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

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For Release on Delivery  
Expected at 9:00 a.m. EDT  
Tuesday, July 31, 2007

**CAPITOL VISITOR  
CENTER**

Update on Status of  
Project's Schedule and Cost  
as of July 31, 2007

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



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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 June 27, 2007; and (2) the project's expected cost at completion and funding status.<sup>1</sup>

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.

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## Summary

Since the June 27, 2007, CVC hearing, the project's construction has progressed, and according to the latest schedule, AOC is still projecting a June 27, 2008, completion date<sup>2</sup> and a September 22, 2008 opening date. Work has advanced 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, some delays have occurred in activities on the project's critical path (i.e., the work on the fire alarm system) and on most of its near-critical paths, and further delays are possible.<sup>3</sup> AOC was able to mitigate the delay in the project's critical path by reducing the time available for future fire alarm testing. This action may not produce the desired results, though, given the complexity of the requirements for fire alarm testing. Delays in near-critical activities such as the ceiling close-ins and the House and Senate

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<sup>1</sup>GAO, *Capitol Visitor Center: Update on Status of Project's Schedule and Cost as of June 27, 2007*, GAO-07-897T (Washington, D.C.: June 27, 2007).

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

<sup>3</sup>The 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.

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expansion spaces have reduced the time reserved for contingencies along those near-critical paths, but have not yet affected the critical path. Furthermore, a number of risks to the project's schedule remain. These include potential problems in completing the installation, integration, operation, and testing of the fire alarm, security, and HVAC systems. Recently, for example, AOC's Chief Fire Marshal completed his initial plan for final acceptance testing of the fire alarm systems and found additional complexity in testing requirements that has the potential to delay the project for a number of months. In addition, the Fire Marshal has added testing requirements for all of the CVC's smoke detectors, which could further delay the project's completion. Given these and other risks to the project's schedule, we believe that a September 2008 opening date is unlikely. In our view, AOC will be able to meet or come close to meeting the opening 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,<sup>4</sup> 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. At the committee's last CVC hearing, we suggested that AOC update its cost estimate. Given the recent schedule developments, we continue to believe that AOC should update its estimate of the cost to complete the CVC project. To date, about \$556.2 million has been approved for CVC construction, including about \$25.2 million in fiscal year 2007 appropriations.<sup>5</sup> For fiscal year 2007, AOC has also received an additional appropriation of \$18.6 million for the CVC project, which AOC has not yet received approval to obligate. AOC has indicated that of this amount, approximately \$6 million will be used for construction and \$12.6 million 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.

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<sup>4</sup>GAO, *Capitol Visitor Center: Update on Status of Project's Schedule and Cost as of November 15, 2006*, [GAO-07-129T](#) (Washington, D.C.: Nov. 15, 2006).

<sup>5</sup>This amount includes \$950,000 for contract support for AOC's Fire Marshal, whose office is funded using AOC's General Administration account. We are currently reviewing whether the CVC appropriation is available for such purposes.

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## 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 96 percent complete, compared with 95 percent reported complete at the June 27 CVC hearing. Twenty-one of the CVC's 23 air handling units were reportedly operating full time as of July 20, and work to test and balance these systems is currently underway.

Work on the project's critical path—fire alarm testing—was delayed 1 week in June, but AOC mitigated the impact of this delay, AOC's construction management contractor reported, by reducing the time available for future fire alarm testing. This action may not produce the desired results, given complexities that have emerged through further analysis. As we recommended several months ago,<sup>6</sup> AOC's Chief Fire Marshal completed his initial plan for final acceptance testing in June and found additional complexity in the fire alarm testing requirements that has the potential to extend the time needed for testing and to delay the project for a number of months. In addition, the Fire Marshal requested further testing for all of the CVC's smoke detectors.

Delays occurred in 10 of 17 near-critical paths in June. Although, as we noted at the June 27 CVC hearing, the current schedule includes about 3 additional months for slippages, risks, and uncertainties, further substantial delays in some near-critical paths could extend 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 2 weeks further behind in June. 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 3 weeks—to December 12, 2007—according to the project's June 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. As shown in table 1, the sequence 2

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<sup>6</sup>GAO, *Capitol Visitor Center: Update on Status of Project's Schedule and Cost as of February 16, 2007*, GAO-07-507T (Washington, D.C.: Feb. 16, 2007).

contractor completed 3 of 10 activities on time and completed 1 other activity late.

**Table 1: Activities Being Tracked for the Capitol Visitor Center, June 28-July 31, 2007**

Activity	Location	Scheduled completion	Actual completion
Ceiling installation	Senate lower level	7/11/2007	7/12/2007
Ceiling installation	House lower level	7/11/2007	
Fabricate and deliver annunciators	Life safety	7/1/2007	5/29/2007
Program/Load system	Life safety	7/1/2007	
Install, terminate, and test annunciators	Life safety	7/5/2007	6/8/2007
Testing and balancing AHU#12	Auditorium	6/30/2007	
Floor stone	East Front ground	7/15/2007	
Begin pre-testing	Life safety	7/11/2007	6/11/2007
Install fabric ceiling panels	LOC tunnel	7/13/2007	
Floor stone	East Front principal	7/3/2007	

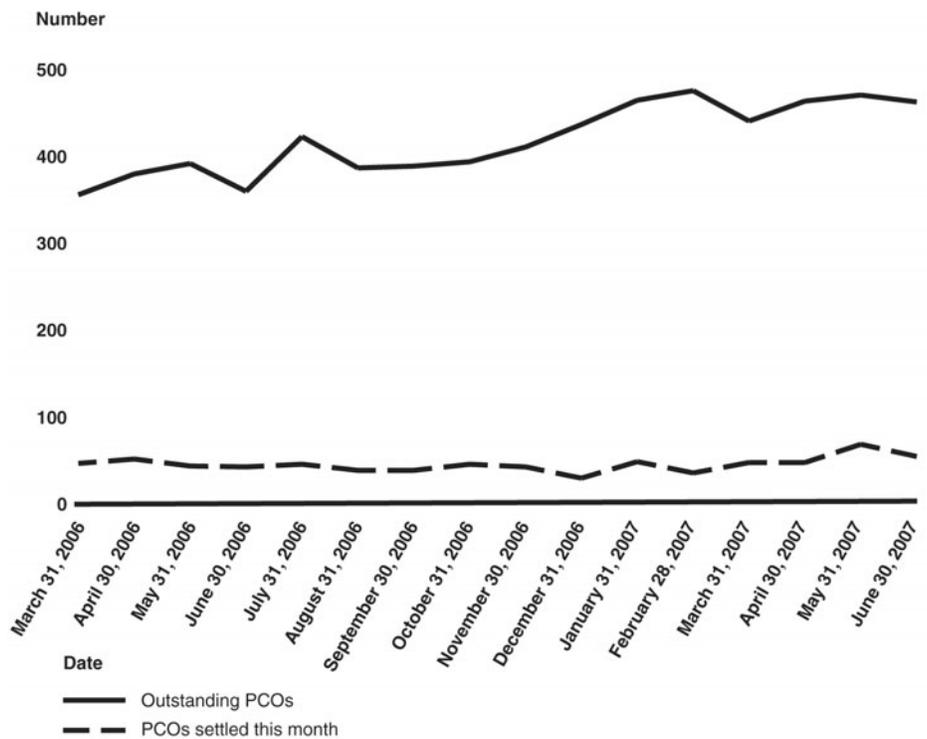
Source: AOC and its construction management and construction contractors.

Two major risks to the project’s schedule persist. First, as demonstrated this month, problems in completing the installation, integration, operation, and testing of complex, major building systems, including the fire alarm, security, and HVAC systems, remain the greatest risk. 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.

Second, the number of outstanding proposed change orders for sequence II work continues to pose a risk to the project’s schedule. Even though fewer proposed change orders were resolved in June than in May (35 compared with 49), the total number of open proposed change orders fell slightly from 451 in May to 443 in June. The large majority (over 80 percent) of the proposed change orders are in the hands of either AOC’s construction management contractor or sequence II construction contractor for resolution. Proposed change orders that result in contract modifications for new work or rework could delay the project’s scheduled completion, as well as possibly 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. Figure 1 compares the number of outstanding proposed change orders with the number settled each month.

**Figure 1: Outstanding and Settled Proposed Change Orders by Month, March 2006 through June 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. At the committee's last CVC hearing, we suggested that AOC update its cost estimate. Given the recent schedule developments, we continue to believe that AOC should update its estimate of the cost to complete the CVC project. To date, about \$556.2 million has been approved for CVC construction, including about \$25.2 million in fiscal year 2007

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appropriations.<sup>7</sup> AOC also received an additional \$18.6 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 \$6 million will be used for construction and \$12.6 million 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.

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

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## 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.

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<sup>7</sup>See footnote 5.

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