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U.S. GENERAL ACCOUNTING OFFICE

STAFF STUDY

OF THE

[ARBORN RECONNAISSANCE SCOUT VEHICLE]

Department of Defense



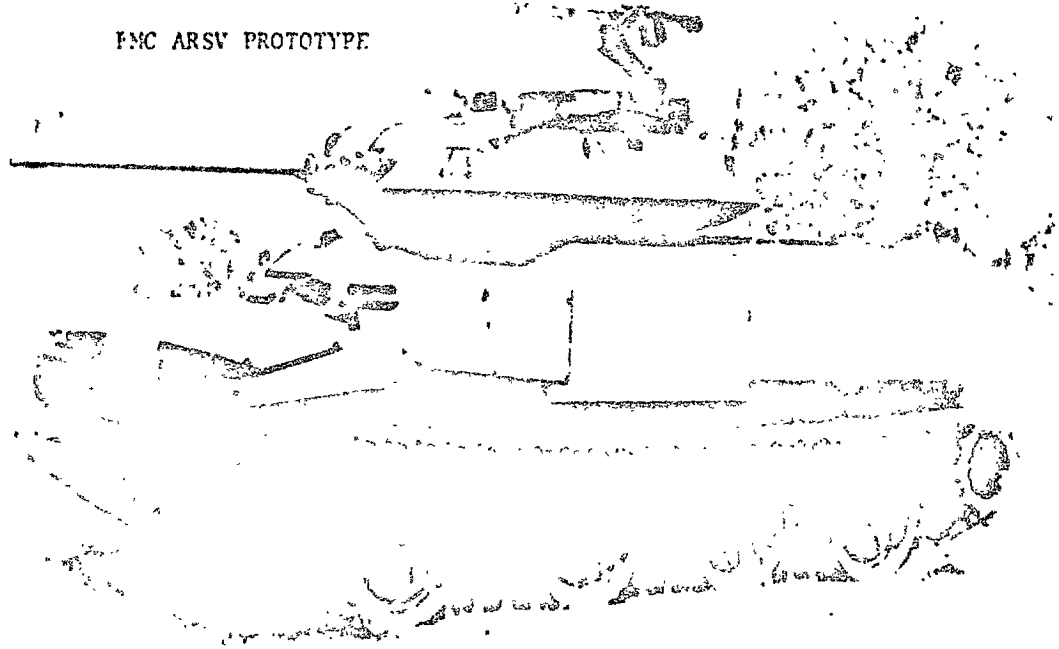
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FMC ARSV PROTOTYPE



LOCKHEED ARSV PROTOTYPE



FIGURE 1

SYSTEM DESCRIPTION

The Armored Reconnaissance Scout Vehicle (ARSV), XM800, (prototypes shown in the opposite figure) was conceived as a small, lightly armored, ground combat vehicle with a three-man crew and an inherent swimming capability. It was to be a highly mobile vehicle that would improve the Army's ability to perform reconnaissance, surveillance, and security tasks. It was to be a part of the authorized equipment of mechanized infantry and armored divisions and armored cavalry regiments in the 1978 time frame and beyond. This project was to provide an Initial Procurement Objective (IPO) of 1147 Scout vehicles for troop issue. The Authorized Acquisition Objective (AAO) for 13 1/3 divisions was 5291.

SYSTEM STATUS

In March 1974, the XM800 project was suspended during a complete reexamination of the Cavalry/Scout mission by the Army. The Cavalry/Scout Study concluded that the scout requirement is for ancillary equipment, e.g., binoculars, night vision sights, etc., and not necessarily for a vehicle of unique design.

Due to suspension of the XM800 development, the contracts were allowed to expire in September 1974, while the project was still in the validation phase of the acquisition cycle. As a result, the project management office (PMO) was closed on November 1, 1974. In effect, the ARSV program is back in the conceptual phase.

Force development test and experimentation (FDTE) was performed with 13 candidate vehicles at Fort Knox and/or Fort Bliss. The purpose

was to generate scout mission profile field test data in order to validate the findings of the Cavalry/Scout Study and to provide input for the cost-operational effectiveness analysis (COEA).

COMING EVENTS

The reexamination of the ground scout vehicle requirement is continuing with a cost-operational effectiveness analysis (COEA) of those candidate vehicles which seemed reasonable on the basis of the FDTE. The scout COEA is scheduled for completion in July 1975.

Following the COEA, Army Systems Acquisition Review Council (ASARC) and Defense Systems Acquisition Review Council (DSARC) meetings are scheduled respectively for September and December 1975. Until the future scouting vehicle is identified major decision milestones beyond DSARC I are uncertain.

RELATIONSHIP TO OTHER SYSTEMS

The M113A1, the standard armored personnel carrier (APC) now used by mechanized infantry units, and various derivatives of it, have established themselves in the field tests as serious contenders for selection as the scout vehicle of the future. In Europe the Army is now using the M113A1 as the scout vehicle in the scout platoons of armored and mechanized infantry divisions; in armored cavalry units the M551 Armored Reconnaissance/Airborne Assault Vehicle (SHERIDAN) is used as the scout.

The XM800 project included consideration of the BUSHMASTER Weapon system as its main armament. One of the criticisms of the M113 series is armament, so the BUSHMASTER weapon system is a potential addition to any future scout vehicle which may be selected.

The product improvement (PI) of the 20mm M139 Weapon System has been initiated by the Army because the BUSHMASTER weapon system will not be available in time to equip the initial Mechanized Infantry Combat Vehicles (MICV). The M139 PI is therefore, a related subsystem for present and future scout vehicles.

As a part of its reexamination of the cavalry/scout function the Army is integrating the study of the future ground scout vehicle with the formulation of the requirement for a scout helicopter.

PROJECT MANAGEMENT

The competitive prototyping, or fly-before-you-buy, procurement strategy was being used for the ARSV acquisition. FMC Corporation and Lockheed Missiles and Space Company Incorporated were the contractors.

COST

Through fiscal year 1975, program expenditures including termination expense are expected to total about \$39.5 million as follows:

Funds Provided FY 75 and prior years	Expended <u>9/30/74</u>	Available 9/30/74 thru <u>FY 1975</u>
\$ millions		
\$39.5	\$37.2	\$2.3

Costs for future Army scouting requirements will be dependent upon the outcome and decisions made as a result of the COEA. However, an insight into the future can be gained by considering the estimated unit program costs of the candidate vehicles selected for the COEA. The Army's preliminary estimates (constant 1975 dollars) for the candidate

vehicles are: M113A1-\$61,700; M113A1(A1FV)-\$189,300; FMC "C"-\$197,400; FMC 'A'-\$254,500; MICV-\$258,800.^{1/}

SCHEDULE

One of the five candidate vehicles included in the scout COEA is the Mechanized Infantry Combat Vehicle (MICV). The Armored Reconnaissance Scout Vehicle Task Force had planned on testing the MICV in the May-June 1975 time period. The MICV project manager, however, has indicated he cannot make a prototype available until the August-October 1975 period. (See MICV Staff Study, 1975).

In February 1975, Army officials stated that the scout COEA would not be delayed awaiting the actual field testing of a MICV but rather would be completed using data from a computer mobility model in which the Army has a high degree of confidence. At a later time, the Army hopes to conduct actual field tests with the MICV and confirm the data used in the scout COEA.

PERFORMANCE

Performance parameters for the future scout vehicle are expected to include speed, range, quietness, armament, reliability, availability, maintainability, and durability. The vehicle should be compatible with other weapon systems in the combined arms team such as the XM1 tank and the Mechanized Infantry Combat Vehicle (MICV).

SELECTED ACQUISITION REPORTING (SAR)

The SAR for the period ended September 30, 1974, reflected the status of the program. The final SAR is expected as of December 31, 1974.

^{1/} Army officials are assuming that the MICV (Scout) would not be developed as a separate project but rather be procured as an add-on to the present MICV program. The estimated unit program cost of the add-on MICV (Scout) they state as \$208,600.

RECOMMENDATIONS

We recommend that the Secretary of Defense insure the field testing of a MICV in the scout mission profiles at Fort Knox and Fort Bliss in order to provide actual rather than simulated data to the scout cost-operational effectiveness analysis (COEA) as presently scheduled, or that the scout COEA be delayed until such MICV field testing is accomplished.

We recommend that the Secretary of Defense initiate a study of the operational and economic advantages and disadvantages of common vehicles as opposed to varieties of vehicles tailored for theater/case/scenario forces.

MATTERS FOR CONSIDERATION

The Congress may wish to be advised on the outcome of the Scout COEA as soon as it is completed since the results are likely to have a major impact not only on the Army's future vehicle requirements for cavalry/scout units but on its vehicle requirements for mechanized infantry units as well:

(1) Should the Army's present mechanized infantry carrier, the M113A1, (or an improved version of it) prove to be the preferred scout vehicle for the Army's cavalry/scout units, the next cost-operational effectiveness analysis of the new Mechanized Infantry Combat Vehicle (MICV) for mechanized infantry units should consider the possibility of a modified M113 and the savings which might accrue from basic vehicle commonality.

(2) On the other hand, the selection of the MICV for future scouting needs will result in an increased quantity of MICV and accordingly increase

defense expenditures because of its much greater acquisition cost. Based on the MICV current estimate, expenditures would increase by about \$32 million if 1147 add-on MICV Scouts were procured.

The Congress may wish to inquire how the Department of Defense determines the most cost effective force, e.g., an armored cavalry squadron, and weighs this determination against the most cost effective weapon system, e.g., MICV. The most cost effective weapon system for next year's procurement may possibly not provide the most cost-effective force over an extended period of time.

QUESTIONS

What is the average age and expected life of the approximately 10,000 M113 (gasoline engine) and M113A1 (diesel engine) Armored Personnel Carriers now in the inventory?

Identify, provide quantities, and give the average age of other inventory vehicles which could perform the scout role, e.g., M551, M577, M75, M59, etc.

What disposition has been made of the M114/M114A1 Armored Command and Reconnaissance carriers withdrawn from units in Germany?

What does the Marine Corps use as a command vehicle and as a reconnaissance vehicle.

How many units, of what type, assigned where, would have been equipped with the 1147 operational ARSVs?

Has the Army considered, and either rejected or planned to equip whatever vehicle is finally assigned the scout role with the BUSHMASTER weapon system?

When will a MICV prototype be available to participate in the Scout FDTE mission profiles?

Will a MICV prototype be made available for FDTE on the Ft. Knox and Ft. Bliss courses?

What are the operational and economic advantages of using the common mechanized infantry carrier, e.g., the M113, as the command vehicle and as the scout vehicle?

What are the operational advantages and disadvantages of using a foreign scout, German, French, British, etc., for our forces assigned to the U.S. European Command?

What are the financial advantages and disadvantages (e.g., foreign military sales of some other U.S. weapon system; increased technical data and training costs) of using an appropriate foreign scout for our forces deployed to the various unified commands?

AGENCY COMMENTS

A draft of this staff study was reviewed by DOD officials associated with the management of this program and comments were incorporated as appropriate. We know of no residual differences with respect to the factual material presented herein.