

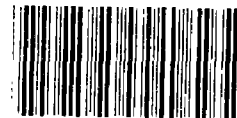
GAO

Briefing Report to the Chairmen,
Subcommittees on Defense, Senate and
House Committees on Appropriations

September 1987

DEFENSE BUDGET

Potential Reductions to Missile Procurement Budgets



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United States
General Accounting Office
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National Security and
International Affairs Division

B-205940

September 10, 1987

The Honorable John C. Stennis
Chairman, Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Bill Chappell, Jr.
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

As requested, we reviewed the justifications for the Army's \$2 billion fiscal year 1988 appropriation request for eight missile systems: Stinger, Patriot, Air Defense System-Heavy, Multiple Launch Rocket System (MLRS), Army Tactical Missile System, Chaparral, TOW-2, and Hellfire. We also reviewed (1) the Marine Corps' \$325.7 million request to procure the Stinger, the TOW-2, and the Hawk missile systems and (2) the Navy's \$21.1 million request to procure the Stinger missile system.

We identified \$169.9 million in the fiscal year 1988 requests with potential for reduction--\$161.2 million for the Army, \$6.8 million for the Marine Corps, and \$1.9 million for the Navy. In addition, we identified \$100.1 million in potential reductions to unused fiscal years 1986 and 1987 appropriations--\$92.8 million for the Army, \$0.7 million for the Marine Corps, and \$6.6 million for the Navy. These amounts are primarily the result of (1) our recalculations using more current contract information, revised requirements and estimates and (2) requests for procurement funds in fiscal year 1988 that should be deferred to future years. Details regarding these potential reductions are provided in appendix I.

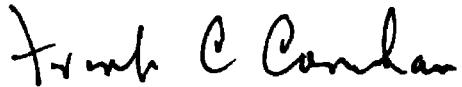
We discussed the contents of this report with the Office of the Secretary of Defense, Army, Marine Corps and Navy officials and have incorporated their comments where appropriate. As requested, we did not obtain official agency comments. The objective, scope, and methodology of our work are described in appendix II.

We are sending copies of this report to the Chairmen, House and Senate Committees on Armed Services; the Secretaries of

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Defense, the Army and the Navy; the Director, Office of Management and Budget; and other interested parties.

Should you need additional information or have questions, please contact Mr. Thomas J. Brew, Associate Director, on (202) 275-4133.



Frank C. Conahan
Assistant Comptroller General

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ABBREVIATION

MLRS Multiple Launch Rocket System

POTENTIAL REDUCTIONS TO MISSILE PROGRAMS

Our review of the justifications for the Army, Marine Corps, and Navy's fiscal year 1988 budget requests for selected missile systems indicated that \$169.9 million in requested fiscal year 1988 funds and \$100.1 million in prior years' funds have potential for reductions. Table I.1 shows the amounts requested and the potential reductions for each system.

Table I.1: Summary of Potential Reductions by Missile System

<u>Missile system</u>	<u>Fiscal year 1988</u>		<u>Prior years'</u>
	<u>Request</u>	<u>Potential reductions</u>	<u>potential reductions</u>
----- (millions) -----			
Army:			
Stinger	\$ 199.7	\$ 18.2	\$ 22.1
Patriot	891.5	19.0	0
Air Defense System-Heavy	59.4	59.4	0
MLRS	447.1	47.7	6.0
Army Tactical Missile System	16.9	16.9	0
Chaparral	65.4 ^a	0	64.7 ^b
TOW-2	131.2	0	0
Hellfire	168.4	0	0
Total	<u>1,979.6</u>	<u>161.2</u>	<u>92.8</u>
Marine Corps:			
Stinger	137.4	5.2	0.7
TOW-2	26.9	1.6	0
Hawk	161.4	(c)	0
Total	<u>325.7</u>	<u>6.8</u>	<u>0.7</u>
Navy:			
Stinger	21.1	1.9	6.6
Total	<u>\$2,326.4</u>	<u>\$169.9</u>	<u>\$100.1</u>

^aThe amount shown includes Chaparral missiles and modifications.

^bThe Army plans to use these funds in support of fiscal year 1988 production, and it contends that the program cannot be accomplished without them.

^cThere is a potential reduction of \$29 million if the Congress does not approve multiyear procurement for the system.

STINGER MISSILE SYSTEM

The Army, Marine Corps, and Navy requested \$324.1 million in the fiscal year 1988 budget to buy 7,143 Stinger missiles and associated support equipment and \$34.1 million for advanced procurement in fiscal year 1988. We believe the request has potential for a \$25.3 million reduction because of decreases in Stinger support equipment requirements, decreases in rocket motor costs, and overstated unit costs for Navy missiles.

In addition, the Army, Navy and Marine Corps' fiscal year 1987 budget has potential for a \$20.4 million reduction because of decreases in support equipment requirements, decreases in Navy missile quantities, reductions in missile rocket motor costs, overstated unit costs for Navy missiles, and overfunded deliveries. Also, the Army's fiscal year 1986 budget has potential for a \$9 million reduction of funds currently retained for a contingent liability.

Potential reductions to fiscal year
1988 budget request

Table I.2 identifies the \$25.3 million fiscal year 1988 potential reduction by service and by the general reason for the reduction.

Table I.2: Potential Fiscal Year 1988 Reductions for the Stinger Missile

<u>Service</u>	<u>Decreased</u> <u>support equipment</u> <u>requirements</u>	<u>Decreased</u> <u>rocket motor</u> <u>costs</u>	<u>Overstated</u> <u>unit cost</u>	<u>Total</u>
----- (millions) -----				
Army	\$11.9	\$ 6.3	\$0	\$18.2
Marine Corps	0	5.2	0	5.2
Navy	<u>0</u>	<u>0.6</u>	<u>1.3</u>	<u>1.9</u>
Total	<u>\$11.9</u>	<u>\$12.1</u>	<u>\$1.3</u>	<u>\$25.3</u>

The Army's budget request for support equipment requirements included funding for 3,300 gripstocks and 156 training devices. However, since submitting the budget request, the Army has decreased its requirements by 1,537 gripstocks and 69 training devices. This reduction decreases the Army's fiscal year 1988 estimated funding requirement for those items by \$11.9 million--\$8.9 million for gripstocks and \$3 million for training devices.

Project officials agreed with the potential reduction for gripstocks and training devices.

The Army estimates each Stinger rocket motor to cost \$5,136, or \$1,706 less than used in computing the unit cost for fiscal year 1988 budget requests. If the new motor price is used, the combined requests for 7,143 rocket motors have potential for a \$12.1 million reduction--\$6.3 million for the Army, \$5.2 million for the Marine Corps, and \$600,000 for the Navy. Army, Marine Corps, and Navy officials responsible for Stinger agreed that these potentials for reduction exist.

In addition to the decrease for rocket motors, there is potential for further reduction because the Navy overstated costs for 3 hardware items on its 356 missiles requested. The Navy included a cost of \$35,571 per missile for these items in its fiscal year 1988 budget request, but the Army included a cost of \$31,948 for the same items. Army and Navy officials responsible for Stinger agreed that the Navy's cost for these items should be the same as the Army's; therefore, \$1.3 million is available for potential reduction from the Navy's request.

Potential reductions to prior years' budgets

Table I.3 identifies the potential reductions for fiscal years 1987 and 1986 by service and the general reasons for the reductions.

Table I.3: Potential Prior Year Reductions for the Stinger Missile

	<u>Army</u>	<u>Marine Corps</u>	<u>Navy</u>	<u>Total</u>
	----- (millions) -----			
Fiscal year 1987:				
Reduced support requirements	\$ 6.5	\$0	\$2.7	\$ 9.2
Reduced missile quantities	0	0	1.9	1.9
Decreased rocket motor costs	1.6	0.7	0.3	2.6
Overstated unit cost	0	0	1.7	1.7
Overfunded deliveries	<u>5.0</u>	<u>0</u>	<u>0</u>	<u>5.0</u>
Total	<u>\$13.1</u>	<u>\$0.7</u>	<u>\$6.6</u>	<u>\$20.4</u>
Fiscal year 1986:				
Contingent liability	<u>9.0</u>	<u>0</u>	<u>0</u>	<u>9.0</u>
Total	<u>\$22.1</u>	<u>\$0.7</u>	<u>\$6.6</u>	<u>\$29.4</u>

Support requirements

The Army's fiscal year 1987 budget included funding for 1,300 gripstocks and 111 training devices; but the Army has reduced its fiscal year 1987 requirement to 995 gripstocks and no training devices. In addition, the Navy deleted its fiscal year 1987 requirement for 90 Stinger launch simulators. Consequently, the Army's and Navy's fiscal year 1987 budgets have potential for reductions of \$6.5 million and \$2.7 million, respectively.

Missile quantities

The Navy reduced its missile quantity by 46 missiles after the fiscal year 1987 budget was approved. Therefore, there is potential for a \$1.9 million reduction in the Navy's fiscal year 1987 funding.

Rocket motors

The Army, Marine Corps, and Navy's combined fiscal year 1987 budgets include 5,185 Stinger rocket motors.¹ According to Army officials, 70 percent of these motors will cost \$716 less than budgeted by the Army, Marine Corps, and Navy. Since each service plans to buy a proportionate share of the missiles with lower cost motors, the budgets have potential for reduction of \$2.6 million--\$1.6 million for 2,311 Army motors, \$700,000 for 970 Marine Corps motors, and \$300,000 for 350 Navy motors.

Unit cost

The Navy included a unit cost of \$35,485 in its fiscal year 1987 budget for 3 hardware items on 500 missiles it plans to buy; however, the Army included a cost of \$32,099 per missile for the same items. Army and Navy representatives responsible for Stinger agreed that the Navy's cost should have been the same as the Army's. Therefore, \$1.7 million is available for potential reduction from the Navy budget.

Overfunded deliveries

The Army plans to award a contract in September 1987 to develop a second supplier of Stinger missiles. Its current plans require delivery of 400 Stinger missiles over a 14-month period. However, Army procurement planning and policy guidance states that the funded delivery period generally should not exceed 12 months. According to project officials, reducing the delivery period to 12 months would decrease the missile quantity by 100 and make \$5 million available for potential reduction.

Contingent liability

The Army's obligation plan for Stinger shows that \$9 million is being retained for a fiscal year 1986 contingent liability. According to project officials, this amount is being held to cover potential liabilities above target cost in the fiscal year 1986 contract. Therefore, there is potential for reducing the fiscal year 1986 budget by \$9 million.

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¹After the Navy's budget is adjusted for its reduction of 46 missiles.

Marine Corps and Navy officials responsible for Stinger agreed with the potential reductions in their 1987 budgets. Project officials agreed with the potential reductions, except for overfunded delivery and contingent liability; but they wanted to retain the fiscal year 1987 funds because of the uncertainty of cost for awarding the second source contract. Regarding the 14-month delivery period, project officials acknowledge that the Army policy guidance limits the delivery period to 12 months but they told us (1) they believe the second source needs the additional 2 months of fiscal year 1987 deliveries in order to compete with the prime contractor in fiscal year 1990 and (2) the acquisition strategy had been approved at the Department of Army level. In our opinion, these comments do not appear to be adequate justification because (1) funding a delivery period longer than 12 months is unnecessary since the Congress appropriates funds every 12 months, and (2) the additional quantity could be acquired by using a fiscal year 1988 option to the fiscal year 1987 contract (which has not yet been awarded).

Regarding contingent liability, project officials agreed that the projection was correct, but they felt that work under the contract was not sufficiently complete to accurately project costs. The limited experience to date does not indicate a need for the \$9 million. Although this contract is in a very early stage, it is currently projected for completion at slightly less than target cost.

Regarding retaining fiscal year 1987 potential reductions as a contingency for second source contract award, project officials did not have a basis for assuming that the second source contract award would be higher than estimated.

PATRIOT MISSILE SYSTEM

The Army requested \$851.4 million for fiscal year 1988 to buy 715 Patriot missiles, associated ground support equipment and technical services and \$40.1 million for advanced procurement of materials. We believe the request has potential for a \$19 million reduction because (1) missiles and ground support equipment components are estimated to cost less than the budgeted amount and (2) training equipment included in the request is not included in the fiscal year 1988 program.

The Army estimates fiscal year 1988 missiles and ground support equipment to cost \$660.5 million, and the majority is already included in Patriot's fixed-price, multiyear contract. The Army's fiscal year 1988 request, however, included \$670.7 million for

these items. Therefore, the \$10.2 million difference is available for potential reduction.

Regarding training equipment, the Army's fiscal year 1988 request included \$9.5 million for Patriot maintenance training equipment. But the project office deleted this training equipment from its fiscal year 1988 program plan and the multiyear contract to ensure sufficient funds would be available for other multiyear contract areas. During contract negotiations, \$700,000 of the \$9.5 million was needed for hardware cost; but the remaining \$8.8 million was not used and is available for potential reduction.

Project officials agreed with the calculations of excess funding. However, they want to use the funds to buy Patriot training equipment, make computer improvements, and provide additional maintenance support in Europe. These officials stated that not funding these items now could ultimately increase overall program costs. We noted, however, that the training equipment and computer improvements were not of sufficient priority to be included in the fiscal year 1988 program plan. The maintenance support is in the program plan; but only about \$2 million is needed to fund its estimated shortfall.

AIR DEFENSE SYSTEM-HEAVY

The Army requested \$59.4 million in the fiscal year 1988 budget for 245 Air Defense System-Heavy (also known as Line-of-Sight Forward Heavy) missiles and 10 fire units. However, since submitting the budget request, the Army restructured the program and now plans to buy four or five preproduction fire units and perform operational tests. The funding request, however, remains the same. We believe that funding either program is premature. There are considerable production and cost uncertainties regarding the requested program, and beginning system production during fiscal year 1988 may increase the risk of fielding an ineffective system. In addition, the Army has only defined the restructured program in very general terms, and it has no sound basis for the cost estimate.

Because of the changing nature of the program, the following paragraphs discuss the potentials for reduction for the program included in the budget request and the restructured program as it was planned at the time of our review.

Requested program

The Army's requested program contains uncertainties regarding production planning, cost, and performance. The Army has not decided what system will be produced or whether production will

occur. For example, a project official said that instead of buying the 245 missiles, the Army could decide to (1) produce only 160 missiles, terminate production, and begin a new development program or (2) begin a development program with no production in fiscal year 1988. In addition, the project official characterized the Army's request and cost estimate for these units as generically based, stating that the costs were derived from the Army's experience in acquiring components of other systems which are not presently planned for use in the Air Defense System-Heavy. Also, the Army has already concluded that the systems currently described by industry will not meet the full performance requirements.

Restructured program

A project official told us late in our review that the program had been totally restructured but the Army's fiscal year 1988 procurement funding request of \$59.4 million would remain unchanged. The restructured program calls for contract award in November 1987 for four or five preproduction fire units followed by operational testing through fiscal year 1988 and probably into fiscal year 1989. The full-scale production contract award would be delayed until sometime in 1989 depending upon the maturity of the system selected.

The project official also said fiscal year 1988 funds would be used to award the contract for preproduction fire units and to fund operational testing. He stated the only document supporting the funding required for the fiscal year 1988 restructured program was one briefing chart prepared for the Office of the Secretary of Defense. This briefing chart outlined the restructured program in very general terms, but it contained no details to support the \$59.4 million request.

We believe the Army correctly delayed production until uncertainties can be better resolved. We believe some amount of funds will be needed. However, we also believe that funds requested are available for reduction until the Army's restructured fiscal year 1988 program is more specifically defined, its supporting cost estimate justified, and the uncertainties resolved.

MULTIPLE LAUNCH ROCKET SYSTEM

The Army requested \$424.4 million in the fiscal year 1988 budget for MLRS launchers, rockets, and ground support equipment and \$22.7 million for advanced procurement of long-lead time items to provide production surge capability. In the event of hostilities, the surge capability would permit increasing monthly production by 830 rockets--6,000 to 6,830 for fiscal year 1988--within 6 months.

We believe the request has potential for a \$47.7 million reduction --\$25 million because of the availability of other launchers to partially satisfy the request and \$22.7 million because the surge production capability may not be needed. In addition, the fiscal year 1987 budget has potential for a \$6 million reduction because of a decrease in the estimated cost of launchers.

The Army requested \$42.6 million in fiscal year 1988 for 24 launchers scheduled for fielding beginning in fiscal year 1990. During the same time frame, 14 MLRS launchers, procured and used for Army Tactical Missile System testing, will be available for other Army uses; but, according to Army officials, these launchers were not counted toward partially satisfying MLRS' requirements. If they were, there is potential for reducing the Army's request by \$25 million--the estimated cost for the 14 launchers. This potential reduction assumes that the launcher unit price will remain constant, but the unit price for smaller quantities could increase. Project and Department of Army officials said the additional 14 launchers are needed, but they had no definite plan for their use. Reducing the Army's launcher request to 10 would still permit the launcher contract to exceed the minimum annual sustaining production rate of 24 because the fiscal year 1988 contract will also include an additional 18 launchers for foreign military sales and 2 for Army research and development.

The surge funding request of \$22.7 million was based on a 1985 study which did not consider the effect of scheduled European MLRS production. The European production base will satisfy part of the foreign needs now met with American production, and it will provide an additional production base in the event of hostilities. The request also did not consider new MLRS munitions--such as the Army Tactical Missile System and MLRS' Terminally Guided Warhead--which may further reduce the need for surge capability. Army officials agreed that they had not formally assessed the effect of these factors on the need for surge capability. We believe that it is premature to provide surge funding before the effect of these factors are considered.

There is also potential for a \$6 million reduction in fiscal year 1987 funds for MLRS launchers. According to a project official, the launcher contractor has proposed to provide launchers in fiscal year 1987 for \$48.6 million--\$1.2 million less than budgeted. The official also expects an additional 10-percent reduction, or about \$4.8 million, through contract negotiations. Project officials agreed there is potential for a \$6 million reduction, but they said the excess funds may be needed for some unfunded engineering change proposals, although the scope and costs of the change proposals

have not been defined. Also, funding for these proposals may be available from other sources. For example, \$1.1 million was included in the fiscal year 1988 request for engineering change proposals. In addition, economic price adjustments to the multiyear contract are expected to make about \$26 million available later in the year. Project officials considered the availability of these funds in estimating the amount of fiscal year 1988 funding required, and they believe some may be available to fund engineering change proposals.

ARMY TACTICAL MISSILE SYSTEM

The Army requested \$16.9 million in the fiscal year 1988 budget for the Army Tactical Missile System. There is potential for a \$7.8 million reduction because Army officials said that \$7.8 million was mistakenly included in the request and that it is not required. In addition, the remaining \$9.1 million has potential for reduction because the funds are to support low-rate initial production before system testing is complete.

The Army plans to use the fiscal year 1988 funds by June 1988 to procure long-lead time items and associated support necessary for awarding a limited production contract in November 1988. However, development tests will not be completed until February 1989, and operational tests are not scheduled to be completed until August 1989--9 months after limited production contract award. Delaying award of the low-rate initial production until development and operational tests are substantially complete would reduce the risk of costly retrofits or fielding an ineffective system; and it would defer the requirement for funding until fiscal year 1989.

Army officials believe delaying low-rate initial production would cause a costly break in the transition from development to production and would delay fielding. They said the break would prohibit exercising production options included in the development contract, and it would prevent using the assembly line already established during development.

We recognize, as stated in our 1985 report,² that there may be instances where there is a need to begin initial production without the benefit of operational test and evaluation. However, when operational test and evaluation is done before initial production, information is available on potential shortcomings that would not

²Production of Some Major Weapon Systems Began With Only Limited Operational Test and Evaluation Results (GAO/NSIAD-85-68, June 19, 1985).

be foreseen through developmental testing. Further, such tests permit decisionmakers to assess whether potentially costly modifications are needed. Therefore, to minimize risks, we believe procurement funding could be deferred to fiscal year 1989. Army officials acknowledged that the concurrent development and production schedule increased program risks.

CHAPARRAL MISSILE SYSTEM

The Army requested \$34.2 million in the fiscal year 1988 budget to produce 122 missiles with the new rosette scan seeker and \$31.2 million for Chaparral modifications--including \$17.9 million for modification kits to retrofit existing Chaparral missiles with the rosette seeker. The Army also plans to use \$28.5 million in fiscal year 1987 funds and \$36.2 million in fiscal year 1986 funds for the 1988 procurement, thereby making the 1988 rosette procurement \$98.9 million plus \$17.9 million retrofit costs.

We did not identify any specific potential reduction for fiscal year 1988, but we identified two matters--incomplete testing and incomplete validation of the technical data package for competitive procurement--that could effect the funding needs. In addition, prior year budgets have potential for a \$64.7 million reduction.

Fiscal year 1988 request

Regarding testing, Army officials told us the Chaparral will meet the performance parameters of its required operational capability. However, they acknowledged that some flight tests against advanced threats³ could not be completed until at least 3 months after the planned March 1988 contract award date. In addition, seeker reliability testing--scheduled for completion in December 1986--is not yet complete. As of May 1987, only 2,830 of the required 7,000 test hours had been run, and the mean-time-between-failures was 566 hours--234 hours less than the contract requirement.

Regarding tests against advanced threats, Army officials said some simulated testing has been conducted; however, actual flight tests against these threats could not be performed before June 1988 because of target availability and tests against one advanced threat is not planned. In addition, Army officials believe that seeker reliability testing will be completed by July 31, 1987; but, if not completed by then, it will be terminated due to funding

³These tests were added by a special study team to assure that Chaparral flight testing is sufficient.

constraints. These officials believe the testing issues should not impact funding for production.

Regarding the technical data package, the Army, in a March 1987 report to the Congress on Chaparral acquisition strategies, informed the Congress that it would minimize the Army liability for a technical data package by having (1) an independent review of the package for content and format and (2) five units assembled, inspected, and tested by an independent contractor to surface deficiencies not normally uncovered by a paper review. Two independent contractors have reviewed the package for content and format, but the current schedule shows the request for proposals for the competitive Chaparral contract will be issued 2 weeks before delivery of the five independently assembled units for testing. In addition, the fiscal year 1988 Chaparral contract will be negotiated 1 month before scheduled completion of these tests. Also, in some instances, the validation effort will be limited because of a dispute over proprietary data. In these instances, the disputed components will be provided to the independent contractor preassembled.

Army officials acknowledge that the technical data package validation will not be completed until December 1987, but they contend that the technical data package has been sufficiently validated for proposal solicitation. They said the building of the units was only to provide additional confidence to the Army. In addition, they were confident that the proprietary data dispute would be settled before releasing the request for proposals.

Prior year funds

The Army has \$36.2 million and \$28.5 million in fiscal years 1986 and 1987 funds, respectively, that it does not plan to use for fiscal years 1986 or 1987 programs. Since the funds are not needed for the intended purpose, there is potential for a \$64.7 million reduction in prior year budgets. Project officials, however, said that the prior year funds were necessary to accomplish the fiscal year 1988 program. A project official said the funds will be used for facilities, vendor qualifications, initial production tests and support for the fiscal year 1988 procurement.

TOW-2 MISSILE SYSTEM

The Army and Marine Corps requested \$158.1 million in the fiscal year 1988 budget for 12,096 TOW-2 missiles and associated ground support equipment. The Army requested 9,416 missiles at \$9,462 each, and the Marine Corps requested 2,680 missiles at \$10,052 each. According to Army and Marine Corps officials, however, the

Marine Corps' request should be based on a unit cost of \$9,462--the same as used by the Army. The difference of \$590 per missile would reduce the Marine Corps request by about \$1.6 million.

Marine Corps officials acknowledged the error in the fiscal year 1988 request, but stated they would like to use the \$26.9 million request to procure 2,847 missiles rather than the 2,680 contained in their request. However, we believe the combined Army and Marine Corps' requests for TOW-2 missiles could be limited to about the contractor's minimum sustaining rate of 12,000 missiles per year. Our rationale for limiting TOW-2 production to the minimum sustaining rate has been separately provided to the committees since it involves classified information.

HAWK MISSILE SYSTEM

The Marine Corps requested \$137 million in the fiscal year 1988 budget for 525 missiles and related equipment and \$24.4 million for advanced procurement. This request is based on the Army awarding a 4-year multiyear contract in fiscal year 1988 to buy the Marine Corps' remaining requirements. While we did not evaluate the cost estimate or assess the Hawk's multiyear candidacy (we are performing a separate review of this subject), our review disclosed that if multiyear approval is not obtained, the Marine Corps' fiscal year 1988 budget request has potential for a \$29 million reduction.

Although the Marine Corps' multiyear justification package shows an overall savings when contrasted to four annual contracts, the package shows that an annual contract for the fiscal year 1988 procurement would cost \$4.6 million less than requested for the first year of the multiyear contract. In addition, if multiyear approval is not granted, the \$24.4 million requested for advanced materials would not be needed. Army and Marine Corps officials responsible for Hawk agreed that \$29 million could be reduced from the fiscal year 1988 request if approval for multiyear is not obtained.

HELLFIRE MISSILE SYSTEM

The Army requested \$168.4 million in its fiscal year 1988 budget for 5,000 Hellfire missiles. The Army has encountered significant technical problems in earlier buys; but, because it did not buy missiles for fiscal year 1987, it has substantial time to correct the problems before fiscal year 1988 deliveries are scheduled to begin in August 1989. Accordingly, we did not identify any potential reductions to the Hellfire budget.

OBJECTIVE, SCOPE, AND METHODOLOGY

Our objective was to review the Department of Defense's fiscal year 1988 budget requests for selected Army missile systems to determine whether the missile programs should be funded in the amounts requested. We also examined the status of prior year appropriations for some systems to determine whether unused funds have potential for reduction.

We examined selected aspects of the budget request justifications for eight Army missile systems: Stinger, Patriot, Air Defense System-Heavy, MLRS, Army Tactical Missile System, Chaparral, TOW-2, and Hellfire. We also reviewed selected aspects of the Marine Corps' request for funding Stinger, TOW-2, and Hawk and the Navy's request for Stinger.

In reviewing the budget requests, we (1) reviewed production plans, delivery plans, improvement plans, and effectiveness analyses to determine if planned production is warranted, (2) examined test reports and missile delivery status to evaluate the effect of production problems on missile delivery, and (3) examined the requirements for selected missiles and support equipment. In addition, we reviewed selected aspects of missile costs by examining the services' methodology in arriving at that cost, determining the most recently experienced actual costs, and examining contractor proposal costs. Also, for selected systems, we reviewed the status of obligations for previously appropriated funds and the plans to obligate these funds. Because of limited time, we did not examine each of these aspects for all weapon systems. Rather, we tailored our examination of each system to the aspects which appeared to have the most potential for reduction.

We performed our work at the U.S. Army Missile Command, Huntsville, Alabama, during the period February through May 1987. Our scope of work and analyses were more limited than anticipated because detailed budget requests were not provided until March 5, 1987. As a result of the limited time, we relied substantially on testimonial evidence. However, to the extent practicable, we corroborated this evidence with other sources or verified the evidence a second time with the same source. We also used some data from military services' automated data sources without independent verification of the systems' programming and operational adequacy. With these exceptions, we conducted our work in accordance with generally accepted government audit standards.

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