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REPORT BY THE
COMPTROLLER GENERAL
OF THE UNITED STATES

(U) TESTS AND EVALUATIONS STILL IN
PROGRESS SHOULD INDICATE DIVISION
AIR DEFENSE GUN'S POTENTIAL EF-
FECTIVENESS

~~2/05/82~~ ←

D I G E S T

It is not possible now to make a reliable assessment of the Division Air Defense (DIVAD) gun's potential in combat. The system that emerged from prototype testing in November 1980 was not fully developed. Several critical tests are still in progress, and evaluations of the results will not be available until April 1982, when a production decision is due. However, other important tests will not be completed or have been deferred until after the production decision. Little is known about how well DIVAD meets the Army's requirements for maintainability, logistics supportability, and ease of operation by the troops. The Army's primary emphasis has been on developing the hardware.



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GAO undertook this review because of the impending important decisions to be made both by the Secretary of Defense and the Congress. They involve consideration of the forthcoming Army request for \$814 million contained in its fiscal year 1983 program to procure 96 DIVADs, spares, and ammunition. The total program cost for 618 DIVADs is about \$4.5 billion. (See pp. 1 and 2.)

A key to any assessment of DIVAD is a 3-month test completed in January 1982. The Army refers to this testing as a "check test" because it is designed primarily to determine if all shortcomings identified in tests conducted in 1980 were corrected. The testing was planned to provide data needed to assess DIVAD's technical performance. Other critical assessments to be made, not as heavily dependent on this testing, cover human factors and system supportability.

A fixed-price incentive contract, with a ceiling price of \$1.725 billion, was awarded to Ford Aerospace and Communications Corporation in May 1981 after a competition with General Dynamics Corporation. The contract requires Ford to complete engineering development of DIVAD and produce and deliver 276 of them.

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Final delivery is scheduled for September 1986. Nevertheless, a source selection board's analysis of Ford's proposed system specifications and test results revealed several deficiencies and shortcomings. The major deficiencies to be corrected, before the 3-month check test, included the system's reaction time, software integration, turret armor protection, excess weight, and the radar's performance in an electronic countermeasure environment. (See pp. 5 to 9.)

SUBSTANTIAL TESTING AND EVALUATION
DEFERRED UNTIL AFTER PRODUCTION
DECISION

Several tests will not be completed until after the production decision. They include tests to assess the new DIVAD's performance under a stressful environment and in a natural cold weather climate. A durability and mobility test of 5-months duration is scheduled to start in February 1982. It is designed to assess DIVAD's performance in intensive road and firing conditions. DIVAD's logistics supportability will not be fully evaluated until almost 2 years after the production decision. (See pp. 9 to 11.)

ACQUISITION STRATEGY USED
CONTAINS INHERENT RISKS

The Army's "hands-off" acquisition strategy used to procure DIVAD was a factor in testing delays which have resulted in a program stretch-out of about 17 months. The strategy has also affected scheduling some evaluations of the system's test results.

The prototypes delivered for the 1980 tests to demonstrate performance were not ready for testing. Their unexpected lack of technical maturity caused the demonstration to be canceled and forced a limited delay in starting the development and operational testing. The lack of maturity appears to have surprised the Army since, due to the hands-off approach, its information about the systems in development was basically limited to that contained in quarterly reports from the competing contractors. (See pp. 12 to 14.)

CONCLUSIONS

If the new DIVAD can be successfully fielded, it should provide a quantum improvement over the system it is to replace. However, the jury is still out until critical tests, including some that will not be completed until after the production decision, are evaluated. Without the mobility test results, for example, important information on DIVAD's performance, reliability, and maintainability is lacking. To begin production without it constitutes a risk.

To assess the procurement strategy followed in procuring DIVAD is premature at this stage. There have been certain drawbacks, particularly the sparsity of information during its development and the consequent limited evaluations of some aspects of the system's capability. However, if the system comes through successfully in forthcoming tests and substantially meets the Army's requirements, these shortcomings could be overlooked.

Regardless of the final outcome, however, the Department of Defense should be careful in applying this strategy to other systems since its success would hinge on many factors that vary with each acquisition--the degree of risk, the competence of the contractor, and the reliability of cost projections, to mention three.

RECOMMENDATIONS

GAO recommends that the Secretary of Defense should

- defer the production decision to allow completion of the durability and mobility testing and to provide the evaluation agencies more information and time to assess DIVAD and
- make eventual production approval contingent on a positive indication that DIVAD will meet the Army's requirements for maintainability, logistics supportability, and ease of operation by the troops.

GAO also recommends that the Congress should condition the obligation of fiscal year 1983 procurement funds it may approve for DIVAD, by having the Secretary of Defense provide advance assurance that the system has adequately

demonstrated that it meets the Army's performance requirements.

VIEWS OF PROGRAM OFFICIALS

GAO did not request official comments on this report because of the need to issue the report in time for congressional consideration of the fiscal year 1983 defense budget request. GAO did, however, discuss a draft of this report with high level officials associated with management of the program. These officials agreed with the facts presented in this report. Their views are incorporated in the report and are summarized below.

The Army believes the program risks are not so great as to warrant delaying production. To do so, they maintain, would cause the Army to lose the opportunity to take advantage of favorable procurement options. The first option, for 50 units, must be exercised by May 31, 1982. The Army also views a delay as negating the benefits it sees in following the procurement strategy it adopted for DIVAD.

GAO disagrees with the Army's position. GAO believes that the perceived benefit of the favorable procurement contract option should be weighed against the risk of proceeding into production.

Defense officials agreed that experience with DIVAD procurement should be evaluated before the hands-off procurement strategy is applied to selected programs in the future.