U.S. GOVERNMENT ACCOUNTABILITY OFFICE

441 G St. N.W.
Washington, DC 20548

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Congressional Committees

Force Structure: Army's Analyses of Aviation Alternatives

Letter

In anticipation of budget and military end-strength reductions, the Army is undertaking an extensive effort to reduce the size of its force and rebalance its combat aviation capabilities. In October 2013, the Army Chief of Staff approved a force-structure proposal—called the Army Aviation Restructuring Initiative—that would cut approximately 10,700 military positions from the Army's end strength by eliminating active-component and reserve-component units from the Army's force structure.[1] The proposal would enable the Army to divest nearly 800 older and less-capable helicopters from the force, and rebalance combat capabilities across the regular Army, Army National Guard, and Army Reserve. The Army would accomplish this by removing all AH-64 Apache helicopters from the reserve component and increasing the number of AH-64 Apaches in the active component. According to the Army, once implemented the aviation restructuring initiative would save roughly $1 billion annually.[2]

The National Guard Bureau (Bureau), although agreeing with many aspects of the Army's proposal, has opposed the effort to remove the AH-64 Apache helicopters from the Army National Guard. Bureau officials said that in their view the removal of these helicopters will degrade the Army National Guard's role as a combat reserve; establish a precedent for removing other combat capabilities from the Army National Guard; and disrupt Army National Guard units and force structure across 20 states. In January 2014, the Bureau put forward an alternate force-structure proposal that, if implemented, would retain some AH-64 helicopters in the Army National Guard.

Since the Bureau's January 2014 counterproposal, both the Army and the Office of the Secretary of Defense have assessed and compared the Army's proposal and the Bureau's alternative in terms of each proposal's ability to meet anticipated operational demands, and its estimated costs. Bureau officials said that the Bureau does not have the expertise required to assess the performance and costs of its force-structure proposal; however, the Bureau provided input into both analyses. Based on these analyses, the Army stated that implementing the

[1]Positions are requirements for personnel that are documented on the Army's manpower requirements document. These requirements may not be filled by the Army when making resourcing decisions and as a result do not represent actual manpower assigned to Army units.

[2]In December 2014, Congress limited the Army's proposal, by authorizing the Secretary of the Army to transfer not more than 48 AH-64 Apache helicopters from the Army National Guard to the regular Army between October 1, 2015, and March 31, 2016, if the Secretary of Defense certifies in writing to the defense committees that the transfer would not create unacceptable risk to: the strategic depth or regeneration capacities of the Army; and the Army National Guard in its role as a combat reserve. See Pub. L. No. 113-291, § 1712(e) and (f) (2014).

Bureau's force-structure proposal would result in unacceptable operational risk and has sought to move forward with its own restructuring initiative.

The Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 included a provision for GAO to compare the assumptions, cost estimates, and support-personnel implications underlying the Army's aviation force-structure proposal with those underlying the Bureau's alternate proposal.[3] This report (1) compares the assumptions underlying the Army's and the Bureau's respective combat aviation force-structure proposals; (2) evaluates the Army's analyses of the two proposals' respective capacities to meet projected combat requirements; and (3) evaluates the Army's cost analyses and comparison of both proposals. We also identified how the Army's and the Bureau's proposed force structures would affect personnel-support requirements for the Army's combat aviation brigades. We provided a briefing on our preliminary observations to congressional defense committees' staff on February 26, 2015. This report formally transmits the results of our work in response to this mandate (see encl. I).

To compare the assumptions underlying the two force-structure proposals, we identified assumptions by reviewing Department of Defense (DOD), Department of the Army, and Bureau guidance; assessed documentation underlying the force-structure proposals including force-structure documentation, briefing slides, and the Army's demand analysis; and compared the assumptions identified for each force-structure proposal. To evaluate the Army's assessment of the two proposals' abilities to meet future combat demands, we compared the Army's methodology for performing its analysis to generally accepted research standards for study design,[4] and reviewed technical documentation associated with the Army's model including its user manual and the model's verification, validation, and accreditation documentation. Specifically, we used the standards we developed in our prior work that were related to the study design, because our review focused on the assumptions, constraints, and scenarios that the Army used in its analysis. These specific standards require that assumptions and constraints be reasonable, explicitly identified, and consistent, and that scenarios represent a reasonably complete range of conditions. To evaluate the Army's cost analyses and comparison of both proposals, we compared the Army's cost-estimating models and methodology for preparing these analyses to leading practices.[5] We further evaluated the Army's use of these estimates against standards for internal control in the federal government,[6] specifically those standards related to information and communications. Because the Army Chief of Staff approved the aviation restructuring initiative, we also evaluated the Army's estimated costs for implementing its proposal, and its anticipated annual costs, against these criteria. To identify how the Army's and the Bureau's proposed force structures would affect personnel-support requirements for the Army's combat

[3]See Pub. L. No. 113-291, § 1057 (2014). Additionally, S. Rep. No. 113-176, at 83 (2014), included a provision for GAO to more broadly review the Army's force-structure decision-making processes, models, and analyses.

[4]GAO, *Defense Transportation: Study Limitations Raise Questions about the Adequacy and Completeness of the Mobility Capabilities Study and Report*, GAO-06-938 (Washington, D.C.: Sept. 20, 2006). In that report, we reviewed research literature and DOD guidance and identified frequently occurring, generally accepted research standards. See GAO-06-938 for more information.

[5]GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP (Washington, D.C.: March 2009). The Cost Estimating and Assessment Guide compiles best practices that federal cost-estimating organizations and industry use to develop and maintain reliable cost estimates throughout the life of an acquisition program. See GAO-09-3SP for more information.

[6]See GAO, *Standards for Internal Control in the Federal Government*, GAO/AIMD-00-21.3.1 (Washington, D.C.: November 1999).

aviation brigades, we created a data set from the Army's fiscal year 2014 and fiscal year 2020 personnel requirements documents and incorporated composite personnel cost data.[7] We then obtained agreement from the Headquarters, Department of the Army; U.S. Army Reserve; and Army National Guard on the definition for "support," and applied that definition when we calculated and compared the number and associated costs of corresponding positions.[8] We assessed the reliability of the Army's cost and personnel requirements data and cost-estimating models by reviewing documentation associated with the relevant data systems. Specifically, for both types of data, we reviewed Army internal controls, interviewed key officials, and traced certain data elements back to source documentation. We determined the data were reliable for the purposes of our review. For each objective, we interviewed knowledgeable officials to discuss methodologies, to identify relevant factors, and to obtain their perspectives. We met with officials from the Office of the Secretary of Defense; Headquarters, Department of the Army; and the Bureau to obtain oral comments on our preliminary briefing materials, and we incorporated technical comments as appropriate.

We conducted this performance audit from July 2014 to April 2015 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.

Summary

The Army and the Bureau agree on those specific assumptions in their force-structure proposals pertaining to military strategy, near-term training resources, the demand for forces, and Army National Guard unit readiness, but disagree on other planning assumptions, such as the Army's budget constraints and how Army National Guard units would be trained, mobilized, and used in combat. For example, both the Army and the Bureau agreed that, prior to deployment for any given mission, Army National Guard soldiers will meet the same training and readiness standards as regular Army soldiers with the same mission. However, the Army and the Bureau disagreed on other assumptions affecting decisions about how to restructure the aviation force. Notably, Army officials said that they anticipate that the Army will continue to face budget pressures and as a result are looking to develop an efficient force structure that maximizes the Army's combat aviation capabilities, whereas Bureau officials told us the Army should not base long-term and irreversible force-structure decisions on short-term funding challenges.

The Army's analyses of the proposals' abilities to meet projected demand for forces is based on a reasonable methodology and is suitable for comparing one proposal against the other, but additional sensitivity analysis could have been beneficial to decision makers. Generally

[7]We used data from these years because the Army did not begin implementing its proposed restructuring until the end of fiscal year 2014, and fiscal year 2020 is the year by which it is to be completed.

[8]"Support" personnel directly or indirectly sustain combat aviation units excluding flight crews and pilots. To arrive at this definition, we met with Army and Army National Guard officials and generated a list of combat aviation jobs that the officials agreed either directly or indirectly sustain combat aviation units. Using this list, we then filtered required combat aviation positions depicted in Army, Army National Guard, and U.S. Army Reserve documents to determine the military and Full-Time Support personnel-support positions necessary for the 2014 combat aviation structure, and the combat aviation structures under the Army's proposal and the Bureau's proposal in 2020. To determine the costs associated with the 2014 combat aviation structure and proposed fiscal year 2020 combat aviation structures, we used composite rates for active and reserve military positions, respectively, and the rate per Active Guard/Reserve and Military Technician as reported by the Army National Guard.

accepted research standards for study design state that credible and well-designed studies identify their assumptions and constraints clearly; consistently apply necessary and reasonable assumptions; and include sensitivity analyses to assess results across a variety of scenarios, among other things.[9] We found that the Army's analysis met several of these design standards, in that the Army used the same assumptions throughout its analysis and based its assumptions for the mobilization and deployment of units on DOD and Army policies. For example, under the assumption that Army National Guard units would be able to complete postmobilization training within 3 months' time, the Army found that both proposals were able to meet more than 90 percent of the anticipated combat demands under DOD's classified planning scenario.[10] In January 2015, the Army completed a sensitivity analysis that used different assumptions than in the Bureau's proposal; specifically, the Army lengthened the postmobilization training time for Army National Guard units to 4 months, to better reflect the time that Army National Guard units historically have used prior to deployment. Under the revised assumptions, the Army found that both its and the Bureau's force-structure proposal experienced shortfalls during the peak period of major combat operations, but the Army's proposal met all demands during final four months of the peak demand period while the Bureau's proposal met 83 percent of the demands.

Although we found this approach suitable for comparing the two proposals with each other under the given scenario, the Army's analysis did not evaluate how the proposals would have performed under modified scenarios that varied the rate at which units would deploy into a major combat operation, or the duration of the major combat operation. This analysis could have provided senior Army leaders with insights on how adaptable the competing proposals would be when confronted with different combat requirements and helped inform their decision making. Bureau officials said that DOD's classified planning scenario assumes the need to deploy a large number of units in a short period and that this assumption favors the active Army. However, Army officials stated that they did not modify the scenario to change deployment rates or durations because they are required to use DOD's approved planning scenario for sizing and shaping the Army's forces. These officials said that by using DOD's planning scenario they were able to assess the proposals against a range of conditions; complete a fair and objective analysis that enabled them to effectively differentiate between the force-structure proposals; and ensure that their analysis would be seen as credible by DOD officials and other stakeholders relying on their analysis. DOD officials confirmed that the Army followed DOD accepted practices for sensitivity analysis within force-structure planning processes.

The Army's cost analyses generally met some leading practices for cost estimating and, as a result, were sufficiently reliable for comparing the costs of its and the Bureau's force-structure proposals; however, the estimates were of limited value for projecting the actual implementation or annual costs of the Army's proposal.[11] Federal standards for internal control identify the need for

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[9]GAO-06-938.

[10]DOD's Integrated Security Construct–B comprises four mission types (in order of priority): (1) *Defeat / Major Combat Operations*: To defeat a regional adversary in a large-scale multiphased campaign; (2) *Deter*: To prevent acts of aggression in one or more theaters by presenting a potential adversary with a credible threat of unacceptable counteraction by U.S. forces, and/or belief that the cost of the potential adversary's action outweighs the perceived benefits; (3) *Defend / Homeland Defense*: To defend U.S. territory from direct attack by state and nonstate actors and, in the event such defense fails or in the case of natural disasters, come to the assistance of domestic civil authorities in response to a very significant or even catastrophic event; and (4) *Steady State / Foundational Activities*: Activities the Joint Force conducts by rotating forces globally to build security globally, preserve regional stability, deter adversaries, and support allies and partners.

[11]GAO-09-3SP.

agency decision makers to have relevant, reliable, and timely information that enables them to carry out their responsibilities.[12] The Army compared the annual projected operating costs for its proposal and the Bureau's alternative and found that the proposals would cost $6.75 billion and $6.80 billion annually, respectively. Based on Army acquisition data, DOD estimated the onetime implementation costs of the two proposals, and found that the Bureau's proposal was $220 million to $420 million more expensive than the Army's proposal, because the Bureau proposed acquiring 11 additional AH-64 Apache helicopters.[13] However, the Army subsequently stated that, based on its analysis, the Bureau's proposal would create unacceptable risk to the force, which could be offset by acquiring 115 additional AH-64 Apache helicopters (104 more than in the Bureau's proposal) and associated equipment, for a total onetime cost of $5.52 billion, and an additional $338 million per year to sustain unplanned force structure.[14] We found that the Army's estimates were substantially comprehensive and well documented, and based on historic funding and manning levels. We also found that the Army consistently applied assumptions to each proposal, and that it used agreed-upon programmatic cost estimates for acquiring the most-modern version of the Apache helicopter. However, we found the estimates were limited as a means to project actual costs and cost savings. For example, the Army's annual cost estimates did not reflect uncertainties about personnel, operations, or readiness of individual units, and the implementation cost estimates excluded some operational costs at the battalion and command level. For example, in the U.S. Army Reserve, where one attack reconnaissance battalion has already begun converting to fly UH-60 Blackhawks, officials told us the process of converting a unit will increase pay and allowances, and require unique equipment fielding, aircraft maintenance, training, and other supply costs at the battalion and command level. Army officials told us that their approach to estimating costs was intended to permit a comparison of the two proposals, and not to develop future budgets.

Although both the Army's and the Bureau's proposals require fewer support positions and cost less than the aviation force structure approved by the Army in fiscal year 2013, the Bureau's proposal requires more positions and costs more than the Army's proposal. The Army's proposal requires 1,249 fewer full-time positions in the Reserve component (1,081 fewer Military Technicians and 168 fewer Active Guard/Reserve personnel);[15] 1,108 fewer part-time positions (traditional reservists or guardsmen); and 382 more regular Army personnel than the Bureau's proposal. Additionally, we found that each type of unit requires a different number of full-time or part-time positions to maintain readiness or to become operational. According to the Army's and Bureau's proposals, the number of positions required for each type of unit are the same for regular Army units; however, the number of full-time and part-time positions vary depending on the type of combat aviation brigade to which the unit is assigned. Additional information is included in appendix II of the briefing.

We are not making recommendations in this report.

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[12] GAO/AIMD-00-21.3.1.

[13] The Bureau's proposal also required $150 million in implementation costs to acquire additional Shadow unmanned aircraft.

[14] These costs were not included in the Army's original cost estimate for the Bureau's proposal, and we did not validate the reliability of the annual recurring cost.

[15] Military technicians are civilian employees and Active Guard and Reserve are military personnel who provide services and administrative support to part-time drilling reservists, among other things.

Agency Comments and Our Evaluation

We provided a draft of this report to DOD for comment. In written comments provided by the Headquarters, Department of the Army, DOD generally agreed with our findings. These comments are reproduced in enclosure II. The Office of the Secretary of Defense and the National Guard Bureau also provided technical comments, which we incorporated as appropriate.

As we noted in our report, the Army's analyses were reasonable and suitable for comparing the two force-structure proposals. Specifically, the Army's approach to analyzing the proposals' abilities to meet the projected demand for forces followed generally accepted standards, but additional sensitivity analysis could have been beneficial to decision makers. In its comments, DOD stated that it agreed with our assessment that the Army's analyses of the proposals' abilities to meet projected demand for forces were based on a reasonable methodology but it did not directly address whether further analyses would have been beneficial to decision makers. However, the Army reemphasized its conclusion that the analyses demonstrated that the Army's proposal is better able to meet the projected demand for combat aviation under DOD's classified warfighting scenarios.

Additionally, we found that the Army's cost analyses of the two proposals were sufficiently reliable for comparing the costs of the force-structure proposals but were of limited value for projecting or programming the annual or implementation costs of the Army's proposal. DOD concurred with our assessments of the cost analyses while emphasizing that the Army's proposal provides an affordable and acceptable solution to meet current and future aviation requirements.

We are sending copies of this report to the appropriate congressional committees; the Secretary of Defense; the Director, Cost Analysis and Program Evaluation; the Secretary of the Army; the Chief of Staff of the Army; and the Chief of the National Guard Bureau. The report is also available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-3489 or PendletonJ@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report include Kevin O'Neill, Assistant Director; Tracy Barnes; Erin Butkowski; Martin De Alteriis; Abishek Krupanand; Grant Mallie; Ricardo Marquez; Karen Richey; Amie Steele; Cheryl Weissman; and Alex Winograd.

Signature of John H. Pendleton

John H. Pendleton

Director, Defense Capabilities and Management

Enclosures-2

List of Committees

The Honorable John McCain
Chairman

The Honorable Jack Reed
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Thad Cochran
Chairman
The Honorable Richard J. Durbin
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Mac Thornberry
Chairman
The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Rodney Frelinghuysen
Chairman
The Honorable Pete Visclosky
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representative

Enclosure 1: Briefing for Congressional Defense Committees

See separate 508 accessible PDF of the briefing slides in the PDF portfolio.

Enclosure II: Comments from the Department of Defense.

SECRETARY OF THE ARMY
WASHINGTON

INFO MEMO

04-14-15 13:48 OUT

FOR: DIRECTOR, DEFENSE CAPABILITIES MANAGEMENT, U.S. GOVERNMENT ACCOUNTABILITY OFFICE
DEPARTMENT OF DEFENSE INSPECTOR GENERAL

FROM: John M. McHugh, Secretary of the Army

SUBJECT: Army Comments on GAO Draft Report, "FORCE STRUCTURE: Army's Analyses of Aviation Alternatives" dated March 27, 2015 (GAO-15-430R) (GAO Code 351967)

I am pleased to provide the attached approved comments on the subject GAO draft report. Should you have additional questions regarding the Army's position on this matter, please contact the undersigned action officer.

COORDINATION: NONE

Attachment:
As stated

Prepared By: Mr. Kerry Schindler, (703) 693-3160

DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF, G-3/5/7
400 ARMY PENTAGON
WASHINGTON, DC 20310-0400

April 10, 2015

Mr. John Pendleton
Director, Defense Capabilities Management
U.S. Government Accountability Office
441 S Street, NW
Washington, DC 20548

Dear Mr. Pendleton,

The Department of Defense acknowledges receipt of the draft report. We concur with your findings that the Army's cost estimates and demand and capability analyses used a reasonable methodology and were suitable for comparing the Army's Aviation Restructure Initiative (ARI) and National Guard Bureau (NGB) proposals. The Department also concurs that the Army's plan is less expensive and better meets mission demands, which is in agreement with three separate reviews directed by then Deputy Secretary of Defense Carter, Acting Deputy Secretary of Defense Fox, and Deputy Secretary of Defense Work.

We also agree with your assessment of two key differences between the Army proposal and National Guard proposal for the congressionally identified tasks of costs and warfighting demand.

Our first area of agreement with the GAO report is that the Army's plan is less expensive than the National Guard plan. While the proponents of the National Guard proposal believe that the Army should not base long-term force structure decisions on current funding challenges, the Army, and OSD, fundamentally disagree that the current fiscal environment is a short-term problem. ARI is an affordable and acceptable solution to meet current and future aviation requirements for the Army under the President's Budget. Furthermore, we believe the National Guard proposal is based upon overly optimistic assumptions and would create unacceptable risk. Such risk would force the Army to expend an additional $4.5 billion in one-time procurement costs and approximately $350 million annually to maintain sufficient airframes to adequately meet the operational demands of today and the future. These additional costs are based on our recent extensive experience deploying Apache units into combat.

The second area of agreement concerns warfighting demand, where your report affirms that the Army's ARI proposal better meets the DoD classified warfighting scenarios. While the NGB states that the OSD-directed classified warfighting scenarios should be set aside in judging the two proposals, the Army is obligated to use the plans directed by our civilian leaders and Combatant Commanders when establishing Army force structure. These leaders, both civilian and military, assessed acceptable risk and approved a National Security Strategy and related DoD planning documents that demand more ready forces to meet no-notice contingencies.

The Army leadership, as well as the leadership of the Department of Defense, agree with your assessment that the Army's Plan for ARI, which includes moving Apaches from the National Guard to the Regular Army, as well as Blackhawks from the Regular Army to the National Guard, is cost-effective, better supports Homeland Defense, and better meets the demands of our classified warfighting scenarios.

We are also providing you with direct input from the Office of Secretary of Defense for Cost Assessment and Program Evaluation (OSD-CAPE) and the Army National Guard.

Sincerely,

Gary H. Cheek
Major General, U.S. Army
Assistant Deputy Chief of Staff, G-3/5/7

(351967)