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FORCE STRUCTURE

**Preliminary Observations
on Army Plans to
Implement and Fund
Modular Forces**

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Highlights of [GAO-05-443T](#), a testimony before the Subcommittee on Tactical Air and Land Forces, House Committee on Armed Services

Why GAO Did This Study

Modularity is a major restructuring of the entire Army, involving the creation of brigade combat teams that will have a common design and will increase the pool of available units for deployment. The Army is undertaking this initiative at the same time it is supporting the Global War on Terrorism, and developing transformational capabilities such as the Army Future Combat Systems. To achieve modularity, the Army currently estimates it will need \$48 billion. The Department of Defense's (DOD) request for fiscal year 2005 supplemental funds includes \$5 billion for modularity. The Army plans for another \$5 billion to be funded from fiscal year 2006 supplemental funds and the remaining \$38 billion from DOD's annual appropriation from fiscal years 2006 through 2011.

Our testimony addresses: (1) the Army's goals and plans for modularity, (2) challenges the Army faces in staffing and equipping its modular combat brigades, (3) key decisions that could affect requirements, and (4) the Army's cost estimates and funding plans.

This testimony is based on ongoing GAO work examining Army modularity plans and costs. Our work has been primarily focused on the Army's active forces.

www.gao.gov/cgi-bin/getrpt?GAO-05-443T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Sharon L. Pickup at (202) 512-9619 or Janet A. St. Laurent at (202) 512-4402.

FORCE STRUCTURE

Preliminary Observations on Army Plans to Implement and Fund Modular Forces

What GAO Found

The Army has embarked on a major initiative to create modular units to better meet the near-term demand for forces and improve its capabilities to conduct full-spectrum operations. Modularity is a major undertaking because it affects both the active and reserve components as well as combat and support forces. Successfully implementing this initiative will require many changes such as new equipment and facilities, a different mix of skills among Army personnel, and significant changes to training and doctrine. By the end of fiscal year 2006, the Army plans to reorganize its 10 active divisions, expanding from 33 brigades to 43 modular brigade combat teams, and by fiscal year 2010, create new types of command headquarters. The Army has completed or is in the process of establishing modular brigades in four of its active divisions.

While the Army has made progress in establishing modular brigades, it is likely to face several challenges in providing its new modular units with some required skilled personnel and equipment that are needed to achieve planned capabilities. For example, the Army has not provided its new modular brigades with required quantities of critical equipment such as unmanned aerial vehicles, communications equipment, and trucks because they are not currently available in sufficient quantities. Moreover, it may take years to meet increased requirements for critical skills such as military intelligence analysts because they are in high demand and take years to train. In addition, the Army has not yet made a number of key decisions that could further increase requirements for equipment and personnel. First, the Army has not yet decided whether to recommend an increase in the number of active brigade combat teams from 43 to 48. Also, it is assessing the costs and benefits of adding one more combat maneuver battalion to its new modular brigades. Finally, the Army has not yet finalized the design of higher echelon and support units. Until designs are finalized and key decisions are reached, the Army will not have a complete understanding of the equipment and personnel that are needed to fully achieve its goals.

The costs associated with modularizing the entire Army are substantial, continuing to evolve, and likely to grow beyond current estimates. As of March 2005, the Army estimated it will need about \$48 billion to fund modularity—representing an increase of 71 percent from its earlier estimate of \$28 billion in 2004. However, this estimate may not reflect all potential costs, such as for fully equipping the modular force as designed. Also, if the Army decides to add additional brigades or make other design changes, additional costs may be incurred. Furthermore, some costs are uncertain. For example, it will be difficult for the Army to determine facility requirements and related costs until DOD finalizes plans for restationing forces from overseas. Until the Army provides a better understanding of the requirements and costs associated with modularity, DOD will not be well positioned to weigh competing priorities and make informed decisions nor will the Congress have the information it needs to evaluate funding requests.

Mr. Chairman and Members of the Committee:

We are pleased to be here today to discuss our ongoing work on the Army's modular force initiative. The Army considers modular force transformation to be the most extensive reorganization of its force since World War II, requiring large investments in personnel and equipment to restructure its force, now organized in divisions, to a modular brigade-based force. Because the Army is undertaking this effort while executing the Global War on Terrorism and developing other new capabilities such as the Future Combat Systems, the Department of Defense (DOD) may face some long-term affordability challenges as it moves forward with these and other initiatives. In other testimony today, we will address our ongoing work on Future Combat Systems.¹

As part of this hearing, you asked us to discuss our preliminary observations based on our ongoing work that focuses on the Army's implementation and challenges of achieving a modular force, and the cost implications of this major initiative. Specifically, our testimony today will address (1) the Army's goals for modularity and its plan for carrying out this reorganization, (2) potential challenges the Army may face in staffing and equipping brigades that are being created from the Army's existing division-based force, (3) key decisions that could further affect modularity requirements, and (4) the Army's cost estimates for modularity and its plan for funding these costs.

The information we will discuss on modularity is based on our preliminary work focusing on the active Army. We plan to issue a report later this year. To address Army implementation plans and costs, we conducted interviews with and reviewed documents from the Army Staff, the Army Budget Office, U.S. Army Forces Command, the U.S. Army Training and Doctrine Command, and the U.S. Army Force Management Support Agency. In addition, we visited the 3rd Infantry Division and the 101st Airborne Division, which are among the first active combat divisions to undergo modular conversion.

We conducted our work from August 2004 to March 2005 in accordance with generally accepted government auditing standards.

¹ GAO, *Defense Acquisitions: Future Combat Systems Challenges and Prospects for Success*, [GAO-05-428T](#) (Washington, D.C.: Mar. 16, 2005).

Summary

While the Army has made progress in establishing modular brigades, it is likely to face several challenges in providing its new modular units with some required skilled personnel and equipment that are needed to achieve planned capabilities. For example, the Army has not provided its new modular brigades with required quantities of critical equipment such as unmanned aerial vehicles, communications equipment, and trucks because they are not currently available in sufficient quantities. Moreover, it may take years to meet increased requirements for critical skills such as military intelligence analysts because they are in high demand and take years to train. In addition, the Army has not yet made a number of key decisions that could further increase requirements for equipment and personnel beyond those that have been identified by the Army to date. First, the Army has not yet decided whether to recommend to the Secretary of Defense an increase to the number of active brigade combat teams from 43 to 48. Also, it is refining its analysis of design requirements and assessing the costs and benefits of adding one more combat maneuver battalion to its new modular brigades. Finally, the Army has not yet finalized the design of higher echelon and support units. Until designs are finalized and key decisions are reached, the Army will not have a complete understanding of the equipment and personnel that are needed to fully achieve its goals for a more capable modular force.

The costs associated with modularizing the entire Army are substantial, continuing to evolve, and likely to grow beyond current estimates. As of March 2005, the Army estimated it will need a total of about \$48 billion to fund modularity—representing an increase of 71 percent from its earlier estimate of \$28 billion in 2004. Our preliminary work suggests that this revised estimate may still not reflect all potential costs, including fully equipping the modular force as designed. Also, if the Army decides to add additional brigades or maneuver battalions to the modular force, as it is considering, it may incur additional costs. Furthermore, some costs are uncertain. For example, it will be difficult for the Army to determine facility requirements and related costs until DOD finalizes plans for restationing forces from overseas. Until the Army provides a better understanding of the requirements and costs associated with modularity, DOD will not be well positioned to weigh competing priorities or make informed decisions and the Congress will not have all the information it needs to evaluate funding requests for modularity.

Army Modularity Is a Significant Undertaking

The Army's modular force initiative, which has been referred to as the largest Army reorganization in 50 years, encompasses the Army's total force—active Army, National Guard, and Army Reserve—and directly affects not only the Army's combat units, but related support and command and control. Restructuring its units is a major undertaking and requires more than just the movement of personnel or equipment from one unit to another. The Army's new designs are equipped and staffed differently than the units they replace. Therefore, successful implementation of this initiative will require many changes such as new equipment and facilities, a different mix of skills and occupational specialties among Army personnel, and significant changes to training and doctrine.

The foundation of Army modularity is the creation of brigade combat teams—brigade-sized units that will have a common organizational design and will increase the pool of available units for deployment. The Army believes a brigade-based force will make it more agile and deployable and better able to meet combatant commander requirements. Not only does the Army expect to produce more combat brigades after its restructuring, it believes the brigades will be capable of independent action by the introduction of key enablers, such as enhanced military intelligence capability and communications, and by embedding various combat support capabilities in the brigade itself instead of at a higher echelon of command. The Army's goal is for each new modular brigade combat team, which will include about 3000-4000 personnel, to have at least the same combat capability as a brigade under the current division-based force, which ranges from 3000 to 5000 personnel.² Since there will be more combat brigades in the force, the Army believes its overall combat capability will be increased as a result of the restructuring, providing added value to combatant commanders.

By the end of fiscal year 2006, the Army plans to reorganize its 10 active divisions, expanding from the current 33 to 43 modular, standardized brigade combat teams and creating new types of command headquarters to replace the current division headquarters structure. According to Army officials, this is a very quick pace for a restructuring of this magnitude. The Army has already begun the conversion with 4 divisions: the 3rd Infantry

² The Army's plan calls for three variants of the modularized brigade combat team. The infantry variant will have about 3300 personnel, the armored variant 3700 personnel, and the Stryker variant 4000 personnel.

and the 101st Airborne Divisions, which we have visited, the 4th Infantry Division which we plan to visit this spring, and the 10th Mountain Division. The 3rd Infantry Division has redeployed back to Iraq in its new configuration, and the 101st is scheduled to redeploy later this year.

The Army's organizational designs for the brigade combat teams have been tested by its Training and Doctrine Command's Analysis Center at Fort Leavenworth against a variety of scenarios and the Army has found the new designs to be as effective as the existing brigades in modeling and simulation. During the next few years, the Army plans to collect lessons learned from deployments and major training exercises and make appropriate refinements to its unit designs, equipment requirements, and doctrine.

By fiscal years 2009-10, the Army plans to complete the creation of modular, standardized supporting brigades as well as a reorganization of its Corps and theater-level command and support structures. Ninety-two support brigades and five higher echelon headquarters will be included in this initiative—yet another indication of the far-reaching nature of the Army's modularity plan.

Although our work has focused on the active component, restructuring of the reserve component into modular units will also be a major undertaking. The Army plans to convert the National Guard's existing 38 brigades into 34 modular brigade combat teams by fiscal year 2010. However, the Army is considering accelerating this schedule, according to Army officials. In addition, the Army Reserve will have to realign its support units in accordance with new modular designs. Like the active component, the reserves will have to manage these conversions to the new modular organizations while continuing to provide forces to Iraq.

Because of the high degree of complexity associated with establishing a modular force while managing deployments to ongoing operations, the Army has developed a number of plans and processes, such as the Army Campaign Plan³ and has held periodic meetings within the Army headquarters and its components and major commands, to manage these

³ The Army Campaign Plan, dated April 12, 2004, and updated October 27, 2004, guides the planning, preparation, and execution of the restructuring of the Army into a brigade-based modular force.

changes. The Army's senior leadership is playing a key role in these processes.

Army May Face Challenges in Staffing and Equipping Modular Brigade Combat Teams

The Army is likely to face a number of challenges in fully staffing and equipping modular combat brigades as designed. Although somewhat smaller in size, the new modular brigades are expected to be as capable as the Army's existing brigades because they will have different equipment, such as advanced communications and surveillance equipment, and a different mix of personnel and support assets. Although the Army has an approved and tested design for the new modular brigades, it has also established a modified list of equipment and personnel that it can reasonably expect to provide to units undergoing conversion based on its current inventory of equipment, planned procurement pipelines, and other factors such as expected funding. The Army expects to use this modified list of equipment and personnel to guide the conversion of existing divisions to modular brigades for the foreseeable future. Our preliminary work indicates significant shortfalls in the Army's capacity to equip and staff units, even at modified levels.

For example, according to Army officials, modular brigade combat teams will require additional soldiers in personnel specialties such as military intelligence, truck drivers, civil affairs, and military police to achieve the planned capability. Military intelligence is one of the most critical of these specialties because military intelligence enables brigade combat teams to conduct 24-hour combat operations, cover highly dispersed battlespaces, and increase force protection. According to Army officials, the Army needs to add 2800 military intelligence specialists by the end of fiscal year 2005 to meet near-term military intelligence shortages. Moreover, the Army needs an additional 6200 military intelligence specialists through fiscal year 2010 to meet modular force requirements. Providing additional military intelligence specialists, particularly at the more senior levels, may take several years because of the extensive training required. At the time of our visit, the 3rd Infantry Division's four brigade combat teams each had less than 50 percent of their military intelligence positions filled. Although the Army was later able to fill the division's needs by reassigning military intelligence specialists from other units prior to its deployment to Iraq in January 2005, many of these soldiers were redeployed after just having returned from overseas. Moreover, transferring soldiers from other units may make it more difficult for the Army to fill positions in the remaining divisions scheduled to be restructured. We are continuing to follow up on Army actions to address these shortages.

Similarly, modular brigade combat teams require significant increases in the levels of equipment, particularly command, control, and communications equipment; wheeled vehicles; and artillery and mortars. Examples of command, control, and communications equipment that are key enablers for the modular brigade combat teams include advanced radios, Joint Network Node systems, ground sensors such as the Long-Range Advanced Scout Surveillance System, and Blue Force Tracker, among others. This critical equipment makes possible the joint network communications, information superiority, and logistical operations over a large, dispersed battlespace in which modular forces are being designed to effectively operate. Although the Army has some of this equipment on hand, the levels being fielded to brigade combat teams are well below the levels tested by the Training and Doctrine Command. As a result, officials from both divisions we visited expressed concern over their soldiers' ability to train and become proficient with some of this high-tech equipment because the equipment is not available in sufficient numbers.

Moreover, it is not clear yet how the Army plans to bring brigades that have already undergone modular conversion up to Training and Doctrine Command tested levels of personnel and equipment following their deployments. For example, the design requires a division with four modular brigade combat teams to have approximately 28 tactical unmanned aerial vehicle systems. These systems provide surveillance and reconnaissance for soldiers on the battlefield and enable them to more safely carry out their missions. However, because of current shortages, the 3rd Infantry Division and the 101st Airborne Division are only authorized to have 4 systems, and at the time of our visits, the 3rd Infantry Division had 1 and the 101st Airborne had none on hand. The Army requested funding for only 13 of these systems in the fiscal year 2005 supplemental appropriation request to the Congress; thus, it remains unclear as to when the 3rd Infantry Division or the 101st Airborne Divisions will receive their full complement of tactical unmanned aerial vehicle systems. Also, the Army may continue to provide other divisions undergoing conversion with limited quantities that fall short of the design requirement.⁴

⁴ We recently testified that DOD needs a strategic plan to guide all UAV development and fielding efforts, which would include UAVs needed for modularity. See GAO, *Unmanned Aerial Vehicles: Improved Strategic and Acquisition Planning Can Help Address Emerging Challenges*, [GAO-05-395T](#) (Washington, D.C.: Mar. 9, 2005).

Army Faces a Number of Key Decisions That Could Affect Modular Force Requirements

According to Army modularity plans, the Army is continuing to assess its requirements and may make some key decisions in the future that will affect the size and composition of the modular force as well as its cost. First, the Army's Campaign Plan calls for a potential decision by fiscal year 2006 on whether to create 5 additional modular brigade combat teams. Adding 5 brigades would provide additional capability to execute the defense strategy but would require additional restructuring of people and equipment. Second, according to the 2004 Army Transformation Roadmap, the Army is evaluating whether to add a third maneuver battalion to brigade combat teams in fiscal year 2007 to prepare for the fielding of the Future Combat Systems Units of Action, which are designed with three maneuver battalions. Additionally, according to the Army's Training and Doctrine Command, early testing demonstrates that brigade combat teams with three maneuver battalions offer distinct advantages over two battalion formations because they provide robust, flexible, full-spectrum capability. The command is conducting additional analysis to assess the value and cost of adding a third combat maneuver battalion to the modular brigade combat teams. If the Army later decides to add a battalion to some or all of the 43 or potentially 48 modular brigade combat teams, it will need to assign thousands of additional soldiers and field additional equipment.

The Army also faces a number of decisions in finalizing its plans for creating modular support brigades. Modular support brigades that will replace the current division-based combat service and support structure are not scheduled to be fully in place until fiscal years 2009-10. The Army has finalized the designs and requirements for three of the five types of support brigades, but has not yet made final design decisions for the other two. The support brigades are key components of the Army's concept of modular forces being more responsive and expeditionary than current forces. Until the modular support brigades are fully organized, equipped, and functional, the Army's modular forces would not have these capabilities, and in the interim, combat service and combat service support would need to be provided by existing division-based support organizations. This means that for some time to come, even as the Army makes progress in achieving greater uniformity across the force, there will be a number of variations in the size and capability of available support units. Also, as with the decision to add additional battalions, until the Army completes all of its force structure designs for support brigades, it will not have a total picture of its personnel and equipment requirements.

Finally, by fiscal year 2010 the Army plans to complete a reorganization of its corps and theater-level command and support structure. The Army's plans would eliminate an entire echelon of command, moving from four levels to three and freeing additional personnel spaces that can help meet some of its modular force personnel requirements. While the Army expects to achieve efficiencies resulting from the reduction of command and support structures, their magnitude is not yet known and they may not be realized for several years. Moreover, while potentially somewhat more efficient, the new command-level designs are likely to require new command, control, and communications equipment to enable them to function in their updated roles, such as providing the basic structure for a joint headquarters.

Cost Estimates for Fully Implementing Modularity Have Increased Significantly and Are Still Evolving

The costs of modularity are substantial and are likely to grow. Since 2004, the Army's cost estimates have increased significantly. In January 2004, the Army estimated that increasing the number of active modular brigade combat teams from 33 to 48 would cost \$20 billion from fiscal years 2004 through 2011 based on a "rough order of magnitude estimate." As of July 2004, the Army added \$8 billion to address costs for reorganizing the reserve component, bringing the total estimated cost for reorganizing the entire force to \$28 billion. Our preliminary work highlighted several limitations in this estimate. For example, the July 2004 estimate:

- included costs of adding 15 light infantry brigades for the active component to bring the total number of active brigades to 48, but these costs were based on the current brigade structure, not the tested modular design;
- did not take into account the costs for upgrading existing active brigades, or other support and command elements; and
- accounted for construction of temporary, relocatable facilities, but did not allow for permanent upgrades to facilities or increases to other services provided at Army installations to accommodate the increase in modular units.

As of March 2005, the Army has revised its earlier estimate, now estimating that modularity will cost a total of \$48 billion from fiscal years 2005 through 2011—an increase of 71 percent over its earlier \$28 billion estimate. According to the Army, this estimate includes costs for a total of 43 active component brigades—covering upgrades to the existing 33 brigades and

the creation of 10 new brigades—as well as 34 brigades in the reserve component. During our preliminary work we discussed and obtained summary information on the types of cost and key assumptions reflected in the Army’s estimates. However, we were unable to fully evaluate the estimates because the Army did not have detailed supporting information.

According to Army officials, the Army used the modular design, which has been informed by combat operations in Iraq, as the basis for developing the March 2005 revised estimate. They noted the estimate includes costs for the creation of new brigades as well as upgrades to existing brigades, costs for support and command elements, and costs for permanent facilities. However, unlike the original estimate, the current estimate does not include any personnel costs. According to Army officials, an increase in personnel endstrength is needed to simultaneously conduct operations and reorganize into a modular force. They told us these costs were excluded from the current estimate because it was difficult to differentiate between endstrength increases associated with conducting operations and those needed for modularity.

Based on our preliminary review of the Army’s revised estimate and potential costs associated with modularizing the active component, we believe there are certain factors that could affect the overall cost for modularity, including some that will likely make it grow higher than the current estimate of \$48 billion.

- First, the Army’s current cost estimate does not use the tested design as the basis for determining equipment costs. Rather, the estimate reflects costs for a lesser amount of equipment than called for in the tested design. According to Army officials, they estimated equipment costs in this manner because some equipment is not currently available or in production in sufficient quantities to meet modularity requirements.
- Second, if the Army decides to add 5 brigade combat teams to the current plan and/or an additional maneuver battalion to some or all brigades, the cost for modularity will increase significantly. For example, each modular brigade combat team, under the current design, would require 3,300 to 3,700 soldiers, for a potential total of up to 18,500 soldiers. While at least some of these personnel requirements could be offset with existing force structure, it is unclear how many additional soldiers, if any, would be needed. Nonetheless, adding these brigades to the force structure would add costs for equipment, facilities, and training.

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- Finally, the Army's current cost estimate includes costs for permanent facilities needed to accommodate the modularized brigade combat teams. However, according to Army officials, plans for constructing facilities are uncertain because of pending decisions related to the Base Realignment and Closure process and the planned restationing of forces from overseas.

The Army anticipates obtaining funds to pay for this restructuring through supplemental and annual appropriations. To cover the \$48 billion estimate, current DOD budget plans indicate the Army would receive a total of \$10 billion from supplemental appropriations in fiscal years 2005 and 2006, and a total of \$38 billion from DOD's annual appropriation for the period of fiscal years 2006 through 2011.⁵ As part of our ongoing work, we will continue to review the Army's estimates, cost implications, and funding plans for modularity.

Concluding Remarks

The Army views modularity as critical to improving the combat and support capability of its forces. Restructuring the entire force while continuing to support ongoing operations poses significant challenges and will require substantial funds. The magnitude of achieving modularity, coupled with other ongoing major transformation initiatives, raises long-term affordability issues for DOD. Until the Army more fully defines the requirements and potential costs associated with modularity, DOD will not be well positioned to weigh competing priorities and make informed decisions, and the Congress will not have all the information it needs to evaluate funding requests for modularity.

Mr. Chairman and Members of the Committee, this concludes our prepared remarks. We would be happy to answer any questions you may have.

⁵ The annual appropriations totaling \$38 billion include \$13 billion that the Army reallocated from other programs.

Contacts and Staff Acknowledgments

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