

GAO

Report to the Chairman, Subcommittee
on Readiness, Committee on Armed
Services, House of Representatives

May 1991

ARMY ACQUISITION CONTROLS

Materiel Release Process Needs to Be Strengthened



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**National Security and
International Affairs Division**

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May 23, 1991

The Honorable Earl Hutto
Chairman, Subcommittee on Readiness
Committee on Armed Services
House of Representatives

Dear Mr. Chairman:

As requested, we evaluated the Army's internal controls that help ensure that newly procured equipment is ready for delivery to field users. Specifically, we assessed whether Army internal control procedures ensured that (1) materiel release review board members were sufficiently independent of system developers and (2) the Army followed through in correcting system deficiencies identified during the materiel release process.

We reviewed in detail the materiel release process for five systems: the Apache helicopter (AH-64A); the Kiowa helicopter (OH-58D), commonly referred to as the "Army Helicopter Improvement Program"; the Maneuver Control System; the Mobile Subscriber Equipment; and the Patriot air defense system. In addition, we reviewed materiel release board packages covering 81 release actions on 20 systems.

Results in Brief

The Army's materiel release process for ensuring that systems meet performance requirements and are logistically supportable before they are released to field units can be improved. Review boards, which recommend the release of systems to the field and represent a key internal control mechanism for deciding that a system is ready for the end users, are neither sufficiently independent of the procuring offices nor sufficiently representative of the end users to meet sound internal control standards. In short, the same people who develop a system generally recommend it for release to the field.

The current process allows systems with deficiencies to be sent to field units on a conditional basis, provided there is a corrective action plan to meet field users' requirements and provided there is a justified urgency for receiving the equipment. However, deficiencies are not always corrected in a timely way, and urgency justifications are not always provided. Corrective action plan milestone completion dates can slip for years. In one case, performance problems were never corrected, and the

system is being phased out of Army units. The end users are not routinely providing the urgency of need justifications as required.

Background

To ensure that newly procured systems are safe, meet Army performance requirements, and are logistically supportable before they are released to field users, the Army has a materiel release for issue process. This process is implemented through materiel release review boards established by the procuring office. Systems can be released on a full, a conditional, or a training basis. There can also be a no-release decision.

A system that meets all performance, safety, and logistical requirements receives a full release. A system that still has problems but is urgently needed can be released on a conditional basis. A training release may be approved for a system that does not meet all of the requirements for a full release and/or was not manufactured under normal production conditions.

Before materiel can receive a conditional or a training release, a corrective action plan and urgency of need statements are required. All systems receiving a conditional or training release are expected to eventually receive full releases by having all problems resolved. If problems are judged too serious, the review boards can recommend not to release a system to users until further improvements are made.

The Army Materiel Command (AMC) approves the materiel release of major systems (such as Apache helicopters and Patriot air defense systems) based on the recommendations of the review boards. Army regulations require a materiel release each time a new production lot of systems is to be delivered to field users on a conditional basis. As a result, a system can have many release actions.

Materiel Release Review Board Membership Does Not Meet Internal Control Standards

The standards for internal controls in the federal government require, in part, that key duties and responsibilities in authorizing, approving, processing, and reviewing transactions be separated among individuals. However, the Army's materiel release process does not separate key duties. The materiel release review board members, who make the materiel release recommendations for the Army, are drawn from the same offices that were directly involved in developing the system under review. The boards have seven to nine voting members who are responsible for verifying that all requirements for a release have been met and

documented, thus providing an internal control over the system acquisition process. The membership of all 81 materiel release review boards that we reviewed, which had met to release systems between 1986 and 1990, was only composed of representatives from the procurement offices.¹ The system users were not voting members of the boards.

In April 1984, AMC designated the U.S. Army Materiel Systems Analysis Activity (AMSAA) as its independent evaluator for materiel releases of major and other high-visibility systems. The independent evaluator's major tasks are (1) verifying that production versions of a system provide at least the same level of performance as a development prototype system and (2) ensuring that any outstanding issues carried over from the production decision are satisfactorily resolved before a full materiel release action is taken.

AMSAA has an advisory role in the process by providing evaluation reports to the review boards. Table 1 shows the number and types of release recommendations made by AMSAA between 1986 and 1989. Review boards almost always will accept AMSAA's recommendation for the full release of a system; however, they usually do not follow a no-release recommendation. Because the review boards are not required to justify their decisions, we were not able to determine the appropriateness of their decisions. However, AMSAA made 33 no-release recommendations between 1986 and 1989 of which 25 (74 percent) were not followed by review boards.

Table 1: AMSAA's Materiel Release Recommendations

Calendar year	Full release		Conditional release		Training release		No release		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1986	5	31	9	56	2	13	0	0	16	100
1987	5	11	18	41	7	16	14	32	44	100
1988	1	3	20	61	4	12	8	2	33	100
1989	11	23	22	46	4	8	11	23	48	100
Total	22	16	69	49	17	12	33	23	141	100

A change made to the materiel release policy in November 1988 requires the U.S. Army Operational Test and Evaluation Agency (OTEA) to provide review boards with input similar to that provided by AMSAA. OTEA, the Army's independent evaluator for operational testing, provides an

¹Of these 81 actions, 10 were for full release, 56 for conditional release, and 11 for training release. Also, four waivers were granted to the materiel release process.

evaluation report to the board when it has operationally tested a system up for release. As in the case of AMSAA, OTEA's reports are advisory to the review boards.

System Deficiencies Not Always Corrected as Planned

Because most Army systems are released to field units on a conditional basis, it is essential that the program for correcting deficiencies work effectively. Prior to such a release, procuring office officials are required to prepare a corrective action plan indicating how and when the deficiencies will be corrected as well as any interim solutions. There are no assurances, however, that system deficiencies will be corrected because scheduled corrective actions can slip indefinitely. As of November 1990, 59 deficiencies were still open for the five systems we reviewed. The dates for completing corrective action on 26 of these deficiencies have slipped because the procuring offices' corrective action plans were not completed as scheduled. These dates have slipped an average of 33 months. The following are examples of the problems we found on the systems we reviewed.

The Apache helicopter, which has been conditionally released six times despite AMSAA's recommendations not to release it, has experienced lengthy slippage of corrective action dates. The corrective action plan for its sixth conditional release in February 1990 contained 7 of the 18 deficiencies listed on the first plan in February 1986. Included in the seven are problems with component reliability, weapons systems accuracy, and the Electronic Equipment Test Facility used to identify electronic problems. As of February 1991, these deficiencies had not yet been fully resolved. For 48 consecutive months, between October 1986 and September 1990, the Apache failed to meet its fully-mission-capable goal, primarily because of the frequent failure of parts and consequent demand for replacement parts and maintenance. However, fully-mission-capable rates reported by the Army during Operation Desert Storm exceeded the Army's current 70 percent fully-mission-capable goal.

The OH-58D helicopter is another system that was conditionally released to the Army. Since its first release in March 1986, the helicopter has subsequently received six additional conditional releases. This system currently has five uncorrected deficiencies, three of which were in its first corrective action plan. One of these is inadequate spare parts support, which has affected the helicopter's overall availability rates. The OH-58D non-mission-capable-due-to-supply rate (the rate at which it proved incapable of performing any missions because it needed

spare parts) averaged 15 percent for fiscal year 1990; its goal was 10 percent. Likewise, the helicopter's fully-mission-capable rate has fluctuated for the past 4 fiscal years, averaging 61 percent for 1990 (the goal is 70 percent).

Some system deficiencies never get corrected. For example, the \$101 million militarized hardware for the Maneuver Control System is now being phased out by the Army without ever having achieved a full release. This phase-out started in July 1990. The system, which is one of five that comprise the Army's tactical command and control system, is a hybrid consisting of both militarized and off-the-shelf equipment. The production contract for the militarized system was awarded in June 1983, and the system received its first conditional release in 1986. It has since received six more conditional releases.

In November 1989, AMSAA reported that the Maneuver Control System had met only 30 percent of its Required Operational Capabilities requirements. In that month, both AMSAA and OTEA recommended the system not be released based on its performance during an August 1989 test at Fort Hood, Texas. The independent evaluators did not believe the system was meeting its performance and logistical support requirements. In addition, AMSAA had a number of other concerns, including (1) problems with the systems's reliability, (2) limitations on its memory reserve, (3) problems with its ability to interface with communications systems, and (4) non-user-friendliness of its software. The Army did not correct these problems. Field users said the system did not provide the command and control capabilities required to do the job. They said the system operated too slowly, was cumbersome to move, and was not always used as intended.

System Users Not Providing Urgency Justifications

Although system users were not voting members of review boards, they are required to provide an urgency of need justification signed by a general officer to receive a conditionally released system. This action has not always taken place as required.

All conditional and training releases approved between 1986 and 1989 that we reviewed had been deemed urgently needed. However, in 49 of 81 actions we reviewed, system users did not justify their urgent need for the system. Of these 49 actions, 10 had urgency of need justifications that had been written by the procuring offices, not the users. For example, the procuring office for the Patriot air defense system provided the urgency of need justifications for nine of its releases. In 12

other actions, the urgent need was justified on the basis of the user's desire to receive the system in time for scheduled training. In the remaining 27 actions, the user did not justify the system's urgent need.

Recommendations

To strengthen the Army's materiel release process, we recommend that the Secretary of the Army take the following actions:

- Require that end users be voting members of the review boards.
- Ensure that end users submit urgency of need justifications as required for equipment for which review boards plan a conditional or training release and ensure that such justifications are based on well grounded, sound reasoning.
- Require the review boards to certify that efforts have been made toward correcting systems' deficiencies or that the identified deficiencies are not seriously degrading user needs.

Our scope and methodology are described in appendix I. We obtained oral comments from Office of the Secretary of Defense and Army officials on a draft of this report and have incorporated them as appropriate.

Unless you announce its contents earlier, we plan no further distribution of this report for 30 days from its issue date. At that time, we will send copies to the Chairmen of the Senate and House Committees on Armed Services and on Appropriations, the Senate Committee on Governmental Affairs, and the House Committee on Government Operations; the Director of the Office of Management and Budget; and the Secretaries of Defense and the Army. We will also provide copies to others upon request.

Please contact me at (202) 275-4141 if you or your staff have any questions concerning this report. The major contributors to this report are listed in appendix II.

Sincerely yours,

A handwritten signature in cursive script that reads "Richard Davis".

Richard Davis
Director, Army Issues

Scope and Methodology

To evaluate the Army's controls over the release of equipment to field users, we reviewed pertinent Army and major command regulations, supplements, pamphlets, and guides relative to materiel releases and the fielding of systems.

We also reviewed all 141 of the materiel release independent evaluations prepared by the U.S. Army Materiel Systems Analysis Activity (AMSAA) between 1986 and 1989. From this data base, we selected five systems for further review: the Apache helicopter, the OH-58D helicopter, the Maneuver Control System, the Mobile Subscriber Equipment, and the Patriot air defense system. We chose these systems because their costs were high and they had been conditionally released several times. In addition, we examined 81 materiel release board packages covering 20 systems.

We reviewed the materiel release process at three of Army Materiel Command (AMC) commodity commands: the Aviation Systems Command, St. Louis, Missouri; the Communications-Electronics Command, Fort Monmouth, New Jersey; and the Missile Command, Huntsville, Alabama. We also interviewed the project managers or their representatives for the five systems we reviewed.

We interviewed Army personnel at Fort Hood, Texas; Fort Bliss, Texas; and Fort Carson, Colorado; who used the Apache, the Maneuver Control System, the OH-58D, the Mobile Subscriber Equipment, or the Patriot system.

We also conducted audit work at AMC Headquarters, Alexandria, Virginia, and interviewed officials at the U.S. Army Operational Test and Evaluation Agency (OTEA), Baileys Crossroads, Virginia; and U.S. Army Forces Command, Fort McPherson, Georgia. Since our fieldwork OTEA has been reorganized and is now called the U.S. Army Operational Test and Evaluation Command. In addition, we interviewed analysts at AMSAA responsible for reviewing the five systems. We obtained readiness reports from the U.S. Army Materiel Readiness Support Activity, Lexington, Kentucky.

We performed our review from December 1989 to February 1991 in accordance with generally accepted government auditing standards.

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