

GAO

Testimony
Before the Subcommittee on the
Legislative Branch, Committee on
Appropriations, House of Representatives

For Release on Delivery
Expected at 9:00 a.m. EDT
Wednesday, June 27, 2007

**CAPITOL VISITOR
CENTER**

Update on Status of
Project's Schedule and Cost
as of June 27, 2007

Statement of Terrell G. Dorn, Director,
Physical Infrastructure Issues



Madam Chair and Members of the Subcommittee:

I appreciate the opportunity to be here today to assist the Subcommittee in monitoring progress on the Capitol Visitor Center (CVC) project. My remarks will focus on (1) the Architect of the Capitol's (AOC) construction progress since the last CVC hearing on April 24, 2007; and (2) the project's expected cost at completion and funding status.¹

Today's remarks are based on our review of schedules and financial reports for the CVC project and related records maintained by AOC and its construction management contractor, Gilbane Building Company; our observations on the progress of work at the CVC construction site; and our discussions with the CVC team (AOC and its major CVC contractors), AOC's Chief Fire Marshal, and representatives from the U.S. Capitol Police. We also reviewed AOC's construction management contractor's periodic schedule assessments, potential change order log, and weekly reports on the progress of interior wall and floor stonework. In addition, we reviewed the contract modifications made to date.

Summary

Since the April 24, 2007, CVC hearing, the project's construction has progressed, and AOC is still projecting a June 27, 2008, completion date.² Although the CVC team has avoided further delays in the project's critical path (i.e., the work on the fire alarm system), activities on most of the project's near-critical paths have fallen behind schedule, and further delays are possible.³ During the past 2 months, the CVC team has made progress on the project's heating, ventilation, and air-conditioning (HVAC) system, interior wall stone and ceiling installation, and other interior and exterior construction work. However, problems have occurred in such near-critical activities as the ceiling close-ins in the upper level security and orientation lobbies and elements of the House and Senate expansion spaces, and a number of risks to the project's schedule remain. These include potential problems in completing the installation, integration,

¹GAO, *Capitol Visitor Center: Update on Status of Project's Schedule and Cost As of April 17, 2007*, [GAO-07-755T](#) (Washington, D.C.: Apr. 24, 2007).

²This date does not allow time for installing artifacts in the exhibit gallery or preparing for operations.

³The critical path is the single longest path of activities through a project's schedule. Each day of delay in the critical path could delay the completion of the entire project. Near-critical paths are the next longest paths through the project's schedule.

operation, and testing of complex, major building systems, including the fire alarm, security, and HVAC systems. For example, the subcontractor that is installing the fire alarm system told AOC in April that the installation may not proceed as scheduled because of cash flow issues and delays in other subcontractors' work. The subcontractor's cash flow issues are, in turn, related to another risk to the project's schedule—unsettled change order requests. Finally, a new risk emerged this month, when problems with the HVAC automated control system delayed the completion of efforts to test and balance of the HVAC units. Given these and other risks to the project's schedule, we believe that AOC will be able to meet or come close to meeting its scheduled construction completion date only if the CVC team promptly makes significant improvements in its execution of the project and the project's schedule.

At the November 15, 2006, CVC hearing, we reported that the total cost of the entire CVC project at completion is likely to be about \$592 million without an allowance for risks and uncertainties, and over \$600 million with such an allowance. Because the project's expected completion date remains uncertain, we have not updated these estimates. To date, about \$538.4 million has been approved for CVC construction, including about \$7.4 million in fiscal year 2007 appropriations. For fiscal year 2007, AOC has also received an additional appropriation of \$36.4 million for the CVC project, which AOC has not yet received approval to obligate. AOC has indicated that of this amount, approximately \$23.8 million will be used for construction and \$12.6 will be used for operations. AOC has also requested \$20 million in fiscal year 2008 CVC construction appropriations to cover remaining costs, and we estimate that AOC may need further appropriations in future fiscal years for construction claims.

Construction Is Progressing, but Delays in Work on Near-critical Paths and Other Risks Could Affect the Scheduled Completion Date

According to AOC's construction management contractor, in dollar terms, the overall CVC project is 95 percent complete, compared with 93 percent reported complete at the April 24 CVC hearing. Twenty-one of the CVC's 23 air handling units were reportedly operating full time as of June 21, and work has progressed in the East Front.

Project's Completion Date Remains Unchanged, but Delays in Near-critical Paths Could Jeopardize Progress on Critical Path

According to AOC's construction management contractor, there have been no delays in the critical path shown in the project's May 2007 schedule, but there have been delays in 13 of 17 near-critical paths. As we noted at the April 24 hearing, this schedule includes about 3 additional months for slippages, risks, and uncertainties. Despite this additional time, further substantial delays in some near-critical paths could affect the project's completion date. For example, delays in ceiling installation, a near-critical-path activity, could limit the installation of fire alarm devices, a critical-path activity. Work on 5 near-critical paths fell at least 3 weeks further behind in May. For example, according to the construction management contractor, the schedule for the ceiling close-ins in the upper level security and orientation lobbies slipped by 22 days, or 4.4 work weeks.

While the date for completing the CVC's construction remains unchanged, the sequence 2 contractor extended the schedule for completing the construction of the House and Senate expansion spaces because of delays in the House hearing room and in several near-critical-path activities, including testing and balancing the HVAC system, mounting fire alarm devices, and framing ceilings. As a result, the schedule for completing the expansion spaces slipped by about 1.5 weeks—to November 20, 2007—according to the project's May 2007 schedule.

One indicator of construction progress we have been tracking—the completion date for certain work activities—shows that the project is not progressing as well as planned. For example, as shown in table 1, the sequence 2 contractor completed 6 of 16 scheduled completion dates on time and completed 3 others late.

Table 1: Activities Being Tracked for the Capitol Visitor Center, April 11 through June 22, 2007

Activity	Location	Scheduled completion	Actual completion
Fabric ceiling panels	West lobby & assembly	4/23/2007	3/23/2007
Security furniture installed	Security	6/7/2007	3/27/2007
Stone stairs #29	East Front ground	5/23/2007	4/05/2007
Front stage millwork	Visitor auditorium	6/18/2007	5/8/2007
Wall stone Area #2	East Front principal	5/29/07	5/25/2007
Testing & balancing AHU #7	Securitylobbies	6/11/2007	6/5/2007
Receive pretest plan	Life safety	5/01/2007	5/08/2007
Plaster walls	Library of Congress tunnel	6/1/2007	6/5/2007
Testing & balancing AHU #1	Exhibit gallery	5/28/2007	6/11/2007
Complete glass floor installation	Exhibit gallery	5/22/2007	
Ceiling stone	East Front principal	5/29/2007	
Stone stairs	East Front principal	5/29/2007	
Carpet	Visitor auditorium	5/30/2007	
Floor stone	East Front basement	6/9/2007	
Wall stone Area #2	East Front gallery	6/9/2007	
Testing & balancing AHU #20	South circulation	6/21/2007	

Source: AOC and its construction management and sequence 2 contractors.

Project Continues to Face Risks and Uncertainties

Problems in completing the installation, integration, operation, and testing of complex, major building systems, including the fire alarm, security, and HVAC systems, remain the most significant risk facing the project's schedule. Delays continue, and technical problems remain a risk until these systems have been installed, integrated, and successfully tested. Moreover, problems with these systems may not be evident until their final acceptance testing.

In April the subcontractor responsible for installing the fire alarm system told AOC that the system's installation may not proceed as scheduled because of contractual issues affecting the subcontractor's receipt of payments and delays in other subcontractors' work that must be completed before the fire alarm system can be installed. They attribute these payment issues to unsettled change order requests. AOC and its construction management contractor have worked to settle these change

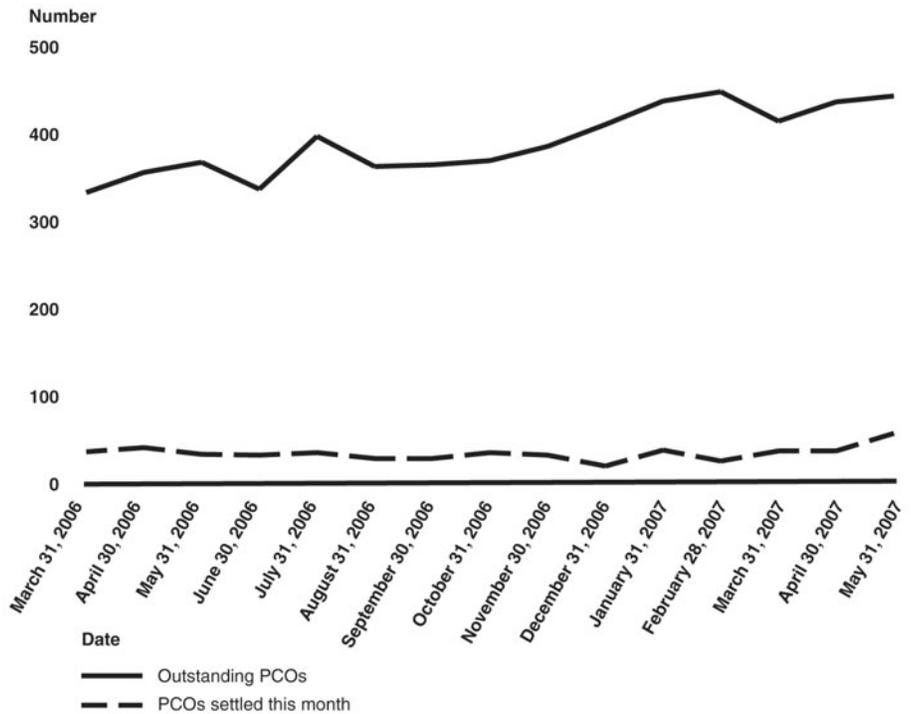
order requests, which were intended to increase the funds available to the subcontractor. This month, the same subcontractor told AOC that there are additional issues to be addressed. AOC officials told us they are investigating the issues.

Problems in commissioning the project's HVAC system remain a risk even though, as of June 21, 2007, 21 of the CVC's 23 air handling units were reportedly providing conditioned air to their designated spaces full time. According to AOC, the 2 remaining units were ready to operate as soon as additional ductwork could be completed. However, all 23 units still require some work, such as final air flow testing and balancing, connection to the fire alarm system, punch-list work, and commissioning.⁴ The CVC team still expects the HVAC system's commissioning to be completed by October 2007, but some activities are taking longer than planned, and the achievability of this time frame is not certain. Risks to completing this work on schedule include insufficient manpower, technical problems that could arise given the sophistication of the system (e.g., stair pressurization), coordination problems among subcontractors, and delays in preparing spaces for the remaining units. Recent problems with the automated controls for these units demonstrate some of these risks.

The number of outstanding proposed change orders for sequence 2 work also poses a risk to the project's schedule. Although this number fell in March for the first time in several months, it continued to grow in April and May, increasing from 376 in March to 451 in May. The increases occurred even though AOC settled almost twice as many proposed change orders during the past month—49 for May—as it averaged over the last year (about 25 per month). Proposed change orders that result in contract modifications for new work or rework could delay the project's scheduled completion, as well as increase the project's costs. Even though the dollar values of recent proposed change orders have been relatively small compared with the project's total cost, unsettled change order requests are a cause for concern. They can, for example, contribute to payment delays such as those affecting the subcontractor that is installing the fire alarm system. Figure 1 compares the number of outstanding proposed change orders with the number settled each month.

⁴Commissioning is a systematic process to ensure, by verification and documentation, that all of a facility's systems perform interactively as designed and intended to meet the owner's operational needs.

Figure 1: Outstanding and Settled Proposed Change Orders by Month, March 2006 through May 2007



Source: AOC's construction management contractor.

Cost Estimate Remains Unchanged, but Additional Funds Have Been Provided and More Are Likely to Be Needed

Because the project's expected completion date remains uncertain, we have not updated our cost-to-complete estimate since the November 15, 2006, CVC hearing—\$592 million without provision for risks and uncertainties and over \$600 million with such provision. To date, about \$538.4 million has been approved for CVC construction, including about \$7.4 million in fiscal year 2007 appropriations. AOC also received an additional \$36.4 million in fiscal year 2007 appropriations for the CVC project, which AOC has not yet received approval to obligate. AOC has indicated that of this amount, approximately \$23.8 million will be used for construction and \$12.6 will be used for operations. AOC has also requested \$20 million in fiscal year 2008 CVC construction appropriations to cover remaining costs. In addition to this requested fiscal year 2008 funding, we estimate that AOC may need further appropriations in future fiscal years for construction claims.

Madam Chair, this completes my prepared statement. I would be pleased to answer any questions that you or Members of the Subcommittee may have.

Contacts and Acknowledgments

For further information about this testimony, please contact Terrell Dorn at (202) 512-6923. Other key contributors to this testimony include Shirley Abel, Lindsay Bach, Maria Edelstein, Elizabeth Eisenstadt, Jeanette Franzel, Jackie Hamilton, Bradley James, David Merrill, and Joshua Ormond.

This is a work of the U.S. government and is not subject to copyright protection in the United States. It may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.

GAO's Mission

The Government Accountability Office, the audit, evaluation and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's Web site (www.gao.gov). Each weekday, GAO posts newly released reports, testimony, and correspondence on its Web site. To have GAO e-mail you a list of newly posted products every afternoon, go to www.gao.gov and select "Subscribe to Updates."

Order by Mail or Phone

The first copy of each printed report is free. Additional copies are \$2 each. A check or money order should be made out to the Superintendent of Documents. GAO also accepts VISA and Mastercard. Orders for 100 or more copies mailed to a single address are discounted 25 percent. Orders should be sent to:

U.S. Government Accountability Office
441 G Street NW, Room LM
Washington, D.C. 20548

To order by Phone: Voice: (202) 512-6000
TDD: (202) 512-2537
Fax: (202) 512-6061

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: www.gao.gov/fraudnet/fraudnet.htm

E-mail: fraudnet@gao.gov

Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

Gloria Jarmon, Managing Director, JarmonG@gao.gov (202) 512-4400
U.S. Government Accountability Office, 441 G Street NW, Room 7125
Washington, D.C. 20548

Public Affairs

Paul Anderson, Managing Director, AndersonP1@gao.gov (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, D.C. 20548