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REPORT BY THE
COMPTROLLER GENERAL
OF THE UNITED STATES

PROBLEMS AFFECTING THE
PROCUREMENT AND OPERATION
OF THE ARMY'S AH-64 ATTACK
HELICOPTER AND ASSOCIATED
SYSTEMS

D I G E S T

The attack helicopter, with its guided missiles and other armament, plays a key role in supporting ground troops battling enemy armored units concentrated around the forward edge of the battle area. The Army's newest attack helicopter, the AH-64, will carry the new laser-guided Hellfire missile. A production decision for each is due late in calendar year 1981.

In addition to these new acquisitions, the Army has plans to continue upgrading its current fleet of attack helicopters, the Cobra, which carries the tube-launched, optically tracked, wire-guided missile, to extend their operational life into the next decade. The Army also plans to improve a different helicopter to support the attack helicopters in a scouting role. The total estimated program costs of the Army's new acquisitions and planned improvements within this aerial antiarmor area represent an investment of about \$12.5 billion. (See pp. 1 to 5.)

BUDGET CONSTRAINTS ARE ADVERSELY AFFECTING
HELICOPTER PROCUREMENT PROGRAMS

Due to the steadily increasing cost of weapon systems and to budget constraints, the Army has determined that it cannot afford to buy or improve the full quantity of weapons it feels it needs to modernize its forces within desired time frames. Consequently, the Army is stretching out the procurement schedule of some weapons, an action which results in increased costs, and is deferring others. The AH-64 and Hellfire are two systems whose procurement is being stretched out. Due to higher priorities, the full upgrading of about half the Cobra/tube-launched, optically tracked, wire-guided missile fleet has been deferred as have

UNCLASSIFIED

217259

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plans to develop a multipurpose lightweight missile. The scout helicopter improvement program may also fall victim to the affordability problem because it would require a large expenditure of procurement funds which have yet to be approved. (See pp. 26 to 30.)

TECHNICAL PROBLEMS STILL TO BE RESOLVED

In addition to their cost, some technical problems disclosed in development testing of the AH-64 and Hellfire pose additional problems for the Army. Some are more serious than others and, collectively, the problems can degrade the helicopter's performance to a considerable degree unless corrected.

Excessive aircraft weight is preventing the AH-64 from achieving its required vertical rate-of-climb requirement. Unless weight reduction efforts are successful, more powerful engines may be needed to overcome this deficiency. The helicopter's target acquisition and designation sight is not meeting all of its requirements and has undergone several needed design changes. These changes must still undergo extensive testing. Although major design changes have reduced a long-standing vibration problem, the helicopter is still experiencing greater than desired vibration levels. Excessive vibration causes pilot fatigue and affects operating proficiency.

Hellfire is experiencing an undesirable roll rate problem after it is launched from the AH-64 that makes it difficult to control the missile to the extent desired. Hellfire also emits unwanted smoke which could affect the helicopter's survivability and degrade its performance. (See pp. 6 to 17.)

OPERATIONAL CONSTRAINTS IN CENTRAL EUROPE LIKELY TO LIMIT TARGET OPPORTUNITIES

The difficulties of the attack helicopter's mission are well known. The aircraft will have to operate selectively because of the

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high-threat environment anticipated in central Europe and because of natural constraints like terrain and weather which make target engagements difficult. Successful system employment depends heavily on line-of-sight to the target. Obscurants like smoke and dust and adverse weather would also present a challenge to the AH-64's infrared and laser technology. Army operational tests, scheduled for the summer of 1981, will provide the opportunity to evaluate the AH-64's effectiveness in this type of combat environment. (See pp. 18 to 21.)

DOUBTFUL EFFECTIVENESS OF PROPOSED SCOUT HELICOPTER

The Army is improving an existing helicopter to perform the scout role to support the attack helicopter. The choice is between the OH-58 and OH-6. It is questionable that, even with the improvements, either aircraft could be used very effectively with the AH-64. Both scout candidates are underpowered and do not have the agility or night vision capability to be compatible with the new attack helicopter. The Army believes that other potential uses for the scout helicopter exist, but these have to be further assessed. (See pp. 21 to 25.)

CONCLUSIONS

An affirmative decision to proceed with the production of the AH-64 and Hellfire should await the successful resolution of the system's major technical problems and an assessment of its operational effectiveness. In addition, there are alternatives to stretching out the helicopter and missile procurement programs that should be considered, which might achieve the aerial antiarmor mission objectives more economically.

RECOMMENDATIONS

GAO recommends that the Congress place restrictions on the obligation of fiscal year 1982 procurement funds for the AH-64 and laser Hellfire until the Secretary of Defense has assured

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the House and Senate Armed Services and Appropriations Committees that the system's critical technical problems have been corrected.

GAO also recommends that the Secretary of Defense:

- Ensure that the AH-64, with the laser Hellfire system on board, is adequately tested and evaluated under operational conditions representative of a high-threat European environment before approving full production.
- In view of its apparent incompatibility with the AH-64, determine whether there are other potential uses for the scout helicopter important enough to warrant requesting procurement funds from the Congress for an improvement program.

In view of the high investment cost planned or programmed for aerial antiarmor weapons and the Army's affordability problems, GAO further recommends that the Secretary of Defense provide the House and Senate Armed Services and Appropriations Committees, during the fiscal year 1982 budget hearings, with an assessment of other program alternatives to include:

- An identification of lower priority programs that could be terminated or deferred to fully fund and restore the AH-64 and laser Hellfire to their original procurement schedules if development and operational problems are satisfactorily resolved.
- The merits of purchasing fewer AH-64s and fully upgrading the full fleet of Cobras.
- Trade-offs within the procurement budget that would permit improving the scout helicopter, if it is needed.

GAO did not request official comments on this report because of the tight reporting deadline. Instead, a draft of this report was discussed with high level officials associated with management of the programs to assure that the report is accurate and complete. Their points of view are included where they differ with GAO's.