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VA CONSTRUCTION

VA's Actions to Address Cost Increases and Schedule Delays at Denver and Other Major Medical-Facility Projects

Statement of Lorelei St. James,
Director, Physical Infrastructure Issues

April 2014

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GAO Highlights

Highlights of GAO-14-548T, a testimony before the Subcommittee on Oversight and Investigations, Committee on Veteran's Affairs House of Representatives

Why GAO Did This Study

The VA operates one of the nation's largest health care delivery systems. In April 2013, GAO reported that VA was managing the construction of 50 major medical-facility projects costing between $10 million and hundreds of millions of dollars, including the ongoing project in Denver. This statement is based on GAO's April 2013 report and includes selected updates. It discusses VA construction management issues, specifically, (1) changes to costs, schedule, and scope of the Denver project and the reasons for these changes, (2) actions VA has taken since 2012 to improve its construction management practices, and (3) VA's response to opportunities identified in GAO's 2013 report for it to further improve its management of the costs, schedule, and scope of these construction projects. For this testimony, GAO 1) summarized information from the 2013 report, including cost and schedule issues related to the Denver facility, and 2) provided updates on how VA responded to the report's recommendations and on the status of the Denver project by obtaining documentation from VA in April 2014. The methodology for our 2013 review is detailed in that report.

What GAO Recommends

In its April 2013 report, GAO recommended that VA (1) develop and implement agency guidance for assignment of medical equipment planners; (2) develop and disseminate procedures for communicating to contractors clearly defined roles and responsibilities of VA officials; (3) issue and take steps to implement guidance on streamlining the change-order process. VA implemented GAO's recommendations.

View GAO-14-548T. For more information, contact Lorelei St. James at (202) 512-2834 or mailto:stjamesl@gao.gov.

What GAO Found

The costs associated with the Veterans Affairs' (VA) medical-center construction project in Denver have substantially increased, its schedule significantly delayed, and its scope modified. In fact, GAO reported in April 2013 that of VA's four largest medical-facility construction projects, Denver had the highest cost increase—from $328 million in 2004 to $800 million in November, 2012. Further, VA's initial estimated completion date for the project was February 2014, however, it has now changed that estimate to May 2015—the longest construction timeline of the four largest projects. As of April 2014, VA officials currently project the cost estimates are still accurate; however, VA's primary contractor on the project has expressed concerns that the project will ultimately cost more and take more time to complete. Two primary factors contributed to cost increases and schedule delays at the Denver project: a decision to change plans from a shared medical center with a local medical university to a stand-alone VA medical center and unanticipated difficulties, including removing asbestos and replacing faulty electrical systems in pre-existing buildings.

In its April 2013 report, GAO found that VA had taken some actions to address problems managing major construction projects since 2012. Specifically, VA established a Construction Review Council in April 2012 to oversee the department's development and execution of its real property programs. VA took steps to implement a new project delivery method, called Integrated Design and Construction, which involves the construction contractor early in the design process to identify any potential issues early and speed the construction process. However, in Denver, VA did not implement this method early enough to garner the full benefits of having a contractor early in the design phase.

VA has taken actions to implement the recommendations in GAO's April 2013 report. In that report, GAO identified systemic reasons that contributed to overall schedule delays and cost increases at one or more of four reviewed projects and recommended ways VA could improve its construction management of major medical facilities. In response, VA has

- issued guidance on assigning medical equipment planners to major medical facility projects who will be responsible for matching the equipment needed for the facility to the construction of the facility in order to avoid late design changes leading to cost increases and delays;
- developed and disseminated procedures for communicating to contractors clearly defined roles and responsibilities of the VA officials who manage major medical-facility projects to avoid confusion that can affect the relationship between VA and the contractor; and
- issued a handbook for construction contract modification (change-order) processing which includes milestones for completing processing of modifications based on their dollar value and took other actions to streamline the change order process to avoid project delays.

However, GAO did not review the extent to which these actions have been employed for or affected the cost and schedule of the Denver project, since our work for the April 2013 report was completed.

Chairman Coffman, Ranking Member Kirkpatrick, and Members of the Subcommittee:

I am pleased to be here today to discuss information regarding the construction of the new major medical facility in Denver from our April 2013 report; which examined VA's actions to address cost increases and schedule delays at the Department of Veterans Affairs' (VA) Denver and other major medical-facility construction projects.[1] At the time of our review, from April 2012 to April 2013, VA had 50 major medical-facility projects[2] under way, including new construction and renovation of existing medical facilities, at a cost of more than $12 billion. Among these projects was the facility in Denver that was initially estimated to cost $328 million as of June 2004.

My statement today discusses VA construction management issues, specifically (1) the extent to which the cost, schedule, and scope for selected new medical-facility projects changed for the Denver project since this information was first submitted to VA's authorizing committees[3] and the reasons for these changes, (2) actions VA has taken since 2012 to improve its construction management practices, and (3) VA's response to opportunities we identified in our report for it to further improve its management of the costs, schedule, and scope of these construction projects. This testimony is based on our April 2013 report and includes selected updates on actions VA has taken to address our recommendations from that report. GAO shared the new information on updates it used to prepare this statement with VA, however, officials did not provide comments. For this testimony, we summarized the cost and schedule issues concerning the Denver facility that we identified and

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

[2]The term "major medical-facility project" means a project for the construction, alteration, or acquisition of a medical facility involving the total expenditure of more than $10 million. See 38 U.S.C. § 8104. While these projects cost at least $10 million, some cost in the hundreds of millions of dollars. The project types include new construction, renovation of existing structures, expansion, or a combination of types. The total number of major VA medical-facility projects is based on agency data from November 2012.

[3]No funds may be used for any major medical facility construction project over $10 million unless funds have been specifically authorized by law, and VA is required to submit a prospectus to the House and Senate Committees on Veterans' Affairs that contains information about each planned medical facility project. See 38 U.S.C. § 8104.

discussed in our 2013 report. We updated information for this testimony as appropriate by reviewing documents outlining actions VA took to address our recommendations and on the current status of the Denver project. For a more detailed explanation of our scope and methodology, see the April 2013 report. 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

Cost Increases and Schedule Delays at the Denver Facility Occurred Because of Scope Changes and Other Reasons

Cost Increases and Schedule Delays

We reported in April 2013 that of the four largest medical-facility construction projects VA had underway, Denver had the highest cost increase and the longest estimated years to complete. We reported that the estimated cost increased from $328 million in June 2004 to $800 million, as of November 2012. Further, VA's initial estimated completion date for the project was February 2014, subsequently VA estimated the project would be completed in May 2015. However, VA's primary contractor on the project has expressed concerns that the project will ultimately cost more to complete and that a completion date of May 2015 is no longer realistic based on schedule delays.

In our April 2013 report, we stated that costs increased and schedules were delayed considerably for all four of VA's largest medical-facility construction projects, when comparing November 2012 construction project data with the cost and schedule estimates first submitted to

Congress. Cost increases ranged from 59 percent to 144 percent,[4] representing a total cost increase of nearly $1.5 billion and an average increase of approximately $366 million per project. The schedule delays ranged from 14 to 74 months with an average delay of 35 months per project.

In commenting on a draft of our April 2013 report, VA stated that using the initial completion date from the construction contract would be more accurate than using the initial completion date provided to Congress; however, using the initial completion date from the construction contract would not account for how VA managed these projects before it awarded the construction contract. Cost estimates at this earlier stage should be as accurate and credible as possible because Congress uses these initial estimates to consider authorizations and make appropriations decisions. We used a similar methodology to estimate changes to cost and schedule of construction projects in a previous report issued in 2009 on VA construction projects.[5] We believe that the methodology we used in our April 2013 and December 2009 report on VA construction provides an accurate depiction of how cost and schedules for construction projects can change from the time they are first submitted to Congress. It is at this time that expectations are set among stakeholders, including the veterans' community, for when projects will be completed and at what cost. In our April 2013 report, we made recommendations to VA to help address these cost and schedule delays which are discussed later in this statement.

[4]According to the Office of Management and Budget (OMB), federal agencies should keep a contingency fund of 10 to 30 percent above total estimated costs to address increased costs on construction projects. OMB Circular No. A–11, Appendix 8 (2012). However, this guidance applies after construction has begun, and many of the cost increases we observed occurred before that time. The construction contractor is generally responsible for cost increases and schedule overruns under the terms of the fixed-price contract.

[5]GAO, *VA Construction: VA is Working to Improve Initial Project Cost Estimates, but Should Analyze Cost and Schedule Risks*, GAO-10-189 (Washington, D.C: Dec. 14, 2009).

Scope Modifications and Other Reasons for Cost Increases and Schedule Delays at Denver

For the Denver facility, we identified two primary factors that contributed to cost increases and schedule delays: (1) decisions to change plans from a shared university/VA medical center to a stand-alone VA medical center and (2) unanticipated events.

- **Decision to change plans from a shared university/VA medical center to a stand-alone VA medical center.** VA revised its original plans for shared facilities with a local university to stand-alone facilities after proposals for a shared facility could not be finalized. Plans went through numerous changes after the prospectus was first submitted to Congress in 2004. In 1999, VA officials and the University of Colorado Hospital began discussing the possibility of a shared facility on the former Fitzsimons Army base in Aurora, Colorado.[6] Negotiations continued until late 2004, at which time VA decided against a shared facility with the University of Colorado Hospital because of VA concerns over the governance of a shared facility. In 2005, VA selected an architectural and engineering firm for a stand-alone project, but VA officials told us that the firm's efforts were suspended in 2006 until VA acquired another site at the former Army base adjacent to the new university medical center. Design restarted in 2007 before suspending again in January 2009, when VA reduced the project's scope because of lack of funding. By this time, the project's costs had increased by approximately $470 million, and the project's completion was delayed by 14 months. The cost increases and delays occurred because the costs to construct operating rooms and other specialized sections of the facility were now borne solely by VA, and the change to a stand-alone facility also required extensive redesign.

- **Unanticipated events.** VA officials at the Denver project site discovered they needed to eradicate asbestos and replace faulty electrical systems from pre-existing buildings. They also discovered and removed a buried swimming pool and found a mineral-laden underground spring that forced them to continually treat and pump the water from the site, which impacted plans to build an underground parking structure.

[6] Fitzsimmons Army base was closed in 1999 as part of the Department of Defense's base realignment and closure process.

VA Has Taken Steps to Improve Its Construction Management Practices

In our April 2013 report we stated that VA had taken steps to improve its management of major medical-facility construction projects, including creating a construction-management review council. 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, executing, and delivering of VA's real property capital-asset program.[7] The council issued an internal report in November 2012 that contained findings and recommendations that resulted from meetings it held from April to July 2012.[8] The report revealed that the challenges identified on a project-by-project basis were not isolated incidents but were indicative of systemic problems facing VA.

In our 2013 report we stated that VA had taken steps to implement a new project delivery method—called Integrated Design and Construction (IDC) method.[9] In response to the construction industry's concerns that VA and other federal agencies did not involve the construction contractor early in the design process, VA and the Army Corps of Engineers began working to establish a project delivery model that would allow for earlier contractor involvement in a construction project, as is often done in the private sector. However, in Denver, VA did not implement IDC early enough to garner the full benefits.

VA officials stated that Denver was initiated as design-bid-build project and later switched to IDC after the project had already begun. According to VA officials, the IDC method was very popular with industry, and VA wanted to see if this approach would effectively deliver a timely medical facility project. Thus, while the intent of the IDC method is to involve both the project contractor and architectural and engineering firm early in the process to ensure a well coordinated effort in designing and planning a

[7]The Construction Review Council was comprised of officials from the VA, including the secretary, deputy secretary, chief of staff, under secretaries, and assistant secretaries, as well as key leaders across the department. The Secretary of VA chaired nine meetings from April 18 through June 15, 2012, to review the VA construction program and identify challenges that led to changes in scope, cost over-runs, and scheduling delays of major projects.

[8]VA, *The Construction Review Council Activity Report* (Washington, D.C.: November 2012).

[9] The Integrated and Design Construction method allows the construction contractor to be involved in the project from design to completion. VA believes this can help identify any potential issues early and speed the construction process. IDC is similar to a private sector approach called Construction Management At-Risk.

project, VA did not hire the contractor for Denver until after the initial designs were completed. According to VA, because the contractor was not involved in the design of the projects and formulated its bids based on a design which had not been finalized, these projects required changes that increased costs and led to schedule delays. VA staff responsible for managing the project said it would have been better to maintain the design-bid-build model throughout the entire process rather than changing mid-project because VA did not receive the value of having contractor input at the design phase, as the IDC method is supposed to provide. For example, according to Denver VA officials, the architectural design called for curved walls rather than less expensive straight walls along the hospital's main corridor. The officials said that had the contractor been involved in the design process, the contractor could have helped VA weigh the aesthetic advantages of curved walls against the lower cost of straight walls.

VA Implemented GAO Recommendations

In our April 2013 report we identified systemic reasons that contributed to overall schedule delays and cost increases, and we recommended VA take actions to improve its construction management of major medical facilities: including (1) developing guidance on the use of medical equipment planners;[10] (2) sharing information on the roles and responsibilities of VA construction project management staff; and (3) streamlining the change order process.[11] Our recommendations were aimed at addressing issues we identified at one or more of the four sites we visited during our review. VA implemented our recommendations; however, the impact of these actions may take time to show improvements, especially for ongoing construction projects, depending on several issues, including the relationship between VA and the contractor. Since completing our April 2013 report, we have not reviewed the extent to which these actions are being employed for or have affected the

[10]Given the complexity and sometimes rapidly evolving nature of medical technology, many health care organizations employ medical equipment planners to help match the medical equipment needed in the facility to the construction of the facility.

[11]Most construction projects require some degree of change to the facility design as the project progresses, and typically, organizations have a process to initiate and implement these changes through change orders. VA requires multiple levels of review for many of VA's change orders, which can be another factor that can increase the time it takes to finalize them. According to VA, these reviews are necessary to ensure that VA is in accordance with its regulations and reduce the risk that changes will result in unwarranted costs to the government.

Denver project or other projects, or the extent to which these actions may have helped to avoid the cost overruns and delays that occurred on that specific project.

Using Medical Equipment Planners

On August 30, 2013, VA issued a policy memorandum providing guidance on the assignment of medical equipment planners to major medical construction projects. The memorandum states that all VA major construction projects involving the procurement of medical equipment to be installed in the construction will retain the services of a Medical Equipment Specialist to be procured through the project's architectural engineering firm.

Earlier, VA officials emphasized that they need the flexibility to change their heath care processes in response to new technologies, equipment, and advances in medicine.[12] Given the complexity and sometimes rapidly evolving nature of medical technology, many health care organizations employ medical equipment planners to help match the medical equipment needed in the facility to the construction of the facility. Federal and private sector stakeholders during our review reported that medical equipment planners have helped avoid schedule delays. VA officials told us that they sometimes hire a medical equipment planner as part of the architectural and engineering firm services to address medical equipment planning. However, we found that for costly and complex facilities, VA did not have guidance for how to involve medical equipment planners during each construction stage of a major hospital and has sometimes relied on local Veterans Health Administration (VHA) staff with limited experience in procuring medical equipment to make medical equipment planning decisions. Thus, in our April 2013 report, we recommended that the Secretary of VA develop and implement agency guidance to assign medical equipment planners to major medical construction projects. As mentioned earlier, in August 2013, VA issued such guidance.

[12]VA, *Strategic Plan Refresh: FY2011–FY2015, (*Washington, D.C).

Sharing Information on the Roles and Responsibilities of VA's Construction-Management Staff

In September 2013, in response to our recommendation, VA put procedures in place to communicate to contractors the roles and responsibilities of VA officials that manage major medical facility construction projects, including the change order process. Among these procedures is a Project Management Plan that requires the creation of a communications plan and matrix to assure clear and consistent communications with all parties.

Construction of large medical facilities involves numerous staff from multiple VA organizations. Officials from the Office of Construction and Facilities Management (CFM) stated that during the construction process, effective communication is essential and must be continuous and involve an open exchange of information among VA staff and other key stakeholders.[13] However, in our April 2013 report, we found that the roles and responsibilities of CFM and VHA staff were not always well communicated and that it was not always clear to general contracting firms which VA officials hold the authority for making construction decisions. This can cause confusion for contractors and architectural and engineering firms, ultimately affecting the relationship between VA and the general contractor. Participants from VA's 2011 industry forum also reported that VA roles and responsibilities for contracting officials were not always clear and made several recommendations to VA to address this issue. Therefore, in our 2013 report, we recommended that VA develop and disseminate procedures for communicating—to contractors—clearly defined roles and responsibilities of the VA officials who manage major medical-facility projects, particularly those in the change-order process. As discussed earlier in this statement, VA disseminated such procedures in September 2013.

Streamlining the Change-Order Process

On August 29, 2013, VA issued a handbook for construction contract modification (change-order) processing which includes milestones for completing processing of modifications based on their dollar value. In addition, as of September 2013, VA had also hired four additional attorneys and assigned on-site contracting officers to the New Orleans, Denver, Orlando, Manhattan and Palo Alto major construction projects to expedite the processing and review of construction contract modifications. By taking steps to streamline the change order process, VA can better

[13]VA, *Construction Primer* (Washington, D.C.: January 2013).

ensure that change orders are approved in a prompt manner to avoid project delays.

Most construction projects require, to varying degrees, changes to the facility design as the project progresses, and organizations typically have a process to initiate and implement these changes through change orders. Federal regulations[14] and agency guidance[15] state that change orders must be made promptly, and agency guidance states in addition that there be sufficient time allotted for the government and contractor to agree on an equitable contract adjustment. VA officials at the sites we visited, including Denver, stated that change orders that take more than a month from when they are initiated to when they are approved can result in schedule delays, and officials at two federal agencies that also construct large medical projects told us that it should not take more than a few weeks to a month to issue most change orders.[16] Processing delays may be caused by the difficulty involved in VA's and contractors' coming to agreement on the costs of changes and the multiple levels of review required for many of VA's change orders. By taking steps to streamline the change order process, VA can better ensure that change orders are approved in a prompt manner to avoid project delays.

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

Contacts and Acknowledgments

If you have any questions about this testimony, please contact Lorelei St. James at (202) 512-2834 or stjamesl@gao.gov. Other key contributors to this testimony include are Ed Laughlin (Assistant Director), Nelsie Alcoser, George Depaoli, Raymond Griffith, Colin Fallon, Amy Rosewarne, and Crystal Wesco.

[14]48 C.F.R. § 43.201

[15]VA, VA *Resident Engineer Handbook, "*Chapter 3: Major Construction: Contract Changes" (3.24) (Washington, D.C.)

[16]Specifically, we interviewed the U.S. Army Corps of Engineers and Naval Facilities Engineering Command. We recognize that the Department of Veterans Affairs serve different populations in the defense community—active duty military personnel and veterans, respectively. However, these organizations construct similar medical facilities, in addition to abiding by federal government regulations for construction projects.

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