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VA CONSTRUCTION

Actions Taken to Improve Denver Medical Center and Other Large Projects' Cost Estimates and Schedules

Statement of Andrew Von Ah, Director, Physical Infrastructure Issues

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GAO-18-329T

GAO Highlights

Highlights of GAO-18-329T, a testimony to Committee on Veterans' Affairs, U.S. House of Representatives

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Why GAO Did This Study

VA and USACE are nearing completion of the Denver Medical Center, which is intended to improve health care to veterans in that region. This project has suffered from substantial cost increases and delays resulting not only from unforeseen circumstances but also from mismanagement. In response, Congress mandated that VA outsource management of certain projects costing $100 million or more. VA contracted with USACE to manage construction of the Denver project, among others. VA continues to manage other major construction projects.

In March 2017, GAO reported on opportunities to improve the management of Denver and other VA construction projects. Specifically, GAO recommended that VA: (1) establish a mechanism to monitor change orders; (2) develop a reliable activation cost estimate for the Denver project, and (3) clarify policies on integrating schedules. VA concurred with our recommendations. This statement discusses, among other objectives, VA's actions to address these recommendations.

The statement is based on GAO's March 2017 report (GAO-17-70), additional documentation VA provided to address GAO's recommendations, and selected updates on the Denver Medical Center as well as other major VA projects.

View GAO-18-329T. For more information, contact Andrew Von Ah at (213) 830-1011 or vonaha@gao.gov.

What GAO Found

The Department of Veterans Affairs (VA) is taking actions to implement GAO's 2017 recommendations related to project management, as described below. However, in some cases VA has yet to fully implement these actions.

Change orders: In 2017, GAO found that VA did not track: (1) how long it took for change orders—changes in a project's design—to be approved and whether that amount of time met VA's guidelines, or (2) the reasons for those changes. Since then, however, VA has started tracking the time frames. Additionally, VA told GAO it is tracking the reasons for those changes as well as developing guidance on how to use this information and agreed to provide documentation. This step does not affect change orders for the Denver project (see photograph), which is managed by the U.S. Army Corps of Engineers (USACE) but, if fully implemented should improve VA's management of other projects.

Cost Estimate for Activating Facility: In 2017, GAO found that the most recent cost estimate of $341 million for activating, or bringing the Denver Medical Center into full operation, had minimal supporting documentation. Although VA is improving its cost estimation process for activation in response to our recommendation, the Denver estimate does not yet meet or substantially meet the characteristics of a reliable activation cost estimate.

Integrated Master Schedule: In 2017, GAO found that certain activities and milestones from Denver's construction and activation schedule were not aligned with its integrated master schedule—the schedule intended to link construction and activation activities. Without a fully integrated master schedule, VA could have encountered additional delays in completing the project. GAO recommended VA clarify its guidance on linking schedules. VA said it has since aligned its construction and activation schedules for the Denver project and agreed to provide GAO documentation. VA has clarified its guidance and is working with USACE to ensure this clarification occurs on other projects.

Department of Veterans Affairs' Denver Medical Center Project

Source: Department of Veterans Affairs. | GAO-18-329T

Chairman Roe, Ranking Member Walz, and Members of the Committee:

I am pleased to be here today to discuss the Department of Veterans' Affairs (VA) management of medical facility construction projects costing $100 million or more, particularly the Denver VA Medical Center,[1] and other matters.

As you know, VA has pressing infrastructure needs and has struggled to make progress addressing them. VA operates one of the largest health care systems in the country with 1,376 sites in 2017. However, many facilities were built decades ago and were designed for an inpatient-driven health care system that does not align with VA's current wellness approach, which emphasizes outpatient and specialized care that, according to VA, served 6.26 million of the 9-million enrolled veterans in 2016. VA has endeavored to design and construct new facilities to replace its aging infrastructure with the intent of improving veterans' health care. However, we found substantial cost increases and schedule delays for VA's largest medical-facility construction projects in 2013, finding that four of the largest had experienced a total cost increase of nearly $1.5 billion.[2] These overruns included the Denver VA Medical Center, which, at the time, had experienced a 144 percent project cost increase. As a result of these cost increases and schedule delays, Congress mandated that VA outsource management of certain projects costing $100 million or more. As a result of these mandates,[3] VA contracted with the U.S. Army Corps of Engineers (USACE) to manage construction of the Denver project as well as the others that Congress specified. Nevertheless, VA continues to manage other projects costing $100 million or more that Congress has not specified should be outsourced. While cost increases and schedule delays at VA's medical-

[1]VA's Denver VA Medical Center is actually located in Aurora, Colorado, near Denver.

[2]GAO, *VA Construction: Additional Actions Needed to Decrease Delays and Lower Costs of Major Medical-Facility Projects,* GAO-13-302 (Washington, D.C.: Apr. 4, 2013).

[3]Provisions related to three laws enacted in 2015 collectively require VA to contract with other federal entities to provide full project management services for the design and construction of certain then ongoing construction projects with a total estimated cost of $100 million or more as well as such construction projects Congress authorizes in the future. See, Pub. L. No. 114-58, § 502, 129 Stat. 530, 537-38; Pub. L. No. 114-92, 129 Stat. 726, 1020 (2015); and Pub. L. No. 114-113, 129 Stat. 2242, 2691-92 (2015). The explanatory statement accompanying Public Law 114-113 specified seven ongoing projects for which VA was directed to outsource design and construction management. These seven projects are in Alameda, CA; American Lake, WA; Livermore, CA; Long Beach, CA; Louisville, KY, San Francisco, CA; and West Los Angeles, CA.

facility construction projects can occur for many reasons, such as unforeseen site conditions, management issues also play a part.

This testimony (1) provides an update on VA's Denver project and selected other projects reviewed in our March 2017 report and (2) discusses VA's progress toward addressing the recommendations in that report.[4]

To address these objectives, we reviewed our March 2017 report and obtained and reviewed documentation and interviewed VA officials on the status of the Denver project and our selected projects at VA's major medical-facilities, as of January 2018, and the steps VA has taken to address recommendations in our March 2017 report. We did not assess the extent to which USACE or VA is following best practices for cost estimates or schedules on projects initiated since our 2017 report. Detailed information on the scope and methodology used in our issued reports and testimony statements can be found in those products. We conducted the work for this statement in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

We have previously reported on significant cost overruns on VA's major medical-facility projects, as well as VA's weaknesses in managing these projects. Specifically, in our 2013 report,[5] we made three recommendations to improve VA's management of its major construction projects, and VA took actions to address those recommendations as described below:[6]

[4]GAO, *VA Construction: Improved Processes Needed to Monitor Contract Modifications, Develop Schedules, and Estimate Costs,* GAO-17-70 (Washington, D.C.: Mar. 7, 2017). VA concurred with the recommendations we made our report.

[5]GAO-13-302.

[6]"Major construction projects" are those estimated to cost more than $10 million. Of VA's 25 major construction projects, 22 are estimated to cost $100 million or more.

1. *Integrate medical equipment planners in the design and construction of medical facilities to better integrate medical needs with the design of the facilities:* In response, VA issued a policy memo providing guidance that medical equipment planners be assigned to medical-construction projects costing $10 million or more to better integrate medical needs with design and construction of facilities.[7] During our 2017 work, VA officials at project site locations indicated that this had improved VA's capabilities for medical facilities' planning, including equipment planning.
2. *Improve VA's communication with contractors to clarify roles and responsibilities, especially for change orders:*[8] In response, VA implemented procedures to address our finding that a lack of clear communication with contractors contributed to project delays and cost increases. During our 2017 work, contractors at the three selected projects we reviewed that VA managed told us they had established good working agreements with VA's Office of Construction and Facility Management.
3. *Issue and take steps to implement guidance on streamlining the change-order process based on the findings and recommendations of the Construction Review Council:*[9] In response, VA took steps to streamline its change-order approval process including establishing processing time frames for change orders on construction projects and authorizing more people to approve change orders. However, our 2017 work found further room for improvement with regard to VA's tracking of change orders, as I will discuss later in this testimony.

[7]Department of Veterans Affairs, *Office of Construction & Facilities Management, Architectural Design Manual* (Aug. 1, 2014).

[8]Change orders are used to process changes to a project's design.

[9]In April 2012, the Secretary of Veterans Affairs established the Construction Review Council to serve as the single point of oversight and performance accountability for the planning, budgeting, execution, and delivery of the VA's real property capital-asset program.

Cost Increases and Schedule Delays Persist at Major Medical-Facility Projects; However, USACE Expects to Finish Constructing the Denver Facility Within Its Estimated Costs and Meet the Project's Construction Schedule

While VA had taken steps to improve its management of major construction projects, some VA major medical-facility projects we reviewed for our March 2017 report continued to experience cost increases and schedule delays. For example, in 2017 we found that the Denver project's costs increased another 100 percent over the estimated cost of the project since our previous report. See table 1 for the most recent available information on five projects we examined for our March 2017 report. These five projects, among the most costly projects, are in different phases of construction and represent a mix of projects managed by USACE and VA; thus, this information cannot be generalized to sites agency-wide.

Table 1: Changes in Costs and Completion Time Frames between November 2012 and December 2017 for Selected Department of Veterans Affairs' (VA) Medical-Facility Construction Projects

Project location	Estimated cost, Nov. 2012 (dollars in thousands)	Estimated cost, Dec. 2017 (dollars in thousands)	Percentage (%) change	Estimated completion timeframe, Nov. 2012	Estimated completion timeframe, Dec. 2017	Number of months difference
Denver	$800,000	$1,675,000	109.4%	April 2015	Jan. 2018	33
Louisville[a]	900,000	925,000	2.8	NA	NA	NA
New Orleans	995,000	1,084,500	9.0	Feb. 2016	Apr. 2018	26
Palo Alto[b]	716,600	716,600	0	Dec. 2017	June 2022	54
St. Louis[c]	366,500	366,500	0	NA	Mar. 2021	NA

Legend: NA=Not available

Source: GAO analysis of VA data. | GAO-18-329T.

[a]The Louisville project did not have estimated completion dates available in November 2012 or December 2017.

[b]VA expects the cost estimate for the Palo Alto project to increase.

[c]The St. Louis project did not have an estimated completion date available in November 2012.

When USACE took over the Denver the project in August 2015, it estimated that completing construction would cost $585 million. We found that the cost estimate substantially met the characteristics of reliable cost estimates identified in the *GAO Cost Estimating and Assessment Guide.*[10] According to USACE, it currently expects to complete the Denver project at a cost of less than the $585 million estimate.

Further, according to VA officials, they expect construction of the Denver project to be complete in January 2018.[11] While in our March 2017 report we found that the USACE construction schedule to complete the Denver project in January 2018 was not reliable, USACE decided not to revise it

[10]GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs* (Supersedes GAO-07-1134P) GAO-09-3SP (Washington, D.C.: Mar. 2, 2009). Specifically, on a scale from "fully meets" to "does not meet," for four characteristics of a cost estimate, we found the USACE estimate to substantially meet all characteristics. The estimate was comprehensive, well-documented, accurate and credible. See GAO-17-70 p. 20-21 for further information on these characteristics.

[11]We did not independently verify the remaining construction schedule to confirm this completion date. While the VA expects the bulk of the construction to be complete by January 2018, VA officials stated that certain construction activities will continue beyond January under a new contract that USACE will award and manage. USACE and VA expect that the cost of this work will still result in keeping the overall project within USACE's total $585 million cost estimate.

because doing so would have been costly and disrupt progress on the project. USACE officials explained they would have followed best practices if they had initiated the project. However, they stated that the Denver project presented a unique situation because USACE began managing the project when it was about 50 percent complete.

VA is Working on Improving its Management of Change Orders and Estimated Project Costs and Schedules

VA Has Improved Data Collection of Timeframes for Change Orders, but it Is Unclear How VA Will Use this Information to Improve Project Management

In our March 2017 report, we found the following limitations related to change orders, or changes to a project design:

1. VA did not collect the necessary information to determine whether efforts to streamline the change order process have in fact been successful.
2. VA did not collect sufficient information to categorize and monitor the reasons change orders occur.
3. It was unclear how VA plans to use this information to monitor whether change orders are approved within VA guidelines.

For example, three of the five VA sites we selected for our 2017 report kept some information on processing time frames, but it was incomplete and inconsistent. Further, the monitoring process was done manually by the regions, according to VA officials. We thus recommended that the VA establish a mechanism to monitor the extent that major facilities' projects are following guidelines on change orders' time frames and design changes.

Since then, VA has implemented changes to its system that captures information on time frames for approving changes and, according to VA, the reasons for the changes. This improvement should allow VA to track change orders that are still open and how long it takes to close them, and the extent to which VA's guidelines for these timelines are being adhered to. It should further allow VA to identify and track the reasons why changes occurred, such as whether a change resulted from a design

oversight, an unforeseen condition discovered during construction, or some other reason. VA officials also stated that they have developed guidance that discusses how to track and report change-order time frames and the reasons for the change orders, and how this information will be used going forward. While VA has yet to provide documentation, if fully implemented, these mechanisms should improve VA's accountability and allow for more informed decision-making by Congress and VA.[12]

VA is Improving its Activation Processes; However, it Has Not Produced a Reliable Estimate for the Denver Facility

In our March 2017 report, we found that VA had minimal supporting documentation for its estimate for the cost to "activate"—the process of bringing a facility into full operation—the Denver Medical Center, and as such determined that the activation estimate was unreliable.[13] While the USACE is under contract with VA to manage the construction of the Denver project, VA is responsible for activating the Denver facility and has estimated that this process will cost $341 million.[14] With minimal supporting documentation of this estimate, we recommended that VA develop an activation cost estimate for the Denver project that is reliable and conforms to best practices, as described in the *GAO Cost Estimating and Assessment Guide.* Without a reliable estimate, it is difficult for VA to make funding decisions for activating various facilities. Further, the lack of a reliable estimate poses difficulties for Congress, which relies on this estimate to make annual appropriations decisions.

In July 2017, VA provided us with additional documentation on its activation cost estimate. We analyzed this information and found that the estimate did not meet best practices. Specifically, the VA Denver hospital's activation cost estimate partially met two (comprehensive and credible) and minimally met two (well documented and accurate) of the four characteristics of a reliable cost estimate as described in the *GAO Cost Estimating and Assessment Guide.* In December 2017, VA provided comments on our analysis, concurring with some of GAO's assessments

[12]These mechanisms do not apply to change orders for the Denver project, since it's being managed by USACE, which has its own change order process.

[13]Activation includes activities such as purchasing and installing furniture and medical equipment and hiring new staff for the facility.

[14]VA continues to expect activation to cost $341 million.

and identifying additional information for us to consider. While we cannot find that the current estimate meets or substantially meets all of the characteristics of a reliable estimate, VA has made improvements in the documentation of the estimate since our report. VA officials also indicated they are taking steps such as developing training and going forward will be providing staff *GAO's Cost Estimating and Assessment Guide* to improve activation estimates.

VA Has Taken Steps to Clarify Its Policies on Linking Construction and Activation Activities with the Integrated Master Schedule

In our March 2017 report, we found VA's policies were not clear or consistent in the way that they require VA to link construction and activation schedules to form an integrated master schedule. The integrated master schedule is an important element for ensuring the successful and timely completion of these projects. Although VA and USACE officials at the Denver project provided a construction schedule, an activation schedule, and an integrated master schedule, we found that certain activities and milestones in these schedules were not aligned with each other across the three schedules. This lack of alignment may be because, although VA required an integrated master schedule, many of its policies on developing an integrated master schedule were not clear or consistent. For example, VA's policies used conflicting and undefined terms to describe the activities an integrated master schedule should cover. Without a fully integrated master schedule, VA could have encountered additional delays in completing the project. We thus recommended that VA clarify policies on integrating schedules.

In response to our recommendation in our March 2017 report, VA clarified various policy documents in June 2017 and reinforced that all projects develop and maintain an integrated master schedule that includes and links all construction and activation activities. VA also has updated its policy to require USACE to comply with the requirements related to integrated master schedules. VA provided documentation of these changes which we reviewed and found that the clarifications addressed our recommendation. Moreover, VA officials indicated that they have worked with USACE to develop an integrated master schedule linking construction and activation activities for the Denver Medical Center and agreed to provide documentation. These actions should help VA avoid schedule delays and better manage its major construction projects.

Chairman Roe, Ranking Member Walz, and Members of the Committee, this completes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

GAO Contact and Staff Acknowledgments

If you or your staff have any questions about this testimony, please contact Andrew Von Ah, Director, Physical Infrastructure team at 213-830-1011 or vonaha@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. GAO staff who made key contributions to this testimony are Cathy Colwell (Assistant Director), Brian Bothwell, Antoine Clark, Lynn Filla-Clark, George Depaoli, Geoff Hamilton, Jason Lee, Nitin Rao, and Malika Rice.

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