

*A REPORT BY THE NEW YORK STATE
OFFICE OF THE STATE COMPTROLLER*

H. Carl McCall
STATE COMPTROLLER



STATE UNIVERSITY CONSTRUCTION FUND

*SELECTED CONSTRUCTION CONTRACTING
PRACTICES*

2000-S-34

DIVISION OF MANAGEMENT AUDIT AND
STATE FINANCIAL SERVICES



H. Carl McCall
STATE COMPTROLLER

Report 2000-S-34

Mr. Edward S. Nelson
Chairman
State University Construction Fund
State University Plaza
Albany, NY 12201

Dear Mr. Nelson:

The following is our report on the State University Construction Fund relating to selected construction contracting practices.

This audit was performed pursuant to the State Comptroller's authority as set forth in Section 1, Article V of the State Constitution and Section 8, Article 2 of the State Finance Law. We list major contributors to this report in Appendix A.

*Office of the State Comptroller
Division of Management Audit
and State Financial Services*

July 9, 2001

EXECUTIVE SUMMARY

STATE UNIVERSITY CONSTRUCTION FUND SELECTED CONSTRUCTION CONTRACTING PRACTICES

SCOPE OF AUDIT

The State University Construction Fund (Fund), governed by a three-member Board appointed by the Governor, was created in 1962 as a public benefit corporation established within the State University of New York (SUNY). The Fund is responsible for implementing SUNY's \$1.575 billion, multi-year capital plan. The Fund's main purpose is to provide academic buildings and other facilities for SUNY. The Fund develops a general description and an initial budget amount for each construction project. The Fund employs an architect (consultant) to assist in the planning, design, and bid and award of the project. The contract award must be made to the lowest bidder who is qualified to perform the work and is considered reliable and responsible. For the period July 1, 1998 through July 31, 2000, the Fund awarded contracts for 248 construction projects totaling \$541 million and completed 130 projects totaling \$228.3 million.

Our audit addressed the following questions related to the Fund's construction contracting practices for the period July 1, 1998 through December 31, 2000:

- Does the Fund have adequate controls in place to ensure that construction contracts are properly awarded?
- Does the Fund adequately evaluate change orders to ensure that they are justified?

AUDIT OBSERVATIONS AND CONCLUSIONS

We found that overall the Fund had adequate controls in place to ensure that construction contracts are properly awarded and that change orders are adequately justified. However, we noted the need for improvement in certain aspects of the Fund's construction contracting practices.

Adequate internal controls over project budgets and expenditures require that documentation be maintained to support project decisions and that approvals be obtained from the Board at the appropriate times. We found that for one project (SUNY System Administration Parking Garage) the Fund did not maintain

adequate documentation to support the reasons for a significant increase in the project budget and subsequent expenditures. In addition, our review of the required Board approvals for this increase identified a breakdown in internal controls. In effect, it appeared that the Board did not approve a budgetary amount above the original estimate until after the bids were opened and the lowest bidder was established. As a result, budgetary accountability over this capital project was diminished. We recommend that sufficient written documentation be developed and maintained to support Fund decisions, revised budget amounts and project changes. In addition, the Board should have the opportunity for a timely review to fully evaluate and question the appropriateness of a capital expenditure. (See pp. 5-8)

For each project, the Fund estimates an additional 5 percent of the project award amount for a contingency to cover any necessary changes from the contract specifications. We noted certain projects where the amount of change orders exceeded the 5 percent contingency, and we noted that omissions were a contributing factor. An omission is an item (e.g., material, equipment) or work (e.g., asbestos abatement) that is essential to the completion of the project and should have been in the contract document, but the architect failed to include it. As a result, the work related to the omissions for these projects was not able to be competitively bid to ensure that the lowest price was obtained. We recommend that the Fund reassess the design review process to identify how operations can be improved to minimize the risk for change orders pertaining to design omissions. (See pp. 8-9)

We found that the Fund generally has comprehensive guidelines regarding the award of contracts, but needs to develop specific guidelines in performing experience and qualifications reviews of potential contractors. We found that the majority of the consultants' letters of recommendation did not adequately document the steps performed by the consultant to review the lowest bidder's experience and qualifications. Moreover, the consultants' letters of recommendation revealed that there was no consistent method followed for making the determination that the lowest bidder was both responsible and reliable. We recommend that the Fund develop formal written requirements which provide minimum standards for a consistent process to review the lowest bidder's experience and qualifications. (See pp. 9-11)

COMMENTS OF FUND OFFICIALS

Fund officials agree with our recommendations and indicate that steps will be taken to implement them.

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Major Contributors to This Report

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INTRODUCTION

Background

The State University Construction Fund (Fund), governed by a three-member Board appointed by the Governor, was created in 1962 as a public benefit corporation established within the State University of New York (SUNY). The Fund is responsible for implementing SUNY's \$1.575 billion, multi-year capital plan. The purposes of the Fund are as follows: to provide academic buildings and other facilities for SUNY; to reduce the time between determination of need and actual occupancy of such facilities; to expedite the construction, acquisition, reconstruction and rehabilitation or improvement of such facilities; and to ensure the facilities are ready when scheduled under SUNY's multi-year capital plan. For the period July 1, 1998 through July 31, 2000, the Fund awarded construction contracts for 248 construction projects totaling \$541 million and completed 130 projects totaling \$228.3 million.

The Fund is responsible for developing a general description and an initial budget amount for each construction project. The Fund employs an architect (consultant) to assist in the planning, design, and bid and award of the project. As such, the consultant is responsible for developing detailed plans and specifications. Each project generally includes four design phases: concept, schematic, design manual, and pre-bid. After the design phases, the consultant prepares complete drawings and a final estimate of the project cost (budget).

Once the final drawings and plans are approved by the Fund, it is the responsibility of the consultant to advertise for contractors to submit bids for the construction portion of the project. The Fund is required to award construction contracts by public bid for all work estimated to be more than \$20,000. The contract award must be made to the lowest bidder who is qualified to perform the work and is considered reliable and responsible. The Fund requires that the consultant review the experience and qualifications of the lowest bidder and its designated subcontractors. Upon completion of the review, the consultant provides the Fund with a letter of recommendation for

construction contract award and for subcontract awards, if appropriate.

Audit Scope, Objectives and Methodology

We audited selected construction contracting practices of the Fund for the period July 1, 1998 through December 31, 2000. The objectives of our performance audit were to determine whether the Fund has adequate controls in place to ensure that construction contracts are properly awarded and that change orders for these contracts are adequately justified.

To complete our audit objectives, we interviewed responsible project consultants and Fund officials, managers, and staff, and observed Fund operations. We reviewed and evaluated relevant policies and procedures, rules and regulations, as well as other relevant data and documentation significant and relevant to the objectives. We obtained downloads of data from all relevant record keeping systems. We analyzed the downloaded data to look for trends of low competition (number of bids), changes between the budgeted and award amount, and variances in encumbrances, disbursements and awards. We tested a sample of construction contracts for compliance with Fund contract bid and award procedures. Of the total population of 248 construction projects totaling almost \$541.4 million, we selected a sample of 30 construction projects totaling almost \$72.9 million (13 percent) to test compliance with the Fund's contract bid and award procedures. Of those 30 construction projects, 20 were based on a random statistical sample totaling more than \$23.7 million, and 10 were based on a judgmental sample totaling more than \$49.1 million. Generally, these contracts were selected because there was a limited number of bidders, the original low bidder was not qualified and the contractor was awarded several other contracts during our audit scope period.

We also tested a sample of completed construction contracts to determine whether the additional work caused by change orders was valid, necessary and within the scope of the original contract award. From a population of 130 projects totaling almost \$228.3 million with change orders totaling more than \$12 million, we sampled 34 projects totaling more than \$97.9 million (43 percent) with change orders totaling more than \$7.4 million (62 percent). Of those 34 projects, 20 were based on a random statistical sample totaling more than \$36.2 million with total

change orders of more than \$2.8 million, and 14 were based on a judgmental sample totaling more than \$61.7 million with total change orders of more than \$4.6 million. Generally, these contracts were selected because the change order amounts were a high percentage of the award value, the contracts were over the five percent contingency allowance with a large number of change orders, and one contractor had two different contracts both which exceeded the five percent contingency. Further, we reviewed documentation for each change order in our sample to determine whether all required reviews and approvals had been completed. We interviewed appropriate Fund personnel or project architects when we had questions about specific changes. Further, we utilized an outside consultant to provide expertise during our review of change orders.

We conducted our audit in accordance with generally accepted government auditing standards. Such standards require that we plan and perform our audit to adequately assess those operations of the Fund which are included within the audit scope. Further, these standards require that we understand the Fund's internal control structure and compliance with those laws, rules and regulations that are relevant to the operations which are included in our audit scope. An audit includes examining, on a test basis, evidence supporting transactions recorded in the accounting and operating records and applying such other auditing procedures as we consider necessary in the circumstances. An audit also includes assessing the estimates, judgments, and decisions made by management. We believe that our audit provides a reasonable basis for our findings, conclusions and recommendations.

We use a risk-based approach to select activities for audit. We therefore focus our audit efforts on those activities we have identified through a preliminary survey as having the greatest probability for needing improvement. Consequently, by design, we use finite audit resources to identify where and how improvements can be made. We devote little audit effort to reviewing operations that may be relatively efficient or effective. As a result, we prepare our audit reports on an "exception basis." This report, therefore, highlights those areas needing improvement and does not address activities that may be functioning properly.

Response of Fund Officials

We provided a draft copy of this report to Fund officials for their review and comment. Their comments have been considered in preparing this report and are included as Appendix B.

Within 90 days after final release of this report, as required by Section 170 of the Executive Law, the Chairman of the State University Construction Fund shall report to the Governor, the State Comptroller, and the leaders of the Legislature and fiscal committees, advising what steps were taken to implement the recommendations contained herein, and where recommendations were not implemented, the reasons therefor.

CONTROLS OVER CONSTRUCTION CONTRACTS

We found that overall the Fund had adequate controls in place to ensure that construction contracts are properly awarded and that change orders are adequately justified. However, during our review of the bid and award contract process, we found that for one project (SUNY System Administration Parking Garage) the Fund did not maintain adequate documentation to support the reasons for the significant increase in the project budget and subsequent expenditures. In addition, our review of the required Board approvals for this increase identified a breakdown in internal controls. As a result, budgetary accountability over this capital project was diminished. In addition, we found that in certain instances the dollar amount of the change orders exceeded the normal 5 percent contingency for change orders and that design omissions by the consultants were a contributing factor. We also found that the majority of the consultants' letters of recommendations did not adequately document the steps performed by the consultants to review the lowest bidders' experience and qualifications.

SUNY System Administration Parking Garage

The SUNY System Administration Parking Garage (Garage) was originally intended to be a 600-car facility located between Maiden Lane and I-787 in the city of Albany adjacent to the SUNY System Administration headquarters. On October 17, 1997, the Fund established an initial estimated budget for this project at \$8.9 million.

The standard consultant agreement used by the Fund states that the consultant, under the supervision of the Fund, is responsible for the design of the construction project (e.g., development of plans and specifications). At the end of each design phase, the agreement provides that the consultant must submit a written report to the Fund indicating any changes made to the original specifications, a project cost estimate, and

verification that the project can be completed within the initial project budget.

Adequate internal controls over project budgets and expenditures require that documentation be maintained to support project decisions and that approvals be obtained from the Board at the appropriate times. Documentation is necessary to provide responsible managers with adequate evidence to make informed and appropriate decisions. It also allows for an independent assessment of the need for the budget and the propriety of subsequent expenditures.

We reviewed documentation to support the project budget for the Garage. Fund officials told us that the Garage was developed on an accelerated design schedule which compressed a standard 28-month design/bid/award process into a 5-month process. Officials stated that this decision was made because of the simplicity of the structure and to offset construction delays that had already occurred. However, when the Fund decided to accelerate the design schedule for the Garage it also eliminated the required reports by the consultant at the end of each of the four design phases. These reports would have specifically discussed any changes to the construction plans and would have provided an updated project budget.

Adequate internal controls and Fund procedures also require Board approval of capital expenditures. Specifically, the Board must approve all capital expenditures in excess of \$20,000. The Board completed its approval of the initial budget of \$8.9 million on January 14, 1999. Although the Fund made updated plans and specifications available to prospective bidders on January 15, 1999, Fund records showed that the consultant did not provide a final cost estimate of \$14.1 million (a 60 percent increase over the original \$8.9 million budget) until February 12, 1999, four days prior to the bid opening. The Fund's files provided no documentation to indicate the reasons for the significant increase in the budget that occurred due to changes made to the plans and specifications over a 16-month period (October 1997 to February 1999).

The Board completed its approval of the final cost estimate of about \$14.5 million February 18, 1999. This amount was equal to the amount of the lowest bid which was opened on February 16, 1999. It therefore appears that the Board did not pre-

approve the design changes or approve a budgetary amount above \$8.9 million until after the bids were open and the lowest bidder was established. This internal control breakdown diminishes controls over capital projects.

We met with the consultant responsible for designing and providing the final budget estimate. The consultant told us that the additional budget amount was for higher quality materials than originally planned, such as copper roofs and high performance concrete. The consultant also stated that the project increase was based on knowledge of special conditions at the site and recent experience in similar construction.

Based on our concerns relating to the lack of documentation to support the Fund's budgetary and expenditure decisions, Fund officials developed and provided to us on February 15, 2001 a written narrative of the reasons for the increase in the Garage's project budget. In addition, based on our request, officials developed and provided an estimated dollar value of the additional project costs. Such detailed information was not available in the project files.

The written narrative provided by Fund officials indicated that the original project budget did not include funding for operational limitations, construction site restrictions, historic review impacts, security concerns, or design considerations. Officials explained that they had operational limitations, such as the need for snow melting equipment, and construction limitations, such as on-site space limitations for the storage of construction materials. In addition, officials explained that the State Office of Historic Preservation identified various design elements related to historic buildings on the National Historic Register. As a result, needed changes, such as terra cotta masonry and precast arches, were added to the cost of the project. Officials also told us that, based on a security issue concerning the adjacent Federal courthouse, there was a need to make a structural design change in order to protect both the Federal judges and prisoners in the courthouse. Another major design change occurred whereby the Garage was changed from a two level structure to a three level structure in order to mitigate negotiations with the Federal Highway Administration regarding the I-787 right-of-way. This added another 79 parking spaces to the original design.

The narrative provided by the Fund in February 2001 may be an accurate description of the events that led to the increase in the project budget, and we understand that certain changes may have been necessary. However, good internal controls require that documentation be maintained on an ongoing basis to support project decisions and that Board approval be made at the appropriate time in the process.

Recommendation

1. For all construction projects, ensure that sufficient written documentation is developed and maintained to support Fund decisions, revised budget amounts and project changes. Ensure that the Board has the timely opportunity to fully evaluate and question the appropriateness of a capital expenditure.

(Fund officials agree with this recommendation.)

Evaluation of Change Orders

For each construction project, the Fund estimates an additional 5 percent of the project award amount for a contingency to cover any necessary changes from the contract specifications. Such changes are known as change orders. All change orders go through several reviews before final approval and payment. The first review is by the consultant to prepare and submit to the Fund a detailed estimate, evaluation and recommendation on the proposed change order. In addition, the Fund's construction unit is responsible for reviewing all change orders submitted by the consultant to ensure the work is valid, necessary and within the project scope.

Our review of the 34 construction projects found that overall the controls and procedures developed and followed by the Fund provide reasonable assurance that change orders are valid, necessary and within the scope of the project. We found overall that change orders average 5 percent of the total completed project cost. However, our review identified an area for improvement. In certain instances, the amount of change orders in our sample exceeded the 5 percent contingency, and we noted that omissions were a contributing factor. An omission is an item (e.g., material, equipment) or work (e.g., asbestos abatement) that is essential to the completion of the

project and should have been in the contract document, but the architect failed to include it. From our sample of 34 projects, we identified 6 projects, with award values totaling \$48,930,200 and change orders totaling \$4,970,744 (10 percent), with a higher percent of change orders than average. Consultant omissions accounted for 33 percent or \$1,649,903 of these change orders. As a result, the work related to the omissions for the six projects was not able to be competitively bid to ensure that the lowest price was obtained. In addition, the construction unit incurred costs by having to review 225 omission change orders related to the six projects.

We recognize that the Fund has an initial project design review/approval process in place intended to limit the number of omissions in the consultant's design. In addition, the Fund's construction unit is responsible for reviewing the validity of change order submissions after review by the consultant, and it has developed a system to rate the consultants based on their performance. We believe, however, that these processes need to be re-assessed to ensure that omissions are detected as soon as possible.

Recommendation

2. Reassess the design review process to identify how operations can be improved to minimize the risk for change orders pertaining to design omissions.

(Fund officials agree with this recommendation.)

Contract Award Process

The Public Authorities Law requires that the Fund adopt comprehensive guidelines which detail the Fund's operative policy and instructions regarding the award of procurement contracts. While we found that the Fund generally has comprehensive guidelines regarding the award of contracts, the Fund needs to develop specific guidelines for performing experience and qualifications reviews of potential construction contractors.

The consultant is responsible to advertise for contractors to submit bids for the construction portion of the project. The Fund requires that the consultant review the experience and

qualifications of the lowest bidder and its designated subcontractor. Upon completion of the review the consultant provides the Fund with a letter of recommendation for use of the lowest bidder and its designated subcontractors if appropriate. Although the Fund has charged the consultant with the responsibility of performing the experience and qualifications review on the lowest bidder, it has not provided the consultant with specific guidelines or minimum standards for performing such reviews. In addition, the Fund does not require that the consultants document these reviews in a consistent manner.

From our sample of 30 projects to test compliance with the Fund's contract bid and award procedures, we found that the majority of the consultants' letters of recommendation for these construction projects did not adequately document the steps performed by the consultant to review the lowest bidder's experience and qualifications. Moreover, the consultants' letters of recommendation revealed that there was no consistent method followed for making the determination that the lowest bidder was both responsible and reliable. For example, some consultants indicated that they used their prior experience with the lowest bidder as a basis for their determination, while others contacted references in making their determinations. Further, the level of detail included in the consultants' letters of recommendation vary. For example, one consultant simply stated that they called references and as a result can recommend the lowest bidder. Another consultant specifically indicated how many references were called, the name, phone number, and company name for each reference, and a summary of the discussion with references that led to their recommendation of the lowest bidder.

Because of the lack of guidelines in this area, there is increased risk that the contractor recommended by the consultant may not be fully qualified to perform the work required and/or not be responsible and reliable. Moreover, if the reviews are not adequately documented, the Fund may lack assurance that the reviews were, in fact, completed.

Recommendation

3. Develop formal written requirements which provide minimum standards for a consistent process to review the lowest bidder's experience and qualifications. This should include, at a minimum, how many outside references the consultant should contact and what documentation is required in support of the letter of recommendation.

(Fund officials agree with this recommendation.)

MAJOR CONTRIBUTORS TO THIS REPORT

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RE: Draft Audit of Selected Construction Contracting Practices – Report No. 2000-S-34

Dear Mr. Barber:

Thank you for sharing a draft copy of the above referenced report. We appreciate your efforts and those of your staff over the appropriate six month period they were on site. We recognize the burden placed on all in the exhaustive review of 13% of awarded projects, 45% of active construction contracts and 70% of all change orders related to those projects. It's reassuring that your report finds that "overall the Fund had adequate controls in place to ensure that construction contracts are properly awarded and that change orders are adequately justified." We are mindful that those procedures and controls warrant continual review and appreciate the three recommendations contained in the report to assist the Fund in that regard.

Before responding to those recommendations we offer a few technical corrections or suggestions for your consideration:

1. Page 1, pp. 1 (Executive Summary & Introduction). The Fund is responsible for implementing SUNY's (\$1.575) billion, (multi)-year capital plan
2. Page 1, pp.1 – Introduction. The purposes of the Fund are as follows: to provide academic buildings and other facilities, (including) residential facilities – (multi) year
3. Page 2, pp. 3 – references 32 projects while previous draft cites 34 projects and includes percentages at 45% and 70%.
4. Page 8, pp. 3 – again references 32 construction projects while previous draft references 34 projects.

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*** See State Comptroller's Notes, Appendix
B-3**

Appendix B

June 5, 2001

- 5. Page 8, pp. 3 – the previous draft audit includes the following sentence after sentence ending... ‘project cost’. “In addition, we found that the controls and procedures developed and followed by the Fund give reasonable assurance that change orders are valid and within the scope of the project.” This sentence was included in the previous draft. Because it adds clarity and is a fair representation we believe that it is an omission and should be included in the final report.
- 6. Page 9 – “Recommendation” - - final word should be “omissions” not “errors”.

* Note 2

In response to the three recommendations contained in the report, the Fund offers the following:

#1. - The Fund acknowledges that accelerated projects are unusual and atypical and present an even greater challenge. The Fund will reaffirm requirements to have written documentation to support revised budgets and project changes for all projects, no matter how quickly designed or complex. The Fund will also continue to ensure that the Board has timely opportunity to review and question the appropriateness of a capital expenditure.

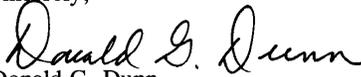
* Note 1

#2 - The Fund agrees that the design review process should be reassessed to minimize the risk for change orders for design omissions and in fact began the process in June 2000, before this audit commenced. The Fund will continue this reassessment and make appropriate changes.

#3 - The Fund agrees and will develop a written process for a standardized consistent review of the qualifications and experience of low bidders by Fund consultants.

Thank you for the opportunity to respond to the draft report and for your consideration of the minor adjustments which we propose.

Sincerely,


Donald G. Dunn
President

- cc: Chairman Nelson
Michael Clemente
Ken Schweigard
Jim Biggane
Frank Breselor
Robert Haelen

***State Comptroller's Notes**

1. Certain matters addressed in the draft report were revised or deleted in the final report. Therefore, some Fund comments included in Appendix B may relate to matters no longer contained in this report.
2. **This phrasing was in the draft report and remains in the final report.**