follow the usual pattern for the primary initiators of change orders.
3. PEER staff determined the “Number of Work Items” included in each change order. If any numbered item in a change order contained multiple sub-items, it was counted as one work requirement unless the sub-items were unrelated work requirements, such as a construction item change order with personal services contract items.

# Agency Response



STATE OF MISSISSIPPI  
DAVID RONALD MUSGROVE, GOVERNOR

## DEPARTMENT OF FINANCE AND ADMINISTRATION

GARY ANDERSON  
EXECUTIVE DIRECTOR

December 16, 2002

Honorable William Canon, Chairman  
Joint Committee for Performance Evaluation and Expenditure Review  
P. O. Box 1204  
Jackson, Mississippi 30215-1204

Via Hand Delivery

Dear Chairman Canon:

I have reviewed the draft **The Department of Finance & Administration's Management of Construction Projects at Selected State-Owned Buildings** prepared by the PEER Committee and offer the following response from the Department of Finance & Administration.

We appreciate your review of these four (4) projects and believe that your report offers some points of merit. DFA concurs that there is benefit in making revisions to the Bureau's management information system, and its policy and procedures manual. In fact, this process has been underway for several months and will be completed shortly. We further believe that additional review of the profit and overhead allowances to contractors and sub-contractors may be beneficial. However, there are points with which we disagree. At no time did DFA or BOB enter into separate personal services contracts for additional cleaning and grounds keeping services at the Woolfolk Building. The PEER report improperly depicts the actions of the Department in this matter.

In order to accurately examine the management of the four projects depicted in this report, it is important to consider the fact that these projects were developed prior to the 2000 Legislative Session. When the Musgrove Administration took office, the Department of Finance and Administration examined the construction process carried out through the Bureau of Building. DFA recognized that the lack of preplanning was a deficiency in that process. The Department worked with the House Public Buildings, Grounds and Lands Committee and the Senate Public Property Committee to successfully implement a pre-planning requirement for all projects with budgets more than \$1million. Thus, the projects reflected in this report are representative of an outdated method of developing and implementing large construction projects. Without pre-planning of these projects, true costs of construction materials, structural, mechanical and electrical systems could not be

accurately determined. Additionally, funding was not appropriated based on realistic planning, thereby preventing adequate design programming to meet the needs of the user/tenant agencies. Thus, in an effort to effectively manage these projects, while accommodating the needs of user/tenant agencies, DFA/BOB often approved change orders, most of which were requested by those same agencies.

The Bureau of Building made every reasonable effort to be sensitive to and to address the needs of all user/tenant agencies. For example, in the Woolfolk Building, BOB accommodated the Tax Commission's \$1.7 million change order request for relocation, furniture, and telecommunications improvements, LBO's \$1.2 million change order request to reconfigure and relocate offices and its hearing room, and PEER's \$72 thousand change order request to add interior walls, furniture and equipment. Each Woolfolk tenant agency requested change orders and requests were carefully considered. Some were approved, others denied.

In addition to PEER's failure to acknowledge the lack of pre-planning of these projects, PEER also failed to recognize the design restraints, construction complexity and age of these four facilities. For example, the Woolfolk Building is the state's largest governmental office building and has received extensive restoration and code upgrades in recent years. In an effort to extend its life expectancy for an additional 50 or more years, the 50-year old building has undergone a comprehensive renovation, as well as a substantial addition (in excess of 149,000 square feet). Further, this report fails to identify the increased value of the buildings addressed in the report. The taxpayers of Mississippi can look forward to visiting structures designed explicitly to be centrally located, accessible and provide service to the citizens of the state for many years to come.

This report cites that the Department of Finance and Administration entered into personal service contractual agreements for janitorial and grounds keeping services. The Bureau of Building exercised appropriate and proper judgment by requiring the Contractor to provide additional construction cleaning to maintain a healthy and clean environment for all building tenants. General Conditions of the contract required the contractor to maintain a clean construction site and facility in preparation for tenant occupancy. The Bureau of Building issued a construction change directive to increase cleaning in the Woolfolk Building in anticipation and preparation for early occupancy. Phased move-in of tenants required additional efforts from the contractor to meet janitorial and grounds cleaning needs.

In an effort to minimize costs associated with leasing extensions, damages to the lease holders, and legal fees, DFA accommodated several tenants through a phased move-in to the Woolfolk building. As a result of this phased move-in, ongoing construction within the building required additional unforeseen cleaning.

Terrazzo dust and gypsum board dust remained airborne for an extended period due to continuous construction and tenant traffic. The absence of additional cleaning would have resulted in difficult



Chairman Canon  
December 16, 2002  
Page 3

working conditions for employees and visitors of the building.

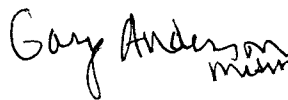
The contractor was expected to provide these services, which were not anticipated in the original contract, again due to the lack of pre-planning in this project. At no time did DFA or BOB enter into separate personal services contracts for additional cleaning or grounds keeping.

DFA/BOB is currently addressing overhead and profit maximum percentages modifications in its revised edition of its policy and procedures manual. Construction contracts will reflect similar maximum percentages of south central and south eastern neighboring states.

### **Conclusion**

The projects identified in this report are all examples of the previous manner in which buildings were constructed by the State. This method was determined to be flawed by the current administration. In response, we successfully lobbied the Legislature to amend the construction process to require pre-planning of all construction and renovation projects in excess of \$1 million. The Department is currently reviewing its maximum allowable percentages for profit and overhead permitted contractors and sub-contractors in comparison with other states' standards. Additionally, pre-planning combined with revisions to the Bureau's policy and procedures manual and management information system will result in a more efficient and effective construction management program for the State.

Sincerely,

A handwritten signature in black ink that reads "Gary Anderson" with a stylized flourish underneath.

Gary Anderson



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