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REPORT BY THE  
COMPTROLLER GENERAL  
OF THE UNITED STATES

(U) INTEGRATED APPROACH TO U.S.  
AIR DEFENSE OF CENTRAL EUROPE  
SHOULD RESULT IN MORE EFFECTIVE  
MISSION ACCOMPLISHMENT

D I G E S T

(U) The U.S. Army and the Air Force air defense forces stationed in central Europe share a joint mission and a combined North Atlantic Treaty Organization (NATO) mission to defend NATO's central region airspace against an attack by the Warsaw Pact. Numerous studies have been done concerning the effectiveness of U.S./NATO forces in meeting the Warsaw Pact threat to central Europe. However, the services generally have conducted separate rather than joint studies, and many studies addressed only specific portions of the air defense mission rather than the entire mission. (See pp. 4 and 10 to 15.)

(U) In view of the congressional interest in this mission and the fact that virtually all Army and Air Force air defense weapons are being modified or replaced at an estimated total cost of about \$59 billion, GAO focused on critical issues needing the Department of Defense's (DOD's) attention to improve the effectiveness of joint mission capabilities.

(U) GAO's review identified several critical issues associated with the performance of this joint mission. GAO found



- (U) --limited coordination within DOD to ensure the best mix of ground and air weapons to meet joint mission needs,
- (U) --an inability to ensure that adequate resources are available to acquire and operate needed systems,
- (U) --problems in identifying aircraft in a NATO environment so that a distinction can be made between enemy forces and friendly forces,
- (U) --constraints on realism in air defense training and exercises in a NATO environment, and

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(U)--shortcomings associated with new or improved U.S. air defense systems.

(U)If there is to be an adequate air defense capability to meet the Warsaw Pact threat of the 1980s, it is essential that DOD fully address these issues. Since about \$34 billion remains to be spent on new or improved systems, it is also essential that an integrated long-range air defense modernization plan be developed to determine what economies and efficiencies are possible. (See pp. 25, 26, 36, and 37.)

### (U)COORDINATION

(U)As early as 1975, the Congress expressed concern over the Army and the Air Force spending billions of dollars for air defense while the justification for each individual system was not made in relation to the total air defense requirement. In 1978 the House Armed Services Committee requested the Army to prepare a long-term air defense modernization plan, which the Army provided the Congress in 1980. Prior GAO reports have also pointed out the need to define DOD-wide mission areas and to place more effort in preparing mission area analyses to determine needs, particularly regarding joint service missions. (See pp. 10, 12, 15, and 16.)

(U)No comprehensive net assessment has been made by DOD of the total Warsaw Pact air threat and the combined NATO capabilities available to meet the threat. Each service generally prepared its own studies and threat assessments and developed its own air defense force structure, modernization plans, and budgets without close coordination with the other service. (See pp. 10 to 15.)

(U)DOD's budget process hinders an integrated approach to air defense because weapons involved appear in the budget as individual systems whose relation to each other is not shown. (See p. 13.)

(U)While there have been attempts to coordinate air defense, they have usually been at lower command levels within the services. These attempts have had limited success because the services have not been able to agree on any overall

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(U)priority of needs or on past study results. Also, the services objected to using a single threat assessment and to recognizing the overall combined NATO capabilities in computing missile quantities. In June 1980, the Army and the Air Force began joint management of air defense studies at the Army staff/Air Force staff level; however, it is too early to assess their progress. (See pp. 11, 12, 14, and 15.)

### (U)AFFORDABILITY

(U)Affordability--the ability to provide adequate resources to acquire and operate a system--continues to be a major problem in the air defense mission. Recent fluctuations of budget priorities have caused instability in the Army's air defense modernization plan; for example, the near cancellation of ROLAND and the Division Air Defense gun in the fiscal year 1982 budget. Because future costs of acquiring new or improved systems will be about \$34 billion, it is important to determine what economies and efficiencies can be achieved through an integrated approach. DOD announced a series of changes in its acquisition process in April 1981; however, it is too early to assess the effect of these changes on air defense. (See pp. 16 to 20.)

### (U)AIRCRAFT IDENTIFICATION

(U)One of the most serious and longstanding operational problems in air defense involves aircraft identification so that a distinction can be made between enemy forces and friendly forces. (See p. 20.)

(U)Current aircraft identification equipment is "cooperative," requiring a response after initial interrogation. However, all NATO countries do not have secure interoperable equipment; therefore, all friendly aircraft cannot be interrogated. A high NATO priority is to introduce a new NATO-wide identification system. Nevertheless, current systems are expected to be the mainstay of a cooperative capability into the 1990s. Although efforts are underway by the United States and NATO to develop a new cooperative system, an agreement has not yet been reached on the type of equipment to be used. (See pp. 21 to 23.)

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(U) In April 1980, a NATO central region Airspace Control Plan was implemented as an aid to aircraft identification. However, U.S. forces in Europe objected to the plan because it denies the effective use of ground and air weapons. Although efforts are underway in NATO to modify the plan, revisions had not been approved as of June 1981. (See pp. 22 and 23.)

(U) For fiscal year 1981, only about \$13 million of the \$45 million DOD requested for identification programs was budgeted because no consolidated approved management plan for the NATO identification system exists. In attempting to get the funds reinstated, the Office of the Secretary of Defense stated there would be little point to pursuing improvements to beyond visual range missiles unless an effective identification system is available. (See p. 23.)

### (U) OPERATIONAL TRAINING AND EXERCISES

(U) Training and exercises in Europe for joint air defense operations have lacked sufficient realism due to such factors as (1) limitations on low-altitude and supersonic flights, (2) restrictions on practicing NATO airspace control and aircraft identification procedures, and (3) an absence of electronic countermeasures. These restrictions have been imposed by host nations and NATO. While restrictions also exist at many training facilities in the United States, greater opportunities for more realistic training exist in the United States. (See pp. 24 and 25.)

### (U) AIR DEFENSE WEAPON SYSTEM ISSUES

(U) Many of the currently fielded U.S. air defense weapon systems are becoming obsolete and generally cannot meet the future Warsaw Pact air threat. Lack of firepower capability of medium- to long-range ground and air systems is a critical limitation. (See pp. 28 to 33.)

(U) Improvement efforts are underway and virtually all the Army and the Air Force air defense systems will be modified or replaced. However, there are some shortcomings associated with these new or improved air defense systems, which are likely to remain through the 1980s, and other improvements may be needed to improve near-term capabilities. (See pp. 34 to 36 and 52 to 58.)

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(U) Army tests of PATRIOT and ROLAND systems have identified performance limitations that have caused full-rate production and deployment delays. (See p. 35.)

(U) The F-16 aircraft is replacing the F-4 in ground attack and air defense units. However, the F-16 air-to-air capability will lack all weather radar missile capability until the mid-to-late 1980s. (See p. 35.)

(U) Neither the F-15 nor the F-16 aircraft will have the capability for medium-range multiple target attack until the Advanced Medium Range Air-to-Air Missile is available in the mid-to-late 1980s. (See pp. 56 to 58.)

(U) Considering the question of affordability, it is important to fully evaluate and establish priorities for the various joint service options. (See p. 35.)

(U) RECOMMENDATIONS TO THE SECRETARY OF DEFENSE

(U) GAO recommends that the Secretary of Defense take the necessary steps to establish air defense as a single DOD mission category and ensure sufficient funding priority to meet both near-term and long-term mission needs. To accomplish this, the Secretary of Defense should:

(U) -- Establish a workable coordination process under the control and direction of the Office of the Secretary of Defense to formulate the most appropriate air defense weapon system mixes needed to attain specified force levels for central Europe. This process should require preparation of a joint service/Office of the Secretary of Defense long-range air defense modernization plan. (See pp. 26 and 27.)

(U) -- Require preparation of an assessment of the Warsaw Pact threat to NATO's central European air defenses--aircraft, electronic countermeasures, chemical-biological, and tactical ballistic missile threats--together with the current and future combined air defense capabilities available to meet the threat. This assessment should be the common basis for all U.S. air defense studies and analyses. (See p. 27.)

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(U)--Provide, on a continuing basis, more realistic air defense training and exercises with emphasis on representative combined forces and equipment, aircraft identification procedures, command and control, and electronic warfare and counter-measures. (See p. 27.)

(U)In working with European allies, the Secretary of Defense should:

(U)--Work toward revisions to the NATO central region Airspace Control Plan that will not restrict the use of air defense weapons and actively pursue needed revisions with our NATO allies, if appropriate. (See p. 27 .)

(U)--Closely monitor the U.S. participation in NATO efforts to develop and field new cooperative aircraft identification equipment to ensure that NATO-wide introduction of interoperable equipment will be expedited. (See p. 27.)

(U)To provide the basis for a joint service/Office of the Secretary of Defense long-range air defense modernization plan, the Secretary of Defense should:

(U)--Evaluate the full range of joint Army and Air Force weapon system options for the entire air defense mission, relating the cost and effectiveness of each major improvement in order of priority to specific near-term and long-term limitations/shortcomings within the joint mission area. (See p. 37.)

(U)--Ensure that an immediate evaluation is made of alternatives for increasing near-term airborne firepower capability, such as (1) maintaining F-4 aircraft in Europe because of their medium-range missile capability, (2) increasing operational unit flying hours for air defense training of F-4 and F-16 ground attack units, and (3) accelerating deployment of F-15 or F-16 aircraft to Europe. (See p. 37.)

(U)AGENCY COMMENTS

(U)GAO requested comments from DOD on a draft of this report and was provided official oral comments from DOD air defense personnel associated with management of this joint mission area.

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(U)Overall, DOD officials agreed with the general thrust and content of the report. They made suggestions of a technical nature to clarify or update information. Changes were made to incorporate their suggestions. (See p. 8.)