United States General Accounting Office

GAO

Report to the Honorable
Patrick Kennedy
House of Representatives

August 1999

ELECTRONIC WARFARE

Army Special Operations Acquisition Strategy for Improved Equipment Is Sound

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

National Security and
International Affairs Division

B-280754

August 23, 1999

The Honorable Patrick Kennedy
House of Representatives

Dear Mr. Kennedy:

In response to your request, we reviewed the U.S. Special Operations Command's (USSOCOM) acquisition strategy for aircraft electronic warfare systems. Specifically, we determined the soundness of USSOCOM's electronic warfare acquisition strategy in terms of correcting deficiencies and maximizing commonality in its aircraft survivability equipment. This is our second and final report in response to your request. It focuses on helicopters operated by USSOCOM's Army component, the U.S. Army Special Operations Command. We addressed USSOCOM's fixed-wing Air Force aircraft in a prior report to you.[1]

The Army Special Operations Command employs modified Chinook and Blackhawk helicopters, the MH-47D/E and MH-60K/L, respectively, in support of special operations missions worldwide.[2] These aircraft carry a wide variety of aircraft survivability equipment to deal with enemy threats. Some of these survivability systems are common with systems used by the regular Army and other services, while others are peculiar to special operations. The Army Special Operations Command acquires and supports special operations-peculiar equipment with funds provided through USSOCOM's Major Force Program-11 (MFP-11) budget. However, the regular Army is responsible for providing and supporting common equipment for the Army Special Operations Command with non-MFP-11 (i.e., regular Army) funds.

Results in Brief

The Army Special Operations Command's electronic warfare acquisition strategy is sound because it focuses on upgrading or replacing aircraft survivability equipment that is operationally deficient and may be unable to

[1]Special Operations Forces: C-130 Upgrade Plan Could Help Fix Electronic Warfare Deficiencies (GAO/NSIAD-99-1, Nov. 13, 1998).

[2]Special operations are operations conducted to achieve military, political, economic, or psychological objectives by nonconventional military means in hostile, denied, or politically sensitive areas.

defeat future threat systems and leverages ongoing regular Army programs to maximize commonality with regular Army aircraft. For example, because the Command's aircraft are highly vulnerable to modern infrared and radar-guided missile threats, the Command plans to procure, as a common item, the Army's most advanced aircraft survivability equipment, the Suite of Integrated Radio Frequency Countermeasures and the Suite of Integrated Infrared Countermeasures, when that equipment is ready. Moreover, maximizing commonality with the regular Army's equipment enables the Command to satisfy special operations-peculiar requirements through optimal use of its limited Major Force Program-11 budget. For example, the Command is procuring some special operations-peculiar system upgrades with Major Force Program-11 funding to provide an improved interim capability until the two Army common suites are ready to be fielded.

Background

In November 1986, Congress enacted section 1311 of Public Law 99-661, which directed the President to establish USSOCOM, a unified combatant command to ensure that special operations forces were combat ready. To ensure that special operations were adequately funded, Congress further provided in section 1311 that the Department of Defense (DOD) create for the special operations forces an MFP category for the Future Years Defense Plan of DOD. Known as MFP-11, this is the vehicle to request funding for the development and acquisition of special operations-peculiar equipment, materials, supplies, and services. The services remain responsible under 10 U.S.C. 165 for providing those items that are not special operations-peculiar.

One of USSOCOM's component commands is the Army Special Operations Command, which is located at Fort Bragg, North Carolina, and is responsible for maintaining the readiness of, deploying, and supporting Army special operations forces worldwide. The 160th Special Operations Aviation Regiment (160th SOAR), located at Fort Campbell, Kentucky, is the aviation component of the Army Special Operations Command.

Army Special Operations Command aircraft carry a wide variety of aircraft survivability equipment to deal with enemy threat systems. On February 19, 1993, the regular Army and USSOCOM entered into a memorandum of agreement listing those items and services the Army agrees to fund in support of the Army Special Operations Command's mission. This list includes equipment and modifications common to both Army Special Operations Command and regular Army aircraft. Part of the Army Special

Operations Command's aircraft survivability equipment is acquired with USSOCOM MFP-11 funds as special operations-peculiar items because the regular Army does not use those items.

Since Operation Desert Storm, the Army Special Operations Command's threat environment has become more complex and potentially more lethal. More sophisticated threat systems, both naval and land-based, have been fielded, and systems are proliferating to more and more countries. As demonstrated in Somalia, even nations without complex integrated air defense systems have demonstrated the capability to inflict casualties on technologically superior opponents. According to threat documents, worldwide proliferation of relatively inexpensive, heat-seeking missiles is dramatically increasing the risk associated with providing airlift support in remote, poorly developed countries. In addition, commercially available, second-generation night vision devices, when linked with shoulder-fired missiles, provide these countries with a night air defense capability. This night air defense capability is significant because Army Special Operations Command aircrews have historically relied on darkness to avoid detection.

The global mission of the 160th SOAR expands the range of threats it is required to operate in to include highly advanced systems produced by Russia and states of the former Soviet Union to relatively primitive defense systems in the Third World. Improved and new generation radars are providing increased capability to detect and track airborne targets. In addition, a recent analysis of Third World countries' capabilities to detect and engage aircraft indicates that growing Third World capabilities pose a significant threat to 160th SOAR missions. Furthermore, a DOD decision to add a weapons of mass destruction counter proliferation mission to the Army Special Operations Command's other missions may place 160th SOAR aircraft into a relatively higher threat environment.

Army Special Operations Command Has a Sound Electronic Warfare Acquisition Strategy

The Army Special Operations Command's electronic warfare acquisition strategy is sound because it (1) focuses on upgrading or replacing aircraft survivability equipment that is operationally deficient and may be unable to defeat future threat systems and (2) leverages ongoing regular Army programs to maximize commonality with regular Army aircraft allowing the Command to make optimal use of scarce MFP-11 funds. Operational deficiencies and future threats are confirmed by test reports, threat documentation, and requirements documents.

The 160th SOAR has documented serious operational deficiencies with infrared and radio frequency countermeasure systems currently on its helicopters. The Regiment's Aircraft Survivability Equipment Master Plan identifies planned solutions for each of these operational deficiencies. Because the Command's strategy is to retain as much commonality as possible between its equipment and that of the regular Army, these solutions include a mix of Army common programs and special operations-peculiar solutions only when necessary. This strategy increases the amount of MFP-11 funds available to acquire and support those Command requirements that can only be met by special operations-peculiar aircraft survivability equipment.

Threat and operational requirements documents indicate that all of the Command's Chinook and Blackhawk helicopters require improved infrared, radio frequency, and electro-optical countermeasures capability to effectively evade or counter mission threats. According to Command officials responsible for aircraft survivability equipment acquisition, they would like to equip all aircraft with the countermeasures needed to defeat all threats. Budgetary realities force them, however, to focus on the infrared and radar-guided threats[3] to which their aircraft are most vulnerable and to maintain a highly protected and a less highly protected mix of aircraft.[4]

The master plan identifies the programs the Army Special Operations Command is relying on to address operational deficiencies with radar and infrared countermeasures. To maximize commonality and conserve limited MFP-11 funding, the Command is relying on regular Army acquisition programs to provide state of the art, next generation infrared and radio frequency countermeasure systems. Until the common Army systems are ready to be fielded, the Command is using MFP-11 funds to address (1) radar jammer deficiencies on its aircraft and (2) special operations-peculiar infrared exhaust suppression requirements.

[3]Infrared missiles detect aircraft from the heat aircraft emit. Radar-guided missiles receive reflected electronic signals that reveal an aircraft's position.

[4]The MH-47E Chinook and MH-60K Blackhawk helicopters, the "high" portion of the mix, have more capability and improved aircraft survivability equipment to support more difficult missions. In contrast, MH-47D and MH-60L helicopters, the "low" portion of the mix, are older and have fewer capabilities and less aircraft survivability equipment.

Army Special Operations Command Is Planning to Acquire Common Countermeasure Systems

The Suite of Integrated Infrared Countermeasures (SIIRCM) system is a common item the regular Army is developing and the Special Operations Command has included as part of its acquisition strategy to acquire active and passive protection against infrared guided weapons. SIIRCM is DOD's highest electronic warfare priority because it combines missile warning, infrared jamming, and countermeasure expendables into one integrated system. SIIRCM will provide infrared guided weapons awareness and self-protection jamming countermeasures. SIIRCM will replace existing missile approach detectors, countermeasure sets, and general-purpose chaff and flare dispensers. The MH-60K Blackhawk is the lead aircraft for SIIRCM installation.

The SIIRCM program is experiencing significant technical challenges, such as problems with a laser subsystem, that have increased program cost and delayed the program schedule an estimated 12-18 months. According to program officials, if not corrected, this cost increase and schedule delay could jeopardize the SIIRCM program and necessitate changes to the Command's acquisition strategy.

The Suite of Integrated Radio-frequency Countermeasures (SIRFC) program is also part of the Command's acquisition strategy. SIRFC is a regular Army effort to acquire state of the art radar warning and jamming systems. SIRFC uses the latest technology to protect Army aircraft from newer, more capable threat air defense systems employing the latest in radar technologies. SIRFC consists of the advanced threat radar warning receiver and the advanced threat radar jammer, and it will replace the existing radar warning receiver and radar jammers on the Command's Blackhawk and Chinook helicopters.

During the recent fiscal year 2001-2005 Program Objective Memorandum cycle, the regular Army delayed plans to field SIRFC on its Longbow Apache helicopter from fiscal year 2001 to fiscal year 2006 due to budgetary constraints. According to DOD officials, loss of funding from the Longbow Apache program directly affects the viability of the SIRFC program because the Apache was to be the first and major SIRFC customer. USSOCOM considers continuation of the SIRFC program critical to its high-priority future aircraft, the CV-22.[5] Therefore, in order to fill the gap

[5]The CV-22 is the special operations version of the Navy and the Marine Corps V-22 Osprey tilt-rotor aircraft. The CV-22 program is acquiring SIRFC systems through a contract between the CV-22 prime contractor and the SIRFC contractor.

caused by the Longbow Apache delay, and until the future CV-22 program is ready to receive SIRFC deliveries in approximately fiscal year 2002, the regular Army has accelerated integration and fielding plans for SIRFC for its Army Special Operations Command customer from fiscal year 2003 to fiscal year 2001. Army Special Operations Command officials consider the accelerated schedule too ambitious and do not expect the regular Army to meet it. The SIRFC program manager acknowledges the revised schedule is high risk and is proposing a slower schedule. If approved, the new schedule would use a series of low-rate production awards beginning in fiscal year 2000 to acquire SIRFC hardware for integration on special operations helicopters and to maintain continued program funding.

Army Special Operations Command Has Peculiar Countermeasure Programs

According to the Army Special Operations Command, in addition to procuring the SIIRCM system, the MH-47 Chinook helicopter must be equipped with an engine exhaust infrared suppressor system to enhance survivability against infrared guided missiles. The MH-47 Infrared Exhaust Suppressor program is a special operations-peculiar effort to meet that requirement. The exhaust suppressor will significantly reduce the infrared signature of the aircraft.

The Command also has an ongoing special operations-peculiar program to provide some helicopters an improved countermeasure capability against radar-guided threats until SIRFC is ready to be fielded. This program, referred to as "Engineering Fixes," corrects radar jammer deficiencies identified during initial fielding of the MH-47Es and MH-60Ks, resolves installation and integration problems, and provides a high powered remote transmitter for the existing radar jammers. This transmitter is a power amplifier that allows the existing jammers to work on these helicopters. To maximize cost-effectiveness, the Command plans to transfer the Engineering Fixes equipment from the MH-47E and MH-60K helicopters, to the older MH-47D and MH-60L models, when SIRFC systems are delivered.

The Engineering Fixes upgrades passed initial testing, and only $10 million of a total cost of $31 million remains to be spent. Of the $10 million remaining, $6.2 million is required for additional transmitters. The transmitter unit cost increased when the regular Army delayed SIRFC production and fielding for the Longbow Apache. Consequently, the Command could only procure 24 of the required 55 transmitters. The additional $6.2 million of MFP-11 funding to procure the remaining transmitters is now programmed in the Future Years Defense Plan for fiscal years 2001-2006.

Agency Comments

DOD reviewed and concurred with a draft of this report. Technical comments have been incorporated as appropriate. (See app. I.)

Scope and Methodology

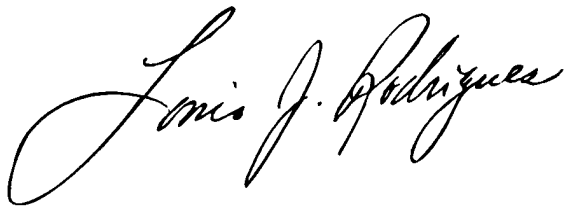
To determine the soundness of the Army Special Operations Command's electronic warfare acquisition strategy, we analyzed the Command's acquisition plans and studies and reviewed classified test reports and threat documentation to assess whether the aircraft survivability equipment the Command plans to acquire would correct operational deficiencies while maximizing commonality with the regular Army. We also discussed the operational deficiencies of the Command's current electronic warfare systems and planned electronic warfare upgrades and systems acquisition with officials at USSOCOM, MacDill Air Force Base, Florida; the Army Technology Applications Program Office, Fort Eustis, Virginia; 160th SOAR, Fort Campbell, Kentucky; Army Program Executive Office for Aviation, Redstone Arsenal, Alabama; U. S. Army Operational Test and Evaluation Command, Alexandria, Virginia; U.S. Army Deputy Chief of Staff for Operations and Office of the Director, Operational Test and Evaluation, Washington, D.C. We did not include the Army Special Operations Command's AH-6 and MH-6 Little Bird aircraft in this review because these aircraft employ very little aircraft survivability equipment.

We conducted our work from November 1998 through May 1999 in accordance with generally accepted government auditing standards.

We will send copies of this report to interested congressional committees; the Honorable William Cohen, Secretary of Defense; the Honorable Louis Caldera, Secretary of the Army; the Honorable Brian Sheridan, Assistant Secretary of Defense for Special Operations and Low-Intensity Conflicts; General Peter J. Schoomaker, Commander, U.S. Special Operations Command; and the Honorable Jacob Lew, Director, Office of Management and Budget. Copies will also be made available to other interested parties.

If you have any questions regarding this report, please contact me or Charles Ward at (202) 512-4841. Key contributors to this assignment were Dana Solomon and John Warren.

Sincerely yours,



Louis J. Rodrigues
Director, Defense Acquisitions
Issues

Comments From the Department of Defense

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ACQUISITION AND TECHNOLOGY

28 JUL 1999

Mr. Louis J. Rodrigues
Director, Defense Acquisition Issues
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Rodrigues:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "ELECTRONIC WARFARE: Army Special Operations Acquisition Strategy for Improved Equipment is Sound," dated June 24, 1999 (GAO Code 707375), OSD Case 1853.

The DoD has reviewed the draft report and concurs without further comment. A suggested technical change for accuracy will be provided separately.

The Department appreciates the opportunity to comment on the draft report.

George R. Schneiter
Director
Strategic and Tactical Systems