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COMPROLLER GENERAL'S  
REPORT TO THE CONGRESS

*Title*  
INDECISION AND UNCERTAINTY  
EXIST IN THE DEVELOPMENT OF AN  
ADVANCED ICBM WEAPON SYSTEM

D I G E S T

The Air Force is developing an advanced intercontinental ballistic missile system with improved survivability, better accuracy, and greater payload. This system involves the missile itself and its method of survivable basing.

According to the Air Force, a new missile system is needed because the Soviet Union is developing greater reliability, longer range, bigger payloads, and better accuracy for its intercontinental ballistic missile force. In addition, the Soviet Union is working to increase the survivability of its missile silos against nuclear attack. (See p. 2.)

A clearly defined national policy with respect to the role of the intercontinental ballistic missile force does not exist. In the absence of such a policy, the Air Force cannot be certain what specific capabilities are needed in the advanced system. Studies are being conducted that are intended to lead to a decision on the future role of the missile force. (See p. 8.)

Three different missile configurations considered during validation were:

- A new missile developed solely for land-based operations--called the MX missile.
- A modified Minuteman III missile developed solely for land-based operations.
- A new missile developed for both land-based and submarine-based operations--called the common missile. (See p. 9.)

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In view of range, throwweight, and cost considerations, the Air Force has concentrated its efforts during the validation phase toward developing and evaluating technologies as they apply to the MX missile. Although all validation work has not been completed, the MX missile is the Air Force's preferred configuration. (See p. 9.)

In order to improve the survivability of the U.S. missile force, the Air Force has studied the following basing concepts:

--Multiple protective structure (including deployment in buried trenches, horizontal shelters, and vertical shelters).

--Air mobile.

--Existing silo.

--Unprotected random movement. (See p. 11.)

The Air Force's preferred concept, based on studies and tests, is the multiple protective structure concept with deployment in vertical shelters. Although this is technically a feasible way of achieving survivability, the cost is high and a number of critical issues remain, some of which may require congressional action. (See p. 33.)

The Air Force's estimated cost for the vertical shelter-based MX program from fiscal years 1974 through 2000 is between \$25.3 to \$26.4 billion, depending on the missile selected, the date of initial deployment, and whether the missile is to be deployed initially in existing silos. (See p. 44.)

On December 5, 1978, the Defense System Acquisition Review Council met to consider whether the Secretary of Defense should approve the program for the full-scale engineering development phase. A number of missile configurations and survivable basing options were presented. (See pp. 3, 9, and 11.)

The Council members concluded that a survivable intercontinental ballistic missile system is urgently needed. Questions were raised, however, regarding arms control verification and compatibility with the Strategic Arms Limitation Treaty if a multiple aimpoint concept is adopted. (See p. 3.)

As a result, on December 13, 1978, the Air Force was directed to restudy the air mobile basing concept and to continue the efforts to define other basing options. In addition, the Air Force was told to continue development of the MX missile and to maintain the option for the common missile. The Council is scheduled to reconvene in March 1979 to assess whether a full-scale engineering development recommendation is to be made. (See p. 4.)

The MX program could conceivably become essentially a different program compared to the one pursued by the Air Force during the validation phase. For example, if the air mobile concept is adopted, the program could include the procurement of wide-bodied aircraft as compared to the construction of vertical shelters. According to Department of Defense officials, the air mobile concept would draw upon an already established base of technology. (See pp. 16 and 49.)

The December 1978 decision to postpone consideration for full-scale engineering development appears to be appropriate in view of the following:

- The future role and size of the missile force is uncertain. (See p. 16.)
- A clear understanding of the required missile performance does not exist. (See p. 25.)
- The cost and feasibility of some missile and basing related technologies have not been conclusively demonstrated. (See pp. 25 and 49.)
- An agreement as to the most acceptable and cost-effective basing mode for ensuring survivability has not been reached. (See p. 49.)

In view of these uncertainties and the significant amount of funds and other resources required for an advanced intercontinental ballistic missile force, GAO recommends that the Secretary of Defense provide the Congress with firm estimates of cost, schedule, and performance characteristics for the individual missile configurations and basing concepts considered before a decision is made whether to proceed into full-scale engineering development. In preparing this data, the Secretary should first:

- Determine the future role of this missile force in view of national policy and the Strategic Arms Limitations Treaty.
- Resolve the uncertainty that exists concerning the required performance and the number of missiles needed in view of the future role of this force.
- Conclusively demonstrate the technology required to meet these requirements.
- Thoroughly review the basing concepts and identify any congressional action required to deploy a survivable missile force.

This report was reviewed by agency officials associated with the management of the program. Their comments have been incorporated in the report as appropriate.