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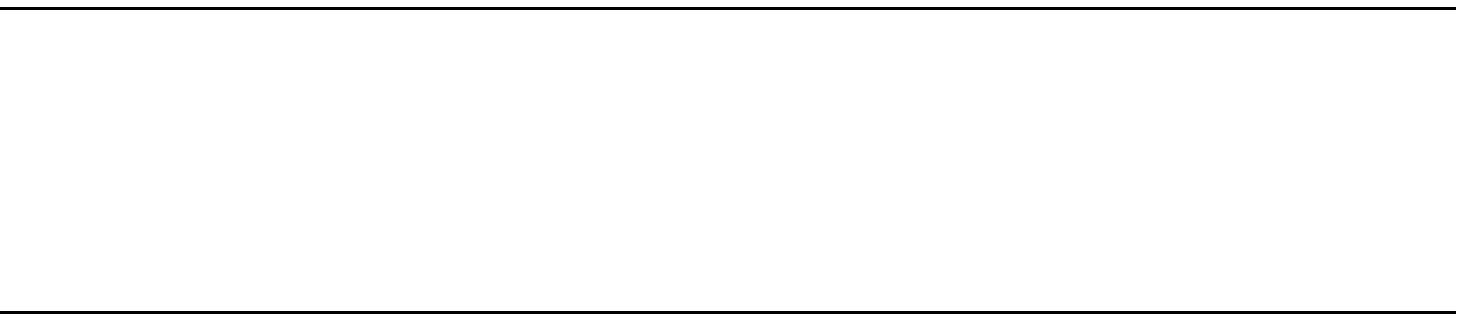
ARMY LOGISTICS

Status of Proposed Support Plan for Apache Helicopter



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**United States General Accounting Office
Washington, D.C. 20548**

**National Security and
International Affairs Division**

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The Honorable Herbert H. Bateman
Chairman
The Honorable Solomon P. Ortiz
Ranking Minority Member
Subcommittee on Military Readiness
Committee on Armed Services
House of Representatives

Consistent with the results of the 1997 Quadrennial Defense Review, the Department of Defense (DOD) has embarked on a strategy to reengineer its logistics support for weapon systems, placing greater reliance on the private sector for this support. The Apache AH-64 helicopter has been designated by DOD as a pilot effort for implementing this new strategy.¹ At the same time, the Army has been considering a logistics support concept called Prime Vendor Support² (PVS) for the Apache helicopter. Apache PVS is a contractor's proposal to use commercial practices to reengineer logistics support, improve readiness, reduce life-cycle costs and provide savings that can be used to modernize the Apache aircraft.³ The program is also intended to rely on private-sector capital to upgrade Apache components and to manage the parts pipeline. The program also corresponds with an Army General Officer Steering Committee's desire to seek ways to reengineer logistics support for the Apache helicopter, lower costs, and provide savings for modernization.

¹The Apache helicopter is the Army's premier aviation weapon system. Its mission as an attack helicopter is to perform rear, close, and deep operations and deep precision strikes and to provide armed reconnaissance and security. The terms rear, close, and deep refer to where in the battlefield military operations take place. These vary according to the depth of the battlefield. Depth is the extension of operations in time, space, resources, and purpose.

²Prime vendors typically are third-party contractors that buy inventory from a variety of suppliers, store it in commercial warehouses, and ship it to customers when ordered. In the case of the Apache helicopter, the prime vendor concept is much different in that the major equipment manufacturers are teaming together to provide the full range of logistics support along with continuous product improvement and modernization.

³The proposed contract amount of the PVS offer and the value of the government's estimate of its in-house best-case approach are considered proprietary and competition sensitive, respectively; therefore, this data is not included in this report.

Section 346 of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 (P.L. 105-261) prohibits the Secretary of Defense from entering into a prime vendor contract for depot maintenance and repair of a weapon system until 30 days after the Secretary submits a report to the Congress that describes the competitive procedures used to select the awardee and provides a cost analysis that shows savings to the government over the life of the contract. As you requested, we determined the status of the Apache PVS proposal. This report addresses the evolution of the PVS concept and the financial and operational issues that have been raised over whether the Army should implement the concept.

Results in Brief

The Apache PVS concept began as an unsolicited contractor proposal whose scope has evolved over time. As would be expected when a new concept of this magnitude is introduced, there are significantly different views about various aspects of the proposal. Although the Apache PVS proposal is viewed by various Office of the Secretary of Defense (OSD) and Army officials as a key effort to test improved weapon system logistics support, the proposal remains under study within the Army to address unresolved issues. The Army does not know when a decision will be made on whether or not the program will go forward. Key questions remain regarding how certain cost factors should be considered in evaluating the PVS proposal. Estimates of the cost differences between PVS and the government's best-case cost study of the in-house approach vary significantly, and each is considered the most cost-effective depending on which assumptions, including program requirements, are used. Also, a number of questions have been raised about the potential operational impact of PVS on meeting warfighters' logistics support needs. Because of uncertainties and differing views and issues that have emerged, the Under Secretary of the Army directed in January and March 1999 that more rigorous and comprehensive analyses be conducted of cost, operational, and requirement issues. Those efforts are still underway.

Because the PVS studies directed by the Under Secretary are not yet complete, we are not making any recommendations in this report.

Background

In recent years, DOD has concluded that its logistics support system needs to be more efficient and effective in meeting war-fighters' needs. DOD has recently designated the AH-64 Apache helicopter as one of several pilot

programs to test improvements in program management responsibility for life-cycle logistical support of specific weapon systems.

Traditional Logistics Management System

The Army currently manages its logistics system through a network of federal workers who acquire spare parts, manage the configuration and the upgrades, and oversee all logistics functions.⁴ This extensive and interrelated logistics support system is executed by dedicated program and commodity management personnel that work for the Army as well as contractor personnel and employees of the Defense Logistics Agency (DLA). The Army's Aviation and Missile Command—a major subordinate command under the Army Materiel Command—manages support of the Apache system through a broad range of activities and functions, including determining the need for and acquiring spare parts and depot level maintenance, managing inventory, and managing configuration and engineering upgrades.

The Apache program manager is responsible for the development, acquisition, and fielding of the system. The manager reports to the Aviation Program Executive Officer (PEO) under the Assistant Secretary of the Army for Acquisition, Logistics, and Technology. The PEO is responsible for providing executive-level management of assigned weapon system programs such as the Apache helicopter. At the unit level, a combination of federal civilian, military, and contractor maintenance and supply activities provide support to the Apache system.

Working Capital Funds Finance Logistics Support

The Army and DLA use working capital funds to finance logistics support for the Apache system.⁵ Customers that buy supplies through working capital funds pay the latest acquisition or repair price plus a surcharge for additional costs such as transportation, inventory management, and depreciation. Sales related to the Apache system represent a sizable

⁴The Army has a two-tiered, wholesale and retail logistics support system. The wholesale system is comprised of the four major commands subordinate to the Army Materiel Command; these subordinate commands procure supplies directly from vendors and hold inventories of stocks to meet the demands of retail customers. Retail customers are field-operating commands, which receive support from the wholesale level.

⁵DOD has used revolving or working capital funds for years. However, in December 1996, the Under Secretary of Defense (Comptroller) reorganized the Defense Business Operations Fund and created four working capital funds—Army, Navy, Air Force, and Defense-wide. Under the working capital fund concept, Defense components are expected to break even over time by charging customers the full cost of goods and services provided to them. Customers use appropriated funds, primarily Operations and Maintenance appropriations, to finance purchases.

portion of the Army Working Capital Fund's business activity. For fiscal year 1999, the Army estimated that total sales for the fund would be about \$2.94 billion and that sales involving the Apache system would be about \$543 million. Surcharges represent about 25 percent of the fund's total sales value. For fiscal year 1998, sales in DLA's Working Capital Fund totaled \$7.39 billion, including about \$52.6 million for the Apache system. DLA estimated that its surcharge rate was about 24 percent of total sales.

Policy and Legislative Guidance Applicable to Outsourcing Decisions

Although OSD has designated the Apache PVS proposal a pilot effort, this designation did not provide an exemption from policy and legal requirements that might otherwise affect outsourcing decisions.

Since 1955, federal agencies have been encouraged to obtain commercially available goods and services from the private sector if doing so is cost-effective. In 1966, the Office of Management and Budget (OMB) issued Circular A-76, which established federal policy for the government's performance of commercial activities and set forth the procedures for studying them for potential contracting. The circular and its Supplemental Handbook provide guidance to federal agencies on procedures to follow in determining whether commercial activities should be performed in-house, by another federal agency through interservice support agreements, or by the private sector. This guidance generally applies to commercial functions except those involving depot maintenance workloads performed in-house and valued at more than \$3 million—those are subject to the competitive requirements of 10 U.S.C. 2469. Under the Apache PVS proposal, the current plan is for in-house depot maintenance work to remain in Army depots; under these circumstances, section 2469 and its requirements for competing depot workloads would not apply.

Generally, the A-76 process requires (1) developing a performance work statement and quality assurance surveillance plan; (2) conducting a management study to determine the government's most efficient organization (MEO); (3) developing an in-house government cost estimate for the MEO; (4) issuing a request for proposal or invitation for bid; (5) evaluating the proposals or bids and comparing the in-house estimate with a private-sector offer or interservice support agreement and selecting the winner of the cost comparison; and (6) considering any appeals submitted under the administrative appeals process, which is designed to ensure that all costs are fair, accurate, and calculated in the manner prescribed by the A-76 handbook.

The A-76 Supplemental Handbook provides that under certain circumstances agencies may waive cost comparisons and direct conversion to or from in-house, contract, or interservice support agreements. A waiver may be granted where the appropriate official determines that

- the conversion will result in a significant financial or service quality improvement and will not serve to significantly reduce the level or quality of competition in the future award or performance of work or
- the waiver will establish why in-house or contract offers have no reasonable expectation of winning a competition conducted under the cost comparison procedures of the handbook.

In addition to A-76, DOD must consider the effect of 10 U.S.C. 2461 when it plans changes to an industrial- or commercial-type function performed by its civilian employees. Section 2461, as amended by the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999, requires an analysis of the activity, including a comparison of the cost of performance by DOD civilian employees and by a contractor, to determine whether contractor performance could result in savings to the government. It also requires DOD to notify the Congress and to provide other information prior to instituting a change in performance.⁶ In October 1997, the Army provided an initial notification to the Congress regarding its intent to study Apache logistics functions for possible performance by a contractor. This notification included the Army's intent to make appropriate cost comparisons between current government operations and proposed contractor operations.⁷

Evolution and Status of PVS Support Proposal

The Apache PVS concept began as an unsolicited contractor proposal, whose scope has evolved over time. However, because of questions and uncertainties regarding PVS requirements, cost-effectiveness, and operational impact, the proposal was the subject of various studies and reviews that provided differing results. In January and March 1999, the Under Secretary of the Army directed a comprehensive review of various

⁶Further, section 8014 of the Department of Defense Appropriations Act for Fiscal Year 1999 (P.L. 105-262) requires that DOD certify its in-house estimate to congressional committees before outsourcing any activity performed by more than 10 DOD civilian employees.

⁷The Army's notification was submitted under 10 U.S.C. 2461 prior to the 1999 Defense Authorization Act amendments. The earlier version of section 2461 contains similar, but less detailed, analysis and notification requirements.

issues surrounding the PVS proposal. Those reviews are still underway, but no milestone has been established for their completion.

Program Evolution

In April 1997, the Army received an unsolicited proposal from McDonnell Douglas (now Boeing) and Lockheed Martin to provide full wholesale logistics support for the Apache helicopter. The Apache PVS proposal would outsource almost all of the Army's traditional logistics support functions⁸ to a contractor, Team Apache Systems (TAS).⁹ The proposal would significantly reengineer logistics support for the Apache helicopter while meeting a 120,000 flying-hour requirement each year. The program would be expected to lower total ownership costs, improve parts availability, and leverage private-sector resources for modernization.

In assessing the value of the PVS proposal, the Aviation PEO stated that the government's traditional logistics management system was a problem because of split management responsibility and shared control between the government and contractors. In his view, under the current approach, no single entity is responsible for identifying and implementing cost-saving changes to improve Apache logistics support. The Aviation PEO also described the current system as having parts shortages, requiring extensive use of local special repair activities to meet needs, needing controlled substitution of spare parts to meet maintenance requirements, and having declining financial resources to support the wholesale system due to the use of local options and high flying-hour costs. In his view, decapitalizing¹⁰ the Apache system from the Army Working Capital Fund and converting it to PVS as a pilot program would test whether the Army can develop a better way to manage its logistics business operations.

⁸Current plans for the Apache PVS proposal provide that the Corpus Christi Army Depot, the Army's in-house helicopter depot, would accomplish about 85,000 direct labor hours of Apache depot maintenance work. The components repaired by Corpus Christi would be provided as government furnished materiel to the PVS contractor. Although a limited amount of direct labor hours of Apache work is currently being performed by the Anniston and Tobyhanna Army depots, the Army has not yet determined how or to what extent this work would continue to be done at Army depots under the proposed PVS program.

⁹Team Apache Systems is a limited liability company formed by Boeing, Lockheed Martin, and General Electric.

¹⁰Decapitalization is the transfer of fund inventories to other appropriations or funds without reimbursement. Decapitalizing a weapon system leaves the fund with essentially the same costs, at least in the short term, but reduces the number of contributors that will continue to pay their share of the costs.

The Aviation PEO office expects the PVS contractor to

- use commercial best practices to develop and implement design and logistics support changes to improve performance and reduce life-cycle support costs;
- improve stock availability and maximize rapid distribution without impacting safety, readiness, supportability, or performance; and
- reduce failures and removals and repairs and improve supportability through component reliability improvements.

After receiving the PVS proposal, the Army initiated several actions to establish a framework for analyzing Apache PVS for a 5-year period, from fiscal year 1999 through 2003:

- In May 1997, the Army's commercialization General Officer Steering Committee concluded that the Army had to reengineer the Apache logistics support functions to lower costs and provide savings for modernization. Thus, the committee designated Apache PVS as a pilot program and directed the Army Aviation PEO to study the acceptability of the proposal.
- In October 1997, the Acting Assistant Secretary of the Army for Research, Development, and Acquisition, authorized the Army Aviation and Missile Command to pursue a PVS contract through other than full and open competition because the original equipment manufacturers were considered the only entities technically capable of providing complete logistics support for the Apache system.¹¹
- In October 1997, the Aviation PEO and Army Aviation and Missile Command began negotiations with the PVS contractor to jointly develop a proposal acceptable to both parties. Under an approach referred to as alpha contracting, the Army's team and TAS jointly developed requirements and a PVS performance work statement that defined the performance-based products and services to be provided by the firm.
- In November 1997, consistently with A-76 requirements, representatives from the Army Materiel Command began an internal evaluation to develop the government's best case cost estimate for its in-house approach under a streamlined concept to provide Apache logistics support.

¹¹The approval to negotiate a PVS contract on the basis of other than a full and open competition conditioned the award of the contract on approval of an OMB Circular A-76 waiver to the requirement for a cost study that compares the negotiated price of the contract with the cost of government performance.

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- In December 1997, representatives from the Aviation PEO's Office and the Army's Cost and Economic Analysis Center developed a cost baseline for the Apache system. This baseline represented the estimated operational costs for the 5-year period.
 - In March 1998, the Army Materiel Command provided its best-case government estimate for accomplishing the Army's in-house effort to improve the efficiency of in-house logistics support for the 5-year period.
 - In June 1998, contract negotiations resulted in an offer from TAS for Apache PVS for the 5-year period.

To facilitate developing the government's best estimate of its in-house approach, in September 1997 the Aviation PEO provided the Army Materiel Command a number of proposed metrics and requirements that had been developed for Apache PVS. In developing its in-house estimate, Army Materiel Command expected to improve the current logistical support system through a number of efficiencies related to actions such as

- reducing overhead costs,
- reducing the number of civilian personnel devoted to material management and contract oversight,
- reducing the cost of Apache components, and
- establishing logistics centers of excellence and consolidating repair functions to provide support for the Apache system.

Where Things Stand Today

Because of uncertainties and differing views and issues that have emerged from the Army's acquisition, logistics, and operational communities regarding requirements of the proposed Apache PVS program, cost-effectiveness, and operational impact, the Under Secretary of the Army directed in January 1999 that a more rigorous and comprehensive analysis be conducted. More specifically, he directed Army components to expand the PVS analysis to include

- a review of the Aviation PEO's A-76 waiver package for proper accounting;
- a 20-year cash flow analysis to determine the net present value of positive and negative cash flow if PVS were implemented;
- identification of PVS implementation costs and of the financial impact of the Army's transition to PVS, to include a validation of inventory and pipeline values and determination of the impact on the Army Working Capital Fund and customer funding;

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- an update of the government's best-case proposal cost estimate, extending it beyond the original 5-year period to be as compatible as possible with the current PVS proposal;
 - a determination of how much the PVS and management information systems will be transparent to the soldiers;
 - an evaluation of how PVS would work in a transition to war; and
 - an assessment of the impact of an increase in the Apache flying-hour requirement on expected PVS operations and costs.

Also, in March 1999 the Under Secretary of the Army tasked the Deputy Chief of Staff for Operations and Plans to identify the Army's requirements to satisfy the Apache flying-hour program. This would include determining whether additional services offered by the PVS contractor would be needed. If they are, the Army does not know at this time whether or not further analysis might be required to ensure a more level playing field between the government and the private sector to determine which could provide the most cost-effective option.

Various Army components have proposed milestones for completing the Apache PVS study and transitioning to PVS operations. However, the Under Secretary of the Army's expansion of the study process has resulted in a stretching out of the time frames for completing the study effort. As of May 1999, the Army had not established a firm milestone for completing its study efforts.

Significant Financial Issues Led the Under Secretary to Request More Detailed Analyses

There are significant differences of opinions within the Army over the cost-effectiveness of the Apache PVS proposal. On one hand, there are those within the PEO community who believe the proposal is more cost-effective than the government's in-house approach; on the other hand, there are others who believe the government's approach is the most cost-effective. Army analysts tasked with studying the matter have reached varying conclusions ranging from increased costs to significant savings about the financial effects of Apache PVS. The Aviation PEO, based on analysis and adjustments to PVS contractor and government cost estimates made by his office, concluded that the PVS proposal was the more cost-effective solution to meeting the Apache program's needs. The PEO office also concluded that waiver provisions of OMB Circular A-76 applied in this instance and submitted a formal request for the waiver to the Assistant Secretary of the Army for Installations, Logistics, and Environment. Continuing debate within the Army over cost adjustments

introduced by the PEO office and other issues led, as indicated earlier, to the Under Secretary's request for additional analyses.

The primary controversy over the different conclusions reached by various Army organizations involves how key features introduced by the Aviation PEO should be considered when comparing the costs of the PVS offer and the government's best-case estimate. These features include the contractor's offer of (1) increased field technical assistance and engineering support and reliability improvements and (2) a reliability improvement program. Another issue is the impact that removing Apache inventory support from that system would have on the Army's Working Capital Fund. The Army is considering these factors in its evaluation.

**Aviation PEO's Conclusions
Differed From Results of
Initial Cost Comparison**

An Army cost team completed an initial cost comparison of the Apache PVS offer and the government's best-case estimate in August 1998. The team concluded that the Apache PVS offer did not represent a significant financial advantage to the Army and that the government's best-case estimate could be competitive. After reviewing the results of the cost team's comparison, the Aviation PEO office adjusted the cost estimates and drew different conclusions. These adjustments became the focus of subsequent efforts to determine whether the Apache PVS proposal would be financially advantageous to the Army.

After completing an evaluation of the PVS and the government's best-case estimate, an Army cost team, with representatives from the Army's Aviation and Missile Command, Materiel Command, Apache Program Office, and the Army's Cost and Economic Analysis Center (CEAC), concluded that available data would not support an A-76 waiver and, that if implemented, PVS would become a significant affordability issue. During its analysis, the Army team adjusted the Apache PVS proposal and the government's best-case estimate to reflect common costs and savings. For example, the team added \$542.3 million in costs to the PVS offer, including \$437.2 million for the estimated impact on the working capital fund.¹² Also included in the added costs to the PVS offer were \$105.1 million for factors such as transition, contract maintenance services purchased at the local level to support the Apache system, and the value of government-furnished depot

¹²This \$437.2 million would represent the estimated loss of revenue from the sale of Apache parts—the surcharge loss and nonsystem specific fixed costs—and the value of inventory on order but not yet delivered.

maintenance work. The team added \$44.9 million to the government's best-case estimate for local contract maintenance services and contractor field service representatives that would remain in place under the government's approach. The study did not address the issue of transitioning to the contractor Apache parts already in the Army's inventory. The Army cost team's August 1998 analysis concluded that, overall, the government's best-case estimate would cost \$431 million less than the PVS proposal.

PEO Adjustments to Initial Cost Comparison

After reviewing the results of the cost team's analysis, the Aviation PEO's office made sufficient adjustments to the government's cost estimate to reach the conclusion that the PVS proposal would cost \$362.5 million less than the government's approach. These adjustments were based primarily on features of the contractor's offer that the PEO office considered superior to the government's approach—increased technical and engineering services and a reliability improvement program for Apache components. The office also reduced the estimated impact of PVS on the Army's Working Capital Fund by limiting the impact from 5 years to 1 year and by using a more current estimate of due-in inventory (parts that have been ordered but not yet received). The costs that the Aviation PEO added to the government's estimate were primarily to reflect the value of the contractor's proposed field technical assistance and engineering support and for reliability improvements and obsolescence engineering. These improvements related primarily to improving the reliability of the Target Designation Sight/Pilot Night Vision Sensor (TADS/PNVS).¹³

After the PEO concluded that the PVS' and not the government's approach was the most cost-effective option, he formally requested a waiver of A-76 cost comparison requirements. He justified this decision in his waiver request in part on the basis of his belief that neither the government nor another contractor would have a reasonable expectation of winning a competition under the A-76 process.

¹³The TADS/PNVS provides pitch/roll/yaw rate stabilization data for proper flight operation of the aircraft and provides the capability to fly at night and in poor weather conditions. The aircraft uses TADS/PNVS to control all weapons targeting functions.

PEO Offered Further Adjustments to Include the Introduction of Second Generation Forward Looking Infrared Program

In addition, to further support his position that PVS was more cost-effective than the government's approach, the Aviation PEO included in his waiver request an assessment of the contractor's proposal to upgrade the Second Generation Forward Looking Infrared Program (2nd Gen FLIR), a program that was not part of the original Apache PVS proposal and was not addressed by the Army's cost analysis.¹⁴ The Army has a requirement to introduce the 2nd Gen FLIR program into the Apache system. However, the Army's current funding stream is not adequate to fully fund the program. The Army's total estimated costs for a stand-alone program to introduce the 2nd Gen FLIR are \$961 million—\$575 million for the PVS reliability improvement program and \$386 million for the 2nd Gen FLIR. At the time of the Aviation PEO's waiver request, the Army had a funding commitment of only \$317 million for the 2nd Gen FLIR. Outside of inclusion under the Apache PVS, it is not clear how 2nd Gen FLIR requirements—either funded or unfunded—would be evaluated against other Army requirements in a constrained budget environment.

Although the 2nd Gen FLIR was not part of the Apache PVS statement of work, the PVS contractor offered to introduce the program along with the upgrade of the TADS/PNVS components so that improved reliability components in the TADS/PNVS would be compatible with the 2nd Gen FLIR. Additionally, although completion of the 2nd Gen FLIR program would take longer than the 5 years covered in the Army's cost comparison, the Aviation PEO extrapolated the 5-year costs through fiscal year 2010 to support his A-76 waiver request. This extrapolation allowed the PEO to increase the cost difference between the PVS' and the government's best case estimate to the point that the PVS proposal would cost \$420 million less than the government's estimate.

PEO's Proposal to Consign Apache Inventory to PVS Contractor

The Army's original cost comparison did not address how Apache parts already in the Army's inventory would be incorporated into the proposed Apache PVS. The Aviation PEO, as part of his waiver request, also proposed that the Army retain ownership of all existing inventory and consign it to the PVS contractor as government-furnished materiel. As of September 1998, the existing inventory was reportedly valued at \$745.5 million for both serviceable and unserviceable items. The Aviation PEO believes that consignment would be the most cost-effective option because

¹⁴The purpose of the 2nd Gen FLIR is to improve the performance of the TADS/PNVS system in target acquisition. As part of the PVS proposal, the contractor proposed to replace the obsolete 1st Gen FLIR with the 2nd Gen FLIR within the program budget.

the contractor would not incur and pass to the government the costs of insurance and taxes on the inventory, both of which would be likely if the contractor owned the inventory.

Army Analysts Raised Questions About the Aviation PEO's Adjustments

Subsequent analyses by Army analysts questioned the Aviation PEO's adjustments, concluding that, for the most part, the adjustments were not necessary to meet the proposed flying-hour requirements for the Apache helicopter and that some of the claimed savings in the cost comparison were inappropriate. Analyses of the A-76 waiver request by CEAC and the Army Audit Agency questioned the Aviation PEO's adjustments. CEAC and the Army Audit Agency did not support the Aviation PEO's conclusion that the Apache PVS was less costly than the best-case government estimate and that the government had no chance of winning an A-76 competition. Also, the Army Comptroller opposed the consignment of inventory to the PVS contractor without reimbursement.

CEAC Analysis

In addition to participating in the original cost comparison, CEAC, at the request of the Army Comptroller, made a subsequent analysis of the cost adjustments made by the Aviation PEO's office. Its February 18, 1999, report on these adjustments concluded that the government's estimate was cheaper than the PVS proposal by about \$154.3 million. CEAC's conclusions were:

- The value of the contractor's proposed field technical assistance and engineering support should not be added to the government's estimate because, among other things, it includes an excessively high labor rate, and the government's proposal is sufficient to meet the 120,000 flying-hour requirement included in the statement of work.
- The PEO's adjustment for the reliability improvement program related to the TADS/PNVS should be reduced to reflect the funding amount already in the government's estimate. Although CEAC pointed out that the program may not result in savings to the government, the Center believed that adding an amount for the program to the government's estimate would help make the analysis more equitable.
- The impact of Apache PVS on the Army's Working Capital Fund was correctly computed by the initial cost team. For comparison purposes, CEAC noted that the value of the due-in inventory should be consistent with other cost elements in the analysis and that the government's estimate should not be charged for inventory that would be issued free to the PVS contractor. Also, CEAC determined that a 5-year surcharge loss was more appropriate than a 1-year loss for the cost comparison

because nonweapon system specific or common costs, such as the surcharge, were already embedded in the government's best-case estimate.

Regarding the 2nd Gen FLIR program, CEAC recommended that the cost comparisons for the A-76 waiver analysis should not extend beyond the 5-year period, in part because the proposed PVS contract does not extend beyond 2003. CEAC's report also noted that PVS costs could be impacted by the findings of the ongoing study of the Army Working Capital Fund.

Army Audit Agency Analysis

In addition, the Under Secretary of the Army asked the Army Audit Agency to examine the adjustments made by the Aviation PEO's office and reflected in the A-76 waiver justification. On February 22, 1999, the Army Audit Agency released the results of its review of the A-76 waiver justification. It stated that

- Army leaders above the Aviation PEO should determine the adjustments needed to satisfy Army requirements and
- the cost comparisons could be impacted by the results of an ongoing study of the Working Capital Fund.

Like CEAC report, the Army Audit Agency considered the Aviation PEO's adjustment to the government's in-house approach for field technical assistance and engineering support unnecessary because it represented a different approach to achieving the same requirement. The Army Audit Agency concluded that the government's best-case cost estimate should not necessarily be adjusted for the engineering program as related to the TADS/PNVS, as the program may not be needed to satisfy the Army's 120,000 flying-hour requirement. The Army Audit Agency did not comment on the Army Working Capital Fund impact adjustment, noting that the issue was still under review. At the time we completed our work, the Army Working Capital Fund study team had not yet completed its study of the impact of Apache PVS on the fund.

Army Comptroller Concern

When the PEO office proposed a waiver to the A-76 study requirements, it also expressed the desire to consign existing Army Apache parts inventory at no cost to the contractor, should the contractor's proposal be accepted. The Army Comptroller opposed consigning the inventory without reimbursement to the Fund. The Comptroller's primary concern was that consignment without reimbursement would cause the Army Working Capital Fund to absorb a large operating loss, increasing future sale prices for other items in the fund. The Army is studying the issue of inventory

consignment without reimbursement. Officials in the Office of the Assistant Secretary of the Army for Financial Management and Comptroller told us that the Army may have to seek a waiver from the Under Secretary of Defense, Comptroller, to consign the inventory without reimbursement. However, at the time of our review, the Army had not requested a waiver.

Army Analysts' Concern About Potential for Funding Shortfall Under Either Proposal

Army analysts identified additional short-term investment cost issues that could affect implementation of either the contractor's or the government's approaches; however, the initial investment costs appeared much greater under the PVS proposal.

Preliminary results from the Army's follow-on analysis indicated that both the government's estimate and the PVS proposal would cause a funding shortfall in the first year of implementation because insufficient funding was included in the Army's proposed budget to cover costs. The results showed that the government's approach would create a \$34-million shortfall in the first year of implementation, compared with a \$209-million shortfall estimated for the Apache PVS.¹⁵ In its continuing analysis of Apache PVS, the Army Audit Agency said on March 16, 1999, that, for the most part, the government's estimate would support the Apache flying-hour requirements and that implementation costs were generally reasonable. The Agency did not project shortfalls in funding for future years. In its continuing analysis of Apache PVS, on March 9, 1999, the Army Budget Office estimated that the costs to implement PVS in the first year would exceed available funding by about \$209 million and that future years could also have funding shortfalls.

Logistical and Other Operational Issues Being Addressed by the Army

Army logistics managers and operational commanders have concerns about the impact Apache PVS would have on the Army's support infrastructure for the Apache system. They question whether Apache PVS operations could (1) pair well with the Army's current logistics support structure, (2) adversely impact transitioning to war, or (3) limit commanders' flexibility to meet changing funding needs. The Army is considering these concerns in its continuing analysis of Apache PVS, mostly as a result of the Under Secretary's January 1999 directive.

¹⁵The government's best-case estimate proposed improvements to the government's current support system that would require some upfront investment costs. For instance, the proposal to implement centers of excellence for the Apache system would require additional funds to establish the centers and consolidate existing support sites.

PVS Compatibility With Existing Army Logistics Support Structure

U.S. Army Forces Command (FORSCOM) officials at several subordinate locations have emphasized that the PVS support system should appear the same as other support systems so as to be easy for soldiers to use. But there are questions about how the proposed PVS would interface with standard Army systems.

The Aviation PEO has stated that Apache users in the field would be unaware of the difference between the Apache's and other support systems. However, FORSCOM officials have emphasized that they desire a clearer definition of the proposed integration of PVS supply and financial systems with standard Army systems. For example, the Standard Army Retail Supply System does not automatically provide a free exchange of broken parts for new parts, as the PVS proposal would offer. FORSCOM officials have requested that a functional test be made of the proposed PVS supply system to determine how it would work, whether Apache PVS will require a separate management information system, and whether intermediate level operations would require two independent supply and support systems. They said that a demonstration is also needed to show how a supply requisition would be processed at the intermediate-level to the contractor without any functional problems or additional soldier requirements. Further, they want more input into deciding the criteria used to measure the effectiveness of the contractor's support.

FORSCOM's views were similar to those expressed in August 1998, when a team from the Army Materiel Command, the U.S. Army Aviation and Missile Command, and the Aviation PEO made a technical evaluation of the Apache PVS' and the government's approach. The team's report noted that the PVS system should provide the same level of data and management visibility for the Apache system as that provided by DOD systems. This would require the PVS contractor to modify its current systems. The PVS system would also have to be expanded to include all members of the PVS contractor consortium. Furthermore, the government would have to modify its automated requisition system so that data could flow to the PVS contractor. The Apache program manager and the contractor have agreed to conduct a demonstration of the proposed PVS support system prior to any formal conversion to the proposed PVS support system.

Concerns Over How PVS Would Affect Transitioning to War

Amidst concerns by Army officials at various levels about the operational flexibility of PVS, the Army is studying how Apache PVS operations would function in peacetime as well as how it would respond to contingency operations.

The PVS proposal covers support for all wartime and contingency operations, and contractor personnel would be expected to deploy with military units. The concept calls for PVS assistance to include on-site field technical support and operational and supply support to Apache units for contingency operations. However, officials at the Army Aviation and Missile Command have expressed concern that the PVS proposal that would relieve the contractor of responsibility for delivering supplies into theaters of operation and allow the contractor to turn in-transit materiel over to government distribution/transportation channels. Under this approach, the government would become responsible for transportation of parts and contractor equipment, along with combat units, into and within theaters of operations. Thus, the government might have to take over the PVS distribution and transportation system during contingency operations. The officials also pointed out that the proposed contract would authorize additional costs for other than normal peacetime operations. According to the Command, these types of costs have increased significantly during prior contingency operations.

In wartime contingencies, DOD-owned depots play a role in supporting readiness and sustainability requirements of warfighters and, by design, can quickly increase their output to high levels in a short period of time to accomplish required contingency workloads. Under the proposed PVS structure, the Army would retain surge capability at its depots by having the depots perform Apache maintenance work. The proposed PVS contract would include an option for up to an additional 25,000 flying hours to respond to surge requirements. The Army is currently studying the cost impact of increased flying hour requirements on the proposed PVS contract.

Loss of Flexibility to Balance Funding Priorities

FORSCOM officials were concerned about the impact of PVS operations on commanders in the field. Their concerns focused on funding and unit-level repair issues.

Currently, field commanders receive annual funding for expenses related to readiness, infrastructure, and soldiers' quality of life. Various Army officials expressed concerns that adoption of the PVS approach would result in their receiving less direct funding for support and give them less flexibility to shift funds between support areas to adjust to changing priorities. According to FORSCOM representatives, PVS would place the funding for wartime and contingency wholesale support under the Aviation PEO contracting officer. FORSCOM officials said that the PVS proposal

would require Apache units to become dependent on the wholesale system because they would not have the funding to pursue alternatives for Apache parts repair, as they do now. Under the government's approach, funding for the Apache helicopter too would no longer go directly to the field commanders.

In a memorandum to the Army Chief of Staff (Aug. 20, 1998), the FORSCOM Commander provided his fiscal year 1999 funding assessment. He noted that FORSCOM commanders could no longer train and sustain the force, stop infrastructure degradation, and provide soldiers the quality of life programs critical to long-term readiness. In discussing the areas impacted by insufficient funding levels, the Commander noted that flexibility in meeting all programs would be further hampered by funding designated for and restricted to use by specific programs that are becoming an increasingly larger percentage of FORSCOM's budget.

Conclusions

As would be expected when a new concept is being considered, there are significantly differing views within the Army regarding various aspects of the Apache PVS proposal. The key questions and uncertainties that remain unresolved regarding the Apache PVS proposal are related to cost and operational issues. From a cost standpoint, there are uncertainties concerning whether the additional services and the reliability improvement program offered by the PVS contractor are appropriate for use in the public-private cost comparison and what level of costs should be recognized—and for how long—if the Apache system were to be removed from the Army Working Capital Fund. A number of operational questions have also been raised about the potential impact of PVS on meeting warfighters' logistical support needs. Consequently, at the end of our review the Army was continuing to study these issues and had not established a firm milestone for a decision on whether or when the program would go forward.

Agency Comments and Our Evaluation

DOD's comments to our draft report are reprinted in appendix I. In its comments, DOD concurred with our findings but suggested several technical changes. DOD suggested that we include a planned implementation date for PVS of October 1, 1999; recognize that the PVS proposal is for wholesale-level logistics while retail-level logistics performed by soldiers would be left unchanged; and recognize that the Department plans to review expected savings and readiness from Apache

PVS in 2 years. DOD also noted that the Army is currently defining the Apache's capability and reliability requirements which will be used as the basis for comparing PVS and the government's in-house cost estimate. We incorporated DOD's technical comments in the report as appropriate.

Scope and Methodology

In conducting our work, we obtained documents from and interviewed officials from the Army headquarters, including the Office of the Assistant Secretary of the Army (Acquisition, Logistics, and Technology) and its Office of the Aviation PEO; Army Materiel Command; Army Aviation and Missile Command; U.S. Army Forces Command; Army Audit Agency; Army Cost and Economic Analysis Center; and Defense Logistics Agency, regarding the Army's study of Apache PVS. At these locations, we made extensive use of the work that was ongoing to identify and evaluate issues concerning the outsourcing of government activities and programs.

To determine the status of the Army's Apache PVS study, we discussed and reviewed the study process, extent of work completed, and the specific taskings that remained to be completed for all levels within the Army logistics and financial community. To evaluate the Army's study process and its preliminary results, we examined the methodology, assumptions, and procedures that were being used to develop the government's estimated costs and to negotiate the PVS offer. In testing the reasonableness of the preliminary results, we examined the cost comparisons and the cost elements that were used, including the adjustments made for comparison purposes. Specifically, due to the significance of the cost impact and the internal disagreement about the applicability of the adjustments to the cost comparisons, we focused on the normalization adjustments made by the Aviation PEO. Further, we reviewed pertinent documentation regarding the PVS study, including the Army's Justification and Approval for Other than Full and Open Competition, the Aviation PEO's A-76 cost comparison waiver package, the technical evaluation of the government's estimate and the contractor's offer, and the PVS transition plan. Finally, we reviewed the cost comparison requirements of OMB Circular A-76 and Supplemental Handbook and the applicable DOD financial regulations regarding the operations of the Army Working Capital Fund.

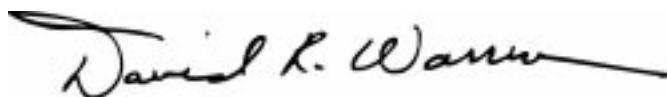
To identify the potential impact that Apache PVS would have on other Army activities and programs, we examined documentation and discussed operational issues with Army logistics managers and field commands. We obtained data from DLA regarding its support for the Apache system and

how Apache PVS would impact that supporting role. Finally, we examined applicable statutory requirements affecting the Army's outsourcing decisions and the Army's legal analysis of how Apache PVS would meet these requirements.

We conducted our review from October 1998 to April 1999 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the Honorable William S. Cohen, the Secretary of Defense; the Honorable Louis Caldera, the Secretary of the Army; and the Honorable Jacob J. Lew, Director, Office of Management and Budget. We will also make copies available to others upon request.

If you have any questions regarding this report, please contact me on (202) 512-8412. Key contributors to this assignment were Barry Holman, Julia Denman, and Bobby Worrell.



David R. Warren, Director
Defense Management Issues

Comments From the Department of Defense



OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON DC 20301-3000

08 JUN 1999

Mr. David R. Warren
Director, Defense Management Issues
National Security and International Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

This is the Department of Defense response to the General Accounting Office (GAO) draft report, "ARMY LOGISTICS: Status of Proposed Support Plan for Apache Helicopter," May 1999 (GAO Code 709374/OSD Case 1810). The Department concurs in the findings in the draft report. The report makes no recommendations.

The draft GAO report pertains to the Army's Apache Prime Vendor Support (PVS) initiative. It is generally accurate and does not make any recommendations because studies directed by the Under Secretary of the Army are not yet complete.

The following comments are provided as technical corrections to the report. The report should cite a planned implementation date of October 1, 1999. The report describes PVS as an initiative to provide "full" logistics support for the Apache helicopter. This is inaccurate and somewhat misleading. The PVS proposal covers only "wholesale" logistics, i.e., that done by federal civil servants. "Retail" logistics, or that done by soldiers, remains unchanged. The report also fails to recognize that the Department plans to review expected savings and readiness from Apache PVS in two years.

Apache PVS is a regulatory defense acquisition pilot program designed to demonstrate the application of best commercial practices to sustain and modernize a legacy system while reducing support costs. Impacts across DoD should be stressed. Such concerns include how PVS would affect readiness and responsiveness to wartime and contingency operations, as well as the effect of the consignment of inventory on the Army and Defense Working Capital Fund. The DoD-wide issues are partially addressed in the report; the Army continues to study these issues.

Finally, the report should update the current status of PVS. The Army is in the process of defining the end-state requirement (5 years from now) for the Apache helicopter in terms of capability and reliability. This will determine the basis for comparing PVS and the Best-Case Government Cost.

George R. Schneiter
Director
Strategic and Tactical Systems



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