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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

PROCUREMENT, LOGISTICS,
AND READINESS DIVISION

B-209473

OCTOBER 20, 1982


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The Honorable John O. Marsh, Jr.
The Secretary of the Army

Dear Mr. Secretary:

Subject: Concerns About Logistic Planning for the High Mobility Multi-Purpose Wheeled Vehicle (GAO/PLRD-83-7)

We have reviewed the Integrated Logistic Support (ILS) planning for the Army's High Mobility Multi-Purpose Wheeled Vehicle (HMMWV). We found that the Army has delayed detailed ILS planning until the production phase because of the already advanced state of HMMWV development and the extensive use of commercial components.

While this approach seems reasonable given the circumstances of the acquisition, it does create certain risks. Our primary concern is whether sufficient testing and evaluation will be done in the logistic supportability area before production.

HMMWV PROCUREMENT PROGRAM

The program is an Army-managed joint service program to procure a single 1-1/4-ton capacity vehicle to replace a portion of the Army, Air Force, and Marine Corps vehicle fleets. The services plan to acquire about 53,000 HMMWVs through fiscal year 1987 at a procurement cost of about $1.6 billion.

The vehicle is being procured competitively. Contracts for developing 11 prototype vehicles each were awarded to 3 contractors in July 1981. Testing and evaluation of the prototypes is scheduled to be completed in October 1982, and a single production contract is planned to be awarded in February 1983. The first vehicles are scheduled to be ready for use in June 1984.

ACCELERATED ACQUISITION STRATEGY

The HMMWV acquisition program has been accelerated to meet June 1984 and June 1985 fielding requirements for the Marine Corps and the Army, respectively. The program is expected to progress from start to initial fielding in about 5 years, or about 2 years less than would normally be expected.

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The acquisition strategy was designed to take advantage of developmental work performed on predecessor programs. The Army believed that an ILS program directed at influencing equipment design was not necessary during the competitive prototyping phase because of the already advanced state of HMMWV prototypes and the program's emphasis on the extensive use of commercial components.

TESTING HAS ADDED IMPORTANCE

It would be premature to conclude that the deferral of detailed ILS tasks until the production phase will not achieve an effective and efficient logistic system for the vehicle; however, in this situation the test and evaluation plan takes on added importance to insure that supportability was considered during design and that support costs are not excessive. While logistic considerations are addressed in the test plan, we have the following concerns:

--The testing time frame is highly compressed and may not allow sufficient time for a complete assessment of all important logistic support factors.

--The plan does not specifically require that design changes to correct reliability, availability, maintainability, and durability problems be tested before contract award.

--Desert durability/performance testing has been limited.

Compressed testing

The highly compressed test schedule leaves little flexibility if delays are experienced. The Army originally estimated that operational and developmental testing would take about 14 months. However, the Army decided to compress testing into a 5-month schedule, which it characterized as "high risk."

When testing time frames are severely compressed, unanticipated delays can create pressure to curtail planned test events or to substitute operational tests for logistic tests. As a result, decisionmakers can be left with incomplete data for evaluating logistic supportability.

Design changes will not be tested

Testing of design changes to correct significant deficiencies in the equipment or support resources is required before a system can move into the production phase. This is done to insure that

the problems have been corrected, to assess new logistic requirements, and to avoid costly postproduction modifications. In the HMMWV program, however, the Army had decided not to follow this procedure. The HMMWV acquisition plan states:

> "Problem areas uncovered during the DT/OT [developmental testing/operational testing] II cycle may be considered for design change by the contractor to demonstrate RAM-D [reliability, availability, maintainability, and durability] improvement. Due to the compressed, high risk schedule that has been established for the HMMWV, it is unlikely that significant improvement will be demonstrated during the test cycle. The contractors will have to show, by sound engineering and RAM-D judgement, that the corrective actions proposed will indeed improve system performance."

Limited desert testing

At the time our fieldwork was completed, testing officials told us that desert testing would not be conducted. In our draft report we suggested that since the mission requirement driving the accelerated acquisition would be in a desert environment, desert testing be conducted as originally set forth in the coordinated test plan. In commenting on this report, Defense officials informed us that a modified desert test plan was initiated in July 1982 and that our concern about this matter had influenced the decision to go forward with this testing.

While we are encouraged that some desert testing is being done and believe the results will improve the overall data available to Army officials who evaluate the competing vehicles, we are still concerned that this testing will be less than originally planned.

CONCLUSIONS, RECOMMENDATIONS, AND AGENCY COMMENTS

Although the Army's approach to ILS planning for the HMMWV appears reasonable in light of the circumstances of the acquisition, we do have some concerns about whether sufficient testing and evaluation will be done in the logistic supportability area before the vehicle's production.

Since ILS, to influence equipment design, was not required during prototype development, the test program takes on increased importance in evaluating supportability. However, the test program has certain aspects which could adversely affect the supportability assessment. The program has been reduced to a 5-month period, which allows little time for delay; contains no

formal procedures for testing the design changes to correct reliability, availability, maintainability, and durability problems; and includes limited desert durability/performance testing.

We recommend that you test as many significant design changes as possible before the production decision and, where not possible, require that initial production testing fully evaluate the adequacy of any design changes made as a result of deficiencies identified during developmental/operational testing and assess their impact on logistic supportability.

On September 17, 1982, we met with Defense officials and obtained their official oral comments. They concurred in our recommendation to test significant design changes.

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As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Chairmen, House Committee on Government Operations, Senate Committee on Governmental Affairs, and House and Senate Committees on Appropriations and on Armed Services; and the Secretaries of Defense, the Navy, and the Air Force.

Sincerely yours,

Donald J. Horan

Donald J. Horan
Director