REPORT BY THE COMPTROLLER GENERAL OF THE UNITED STATES

SOME LAND ATTACK CRUISE MISSILE ACQUISITION PROGRAMS NEED TO BE SLOWED DOWN

D I G E S T

Cruise missiles are subsonic, jet-powered airframes that are being acquired to deliver nuclear or conventional warheads against a variety of targets. During the last 8 years or so, development efforts have been focused on versions that are about 20 feet in length which can be built by exploiting advances in propulsion and guidance technology. This report discusses major areas of concern with regard to matters which affect the acquisition and deployment of these missiles.

The Department of Defense (DOD) is pursuing four major land attack cruise missile acquisition programs which, in the aggregate, can represent an investment cost in excess of $10 billion: (See app. I.)

Program	Quantity	Status	Application
Air-Launched Cruise Missile	3,418	Production	Strategic/ nuclear
Sea-Launched Cruise Missile (Tomahawk)	To be determined	Limited production	Tactical/ nuclear and nonnuclear
Ground-Launched Cruise Missile	560	Full-scale development	Tactical/ nuclear
Medium Range Air-to-Surface Missile	a/3,500	Full-scale development	Tactical/ nonnuclear

a/As this report was being prepared for publication, the Navy announced that it was withdrawing from the Medium Range Air-to-Surface Missile Program. As a result this number will decrease.

If these new cruise missiles can adequately survive enemy defenses and deliver their warheads with projected accuracy, military analysts

believe they can be more cost effective than manned aircraft in attacking some heavily defended strategic and tactical targets.

STRATEGIC APPLICATIONS--AIR-LAUNCHED CRUISE MISSILE

The Office of the Secretary of Defense has placed the highest national priority on deployment of the Air-Launched Cruise Missile system in order to preclude shortfalls in strategic weapons in the 1980s. Accordingly, a rigorous, success-oriented, highly concurrent schedule was established. Production of the missile was authorized in April 1980, even though a number of critical problems remained to be resolved. Specifically:

--Operational testing completed before the production decision revealed that mission reliability of the system was deficient and failed to demonstrate important missile performance features, such as accuracy and terrain-following capability. (See p. 7.)

--The testing that had been done was not operationally realistic. (See p. 8.)

--Engine reliability was still a matter of serious concern. (See p. 8.)

--Certain components which were essential to the system's performance have not been available for operational testing. (See p. 9.)

--A critical measurement program was about a year behind schedule. (See p. 10.)

--Errors in the terrain elevation data base may be a problem. (See p. 10.)

The Air Force has initiated a follow-on phase of operational testing, and other measures that address these problems are underway. For the most part, however, these efforts will not be concluded by September 1981 when the first carrier aircraft is scheduled to achieve alert status with 12 missiles.

In striving to meet the highest national defense priority for early deployment of the Air-Launched Cruise Missile/B-52 weapon system, DOD established a highly concurrent program. Despite the problems discussed above, DOD approved the missile for production to maintain prospects for early deployment. This decision may have been prudent and expedient, but if the problems are not resolved quickly, the system may be deployed with severe operational limitations and little may be gained. (See p. 11.)

TACTICAL APPLICATIONS

The Navy plans to request authority to begin full-scale production of the first tactical land attack cruise missile system in December 1981. Major problems that should, but probably cannot, be satisfactorily resolved before that time are as follows:

--Cruise missiles, as presently designed, probably will not be sufficiently accurate to deliver conventional warheads effectively against some targets, and scheduled testing will probably not resolve the matter. (See p. 13.)

--Because of exposure to enemy defensive systems, under some circumstances, there is considerable doubt about how survivable these missiles will be when delivering certain nonnuclear warheads. (See p. 18.)

--No statement of mission need has been prepared to support acquisition of the Tomahawk or Medium Range Air-to-Surface Missiles. In addition, establishing realistic inventory objectives will be complicated by uncertainties about duplication of capability, accuracy, and survivability. (See p. 19.)

In the past, maintaining the Tomahawk airframe contractor's continued commitment has been a matter of considerable concern in DOD. However, it should be possible to maintain that commitment at an appropriate level without initiating full-scale production in December 1981. (See p. 22.)

The present considerable uncertainty about accuracy and survivability of conventional land attack cruise missiles is not likely to be resolved by December 1981. Because of this, GAO believes that DOD should immediately begin to define an alternative to full-scale production of the conventional Tomahawk missile which allows time for the additional test and development efforts that may be required to convincingly demonstrate cruise missiles can deliver conventional warheads with effective accuracy and without being unreasonably vulnerable to enemy defensive systems. (See p. 23.)

No definitive mission need supports the acquisition of land attack Tomahawk or Medium Range Air-to-Surface Missiles, and because the missiles' accuracy and survivability has not been established, there may be better alternatives to using cruise missiles to attack land targets with conventional warheads. (See p. 23.)

RECOMMENDATIONS

With regard to assuring that the Air-Launched Cruise Missile and tactical land attack cruise missiles with conventional warheads will be operationally effective, GAO recommends that the Secretary of Defense

--closely monitor the Air-Launched Cruise Missile program to ensure the resolution of operational testing issues, engine reliability problems, uncertainty about terrain roughness thresholds, and deficiencies in the terrain elevation data base prior to deployment and

--withhold authorization to proceed with full-scale production of any land attack missile with a conventional warhead until the accuracy and survivability of such a system is convincingly demonstrated in realistic operational testing.

Because a definitive statement of mission needs is required, GAO recommends that the Congress not appropriate additional funds for

procurement of either land attack Tomahawk or the Medium Range Air-to-Surface Missiles until the Secretary of Defense comprehensively defines and reconciles overall DOD requirements to attack land targets from standoff ranges characteristic of tactical cruise missiles. (See p. 24.)

AGENCY COMMENTS

GAO did not request official comments on this report because of the tight reporting deadline. Instead, a draft of this report was discussed with high level officials associated with management of the program to assure that the report is accurate and complete. Their points of view are included where they differ with GAO's.