UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

FOR RELEASE ON DELIVERY
EXPECTED AT 9:00 A.M.
FRIDAY, MARCH 5, 1982

STATEMENT OF

WALTON H. SHELEY, Jr., DIRECTOR

MISSION ANALYSIS AND SYSTEMS ACQUISITION DIVISION

BEFORE THE

SUBCOMMITTEE ON TACTICAL WARFARE

OF THE SENATE COMMITTEE ON ARMED SERVICES

ON

MATTERS RELATING TO THE M1 TANK

Mr. Chairman and Members of the Subcommittee:

We are pleased to appear here this morning to present our views on the Army's M1 tank program, the Abrams tank.

We have followed the M1's progress through its development and into production and have issued several reports on the tank dating back to 1976. Over this period we focused attention on a number of wide-ranging issues.

Our reviews in the last three years have concentrated on three specific areas:

--operational and development testing, particularly, the M1's showing in the areas of reliability, maintainability, and logistic supportability;

--the Army's efforts to improve the M1 power train's durability, the most critical area in which the tank has not met the Army's requirements; and,

--the possible consequences of large-scale M1 production before its durability problems are resolved.

We believe testing has demonstrated the tank's excellent potential in most of its critical performance areas, including firepower, armor protection, speed and agility. However, some of this capability could be lost due to problems with the power train. Basically, our position has been that the M1 should be produced in limited quantities until the power train could be improved to where tests show it will meet the Army's requirement. Otherwise there remains some risk of building up an inventory of M1 tanks whose power train components may need frequent maintenance or replacement.

The Army disagrees. It would accept the tank with its current capability while embarking on an improvement program. Further, the Congress has indicated its approval of putting the tank into full production by providing funds in the fiscal year 1982 Defense Appropriation Act for a buy of 665 tanks, the number requested by the Department of Defense. We understand how the urgency of fielding the new tank, to help redress some of the Warsaw Pact's advantage in conventional forces, could become an overriding consideration in the decision to go to full production. Consequently, we would like to limit our comments today to matters we believe have some relevance to the M1's future.

One is the continuing effort to improve the power train's durability. If this is not successful it could presage an expensive maintenance program for the tank. The Army's decision to press for full production was largely influenced by the report of a Blue Ribbon Panel, drawn from industry and Government, which was convened again last summer to assess the power train. The panel believed the power train would eventually not only meet, but even exceed by a considerable margin, the Army's durability requirement. This requirement is expressed as a 50 percent probability of negotiating 4,000 miles without a durability failure. The Army reported that in operational and development tests last year the M1 achieved a probability of 37 percent.

The Blue Ribbon Panel's projections of success for the power train were based on assumptions that several significant

modifications it suggested would be made successfully. Most of these concerned the power train's turbine engine. The Army has informed us that it has started actions on all of the panel's recommendations. However, Army testing of the M1 with these modifications is not scheduled until later this year and we understand, from discussions with Army officials, that some of the problems cited by the panel have not been completely resolved.

In this connection the Army is planning to test M1 tanks outfitted with a 1500 horsepower diesel engine. In addition, the Army will run tests this year with tanks containing the turbine engine. The Army has a contract with Teledyne Corporation for the development of a diesel engine. If the test results show the turbine engine still to be a problem, and if the diesel shows good potential, we suggest a comparison of the two engines from the standpoint of cost and performance might be in order in considering which engine to select for the balance of the production run.

The Army is not inclined to do this. Army officials say it would take another four years to complete development and to operationally test the diesel engine, and that the cost to do this, in addition to the cost to modify the tank to accommodate a different engine, would be substantial. The Army estimates that over 3,000 M1 tanks will have been produced before a diesel engine could meet Army acceptance tests.

In prior discussions the diesel engine contractor said it could complete development in about two years. In any case, we

agree with the Army that the diesel engine should be put through operational testing if it is to be considered for production.

A second issue that still concerns us is the ultimate cost to operate, support and maintain the tank. As with some other weapon systems, particularly those whose development is accelerated to meet urgent requirements, the M1's supportability considerations were subordinated to the objective of maintaining a schedule so that deployment of the M1 would begin by 1982. Consequently, data available, when we were reviewing the M1 during its operational testing in 1981, was too limited to fully evaluate the tank's supportability in terms of logistics requirements and life cycle costs. The reliability of test equipment, the adequacy and completeness of training manuals, the tank's high fuel consumption, and the maintenance burden were some of the supportability areas that obviously needed improvement.

The Army has informed us that progress has been good in some of these areas. For example, the reliability of the test sets is said to have been considerably improved. The Army reports it has been running a successful training program with the first tank units delivered to Europe for training purposes. However, we have not made an assessment of this program or any of the Army's other actions relative to the tank in recent months.

In summary, there are some important M1 deficiencies that the Army has been addressing and for which improvements are under way. Testing later this year should furnish some answers as to how far the Army has progressed in solving these problems.