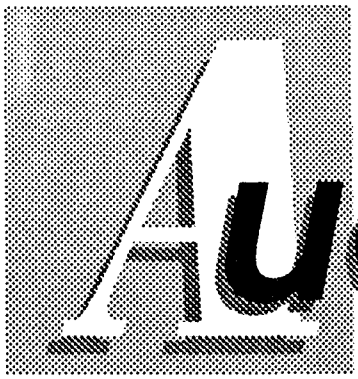

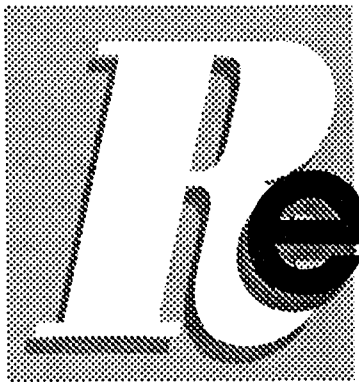

OFFICE OF THE INSPECTOR GENERAL

PACIFIC THEATER AIR DEFENSE ACTIVITIES(U)

Report Number 92-014

November 19, 1991

SANITIZED COPY

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Department of Defense

The following acronyms are used in this report.

ACC.....Republic of Korea/U.S. Air Component Command
ASD(C^3I).....Assistant Secretary of Defense (Command, Control,
.....Communications, and Intelligence)
AFB.....Air Force Base
ATACC.....Alternate Tactical Air Control Center
C^3.....Command, Control, and Communications
CDIP.....Combined Defense Improvements Project
CINCPACAF.....Commander in Chief, Pacific Air Forces
FAADC^{2}I.....Forward Area Air Defense Command, Control,
.....and Intelligence System
FAAR.....Forward Area Alerting Radar
FORSCOM.....U.S. Army Forces Command
HTACC.....Hardened Tactical Air Control Center
IFF.....Identification, Friend or Foe
JCS.....Joint Chiefs of Staff
JTIDS.....Joint Tactical Information Distribution System
LAAM.....Light Antiaircraft Missile
MROC.....Multiple Required Operational Capability
MTOE.....Modified Table of Organization and Equipment
NATO.....North Atlantic Treaty Organization
OPLAN.....Operational Plan
PLRS.....Position, Location, and Reporting System
ROTH-R.....Relocatable Over-the Horizon Radar
SORTS.....Status of Resources and Training System
TACC.....Tactical Air Control Center
TADIL.....Tactical Digital Information Link
TPFDD.....Time-Phased Force and Deployment Data
USCINCPAC.....Commander in Chief, U.S. Pacific Command
VFA.....Strike Fighter Aircraft (Navy)
VMFA.....Fighter Attack Aircraft (Marine Corps)

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
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MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE)
COMMANDER IN CHIEF, U.S. PACIFIC COMMAND
COMMANDER, U.S. FORCES KOREA
ASSISTANT SECRETARY OF THE AIR FORCE (FINANCIAL MANAGEMENT AND COMPTROLLER)
COMMANDER, REPUBLIC OF KOREA/U.S. AIR COMPONENT COMMAND
CHIEF, NATIONAL GUARD BUREAU

SUBJECT: Audit Report on Pacific Theater Air Defense Activities (Report No. 92-014) (U)

(U) This is our final report on Pacific Theater Air Defense activities. It addresses matters concerning interoperability, mission performance of reinforcement units and the Air Component Command in Korea, and early warning capabilities. Comments on the draft of this report were considered in preparing the final report.

(U) DoD Directive 7650.3 requires that all audit recommendations be resolved promptly. Therefore, all addressees must provide final comments on the unresolved recommendations within 60 days of the date of this report. See the status of recommendations chart in Appendix G for the recommendations you must comment on and the specific requirements for your comments.

(U) As required by DoD Directive 7650.3, the comments must indicate concurrence or nonconcurrence in each recommendation addressed to you. If you concur, describe the corrective actions taken or planned, the completion dates for actions already taken, and the estimated dates for completion of planned actions. If you nonconcur, you must state your specifc reasons for each nonconcurrence. If appropriate, you may propose alternative methods for accomplishing desired improvements.

(U) The courtesies extended to the audit staff are appreciated. If you have any questions on this audit, please

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contact Mr. Michael Joseph at (703) 693-0138 (DSN 223-0138) or Ms. Evelyn Klemstine at (703) 693-0171 (DSN 223-0171). The distribution of this report is listed in Appendix J.

E. R. Jones

Edward R. Jones
Deputy Assistant Inspector General
for Auditing

cc:
Secretary of the Army
Secretary of the Navy
Secretary of the Air Force
Director, Joint Staff

Office of the Inspector General, DoD

AUDIT REPORT NO. 92-014 (PROJECT NO. 0RA-0064)

November 19, 1991

PACIFIC THEATER AIR DEFENSE ACTIVITIES (U)

EXECUTIVE SUMMARY

(U) **Introduction.** Protection of friendly forces and territories from air attack by hostile aircraft is the primary mission of U.S. air defense forces. Interoperability among the Military Departments is needed in an air defense scenario to eliminate fratricide and to provide for effective use of equipment. Reinforcement units are those forces designated to be transferred to the supported commander during the execution of an operation. The Republic of Korea/U.S. Air Component Command (ACC) is responsible for air defense on the Korean peninsula. The 2d Infantry Division, 8th United States Army, Korea, used the Forward Area Alerting Radar (FAAR) in Korea as an integral (organic) early warning radar. The Division was required to retire its radar system by the end of fiscal year 1990 as part of a Defense Management Report Decision.

(U) **Objectives.** The audit assessed the effects of interoperability issues on air defense capabilities in the Pacific theater. In addition, we assessed the ability of reinforcement units in the Pacific and the ability of the ACC in Korea to perform their missions. We reviewed documentation concerning the removal of the FAAR from the 2d Infantry Division, 8th United States Army, Korea.

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• (U) Without JTIDS capability, F-15 pilots will lack a high-capacity information distribution system that would increase joint and combined force effectiveness and would provide pilots with improved situational awareness and targeting capabilities. These capabilities are necessary for joint and combined air defense command, control, and communications to effectively interoperate in accordance with prescribed air defense mission responsibilities (Finding A).

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(U) **Internal Controls.** Internal controls were not reviewed since the primary focus of the audit was on military forces and decisions.

(U) **Potential Benefits of Audit.** Implementation of our recommendations will improve interoperability among the Military Departments, provide contingency plans for command and control operations in Korea during a conflict, and increase readiness posture. Appendix H contains the specific benefits resulting from the audit.

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(U) **Audit response.** We requested the Assistant Secretary of Defense (Command, Control, Communications and Intelligence) and the Air Force to reconsider their nonconcurrences. Based on the Assistant Secretary's comments, we revised Recommendation A.1.a. on policy development for transition to Tactical Data Information Link-J. We asked the Army to clarify its response to Recommendations C.2.a., C.2.b., and C.2.c. We also requested estimated completion dates from all addressees. Details on management comments and audit responses are in Part II of the report. The full texts of managements' comments are in Part IV, and Appendix G provides specific requirements for final comments. All addressees are requested to provide final comments within 60 days of the date of this report.

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This report was prepared by the Readiness and Operational Support Directorate, Office of the Assistant Inspector General for Auditing, DoD. Copies of the report can be obtained from Mr. Michael A. Joseph (703) 693-0138 (DSN 223-0138) or Ms. Evelyn Klemstine (703) 693-0171 (DSN 223-0171).

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PART 1 - INTRODUCTION (U)

Background (U)

(U) **Air defense doctrine.** The Joint Chiefs of Staff (JCS) Publication 3-01.3, "Doctrine for Air Defense From Overseas Land Areas," defines air defense as all measures designed to nullify or reduce the effectiveness of an attack by hostile aircraft or guided missiles after they are airborne. Protection of friendly forces and territories from air attack is the primary mission of air defense forces. The readiness of an air defense unit is contingent on its ability to detect and to react effectively to a wide range of threat and attack situations, despite enemy efforts to achieve surprise.

(U) **Pacific theater air defense mission.** The air defense mission of the U.S. military forces in the Pacific theater is to protect the United States, its possessions and territories, U.S. forces, U.S. installations in foreign territories, and lines of communications from airborne attack. The Commander in Chief, U. S. Pacific Command (USCINCPAC), maintains combatant command authority of U.S. Pacific Command air defense forces. The Commander in Chief, Pacific Air Forces (CINCPACAF), is the U.S. Pacific Command coordinating authority for establishing and implementing plans for air defense within the U.S. Pacific Command and between the U.S. Pacific Command and other commands, or host nations. To implement the air defense mission, the USCINCPAC has developed a strategy of balancing U.S. alliances, forward defense, and augmenting forces to meet the threats of the Pacific theater.

(U) **Alliances.** Beginning in the 1950's, the United States negotiated a series of bilateral treaties with many of the major nations in the Pacific region: Japan, South Korea, the Philippines, Thailand, Australia, Taiwan, and New Zealand. Unlike the North Atlantic Treaty Organization (NATO), the Pacific treaties are separate defense agreements between various signatory nations and the United States.

(U) **Forward defense.** The United States maintains forces and facilities throughout the Pacific region. These range from tactical fighter bases in Korea, Japan, the Philippines, and Hawaii to bases for long-range reconnaissance aircraft in Japan and Korea. Major naval facilities are located in Hawaii, the Philippines, and Guam. Army and Marine Corps units are based in Hawaii, Japan, and Korea. Additional Marine Corps forces are with the Seventh Fleet. In addition, numerous command and control facilities, communication centers, and intelligence collection centers are spread throughout the Pacific region.

(U) **Augmenting forces.** Augmentation forces are those forces designated to be transferred to support an operational command during the execution of an operation. They are designated in a Time-Phased Force and Deployment List (Deployment List) of an Operational Plan (OPLAN). An OPLAN is the complete plan for the conduct of joint military operations in a hostile environment. The OPLAN is prepared by the commander of a Unified or Specified command in response to a requirement established by JCS. OPLANs include deployment and employment phases as appropriate. The Deployment List identifies the types and designations of units required to support the OPLAN and indicates the origin and ports of debarkation or ocean location.

(U) **Interoperability.** JCS Joint Publication 1-02, "Department of Defense Dictionary of Military and Associated Terms," defines interoperability as the ability of systems or forces to provide services to and accept services from other systems, units, or forces and to use the services to enable them to operate effectively. Interoperability is achieved among communications-electronics systems or items of communications-electronics equipment when information or services can be exchanged directly and satisfactorily between them or their users.

(U) **Air Component Command.** The Republic of Korea/U.S. Air Component Command (ACC) is responsible for air defense on the Korean peninsula. Ninety-five percent of the mission is performed by the South Korean Air Force; the remainder, by the U.S. Air Force. U.S. forward deployed and augmenting aircraft in the Pacific theater are primarily assigned offensive air operations in the Korean theater Air Tasking Order.

(U) **Forward Area Alerting Radar.** The 2d Infantry Division, 8th United States Army, Korea (the Division), used the Forward Area Alerting Radar (FAAR) as an integral (organic) early warning radar. The Division was required to retire the FAAR by the end of FY 1990 as part of a Defense Management Report Decision. Because of the Army-wide retirement, the Division does not possess an organic, low-altitude, early warning radar capability.

Objectives (U)

(U) The objectives of the audit were to assess the effects of interoperability issues on air defense capabilities in the Pacific theater. In addition, we assessed the ability of U.S. air defense reinforcement units deploying to the Pacific theater and the ACC in Korea to perform their missions. Finally, we reviewed documentation concerning the removal of the FAAR from the Division.

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Scope (U)

(U) We reviewed international agreements, OPLAN data, Standing Operating Procedures, DoD and Military Department regulations, Status of Resources and Training System (SORTS) data, the Air Tasking Order, and other air defense related documents. The documents reviewed were dated from May 1981 through February 1991.

(U) **Interoperability.** We assessed the effects of selected interoperability issues on air defense capabilities in the Pacific theater. Specifically, we reviewed the Air Force's decision not to install the Joint Tactical Information Distribution System (JTIDS) on fighter aircraft. This decision was brought to our attention during the survey phase of the audit by personnel of the USCINCPAC Command, Control and Communications Directorate. Our focus on this issue extended beyond the Pacific theater due to the worldwide applicability of the decision. We reviewed the extent of interoperability required between the Air Force's Over-the-Horizon Backscatter Radar and the Navy's Relocatable Over-the-Horizon Radar (ROTH-R).

(U) The Joint Staff initiated the validation of a requirement for the two radars, the Air Force Over-the Horizon Backscatter Radar and the Navy's ROTH-R, to be interoperable under a document on Multicommand Required Operational Capability in August 1990. The Air Force decided to discontinue funding of its radar system in fiscal year 1992 and to store in-place radars. Due to the Air Force's decision, the requirement for interoperability of the radar systems was administratively terminated prior to validation and will not be addressed in this report. A CINCPACAF initiative to provide interoperability between the ROTH-R and the Hawaii command and control center is addressed under "Other Matters of Interest" in Part I of this report.

(U) **Reinforcements.** The Joint Staff provided us a Deployment List extract from which we selected Pacific theater reinforcement units to sample. We visited those units and reviewed their most current SORTS data. We determined whether the units possessed the resources (equipment and personnel) and completed the training necessary to perform their missions. Of the 19 units we selected to sample, 3 units are discussed in "Other Matters of Interest" in Part I of this report, and 1 unit is addressed in Finding C. For the purposes of this audit, the term "reinforcements" is synonymous with "augmentation forces."

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(U) We could not statistically project the results of our sample, because our sample selection process was overtaken by the events of Operation Desert Shield. Many reinforcement units selected for audit either were deployed or were deploying to Saudi Arabia. Although we reselected sample units accordingly, a large number of units were unavailable for sampling. Because units reporting the highest state of readiness were deployed first, we believe that the remaining units from which we reselected a judgmental sample may not represent fairly the total universe of reinforcement units. Accordingly, we are not projecting the sample results. Reinforcement units reviewed are listed in Appendix A.

(U) **ACC**. We reviewed the allocation of U.S. and Korean aircraft for the ACC's air defense mission; command and control operations and contingencies, vulnerabilities of the message processing center; the effects of Desert Shield operations; and SORTS documentation for the 36th Tactical Fighter Squadron, 51st Tactical Fighter Wing, since it was the only forward deployed unit with an air defense mission.

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(U) **FAAR**. We reviewed the request from the 2d Infantry Division, 8th United States Army, Korea, for a waiver to retain its FAARs until a substitute system is fielded, and the ability of the Department of the Army to correct this deficiency in the air defense units as quickly as possible. This issue is addressed in "Other Matters of Interest" in Part I of this report.

(U) The audit was made in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD. This economy and efficiency audit was conducted from April 3, 1990, through February 14, 1991. See Appendix I for the list of activities visited.

Internal Controls

(U) Internal controls were not reviewed since the primary focus of the audit was on military forces and decisions.

Prior Audits and Other Reviews

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(U) "Interoperability, DoD's Efforts to Achieve Interoperability Among C3 Systems," April 1987. In Report No. 87-124 (OSD Case No. 291), the General Accounting Office concluded that DoD efforts to achieve interoperability among command, control, and communications systems were hindered by bureaucratic disagreements and have generally accomplished less than originally planned. A lack of joint user requirements allows the Military Departments to determine their own requirements, resulting in systems that are not interoperable. The report recommended that the Secretary of Defense require that the Secretaries of the Military Departments certify that the

equipment being developed and procured will provide the needed degree of interoperability with other command, control, and communications equipment on order to satisfy operational plans. The report also recommended that the Secretary of Defense allow the Military Departments to seek congressional funding only for items that will provide the needed degree of interoperability or for which a waiver has been approved. In response to the report, Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) stated that corrective actions had already begun to address many of the reported deficiencies.

(U) **"Follow-up Mobilization Inspection Report," February 1990.** The Inspector General, Department of the Army, stated that unit movement officers were not developing movement plans or modifying deployment plans to supplement deployment movement planning from mobilization stations to ports of embarkation as required by U.S. Army Forces Command (FORSCOM) Regulation 55-1. The report noted that Regulation 55-1, "Transportation and Travel, Unit Movement Planning," March 31, 1989, did not provide clear guidance regarding deployment movement planning. The report recommended that the Commander, FORSCOM, clarify deployment planning requirements in Regulation 55-1. The report also recommended that the Commander establish clear training criteria for unit movement personnel and resource the training at all levels. During our current audit, we found that a National Guard unit did not properly implement the deployment movement guidance.

(U) **"Quick-Reaction Audit Report on the Procurement of the Army Light and Special Division Interim Sensor," May 1991.** The Office of the Inspector General, DoD, Audit Report No. 91-086 showed that although the Army emphasized the need for the Light and Special Division Interim Sensor to interface with the Forward Area Air Defense Command, Control, and Intelligence (FAAD C^2I), the Test and Evaluation Master Plan did not require testing the interface. In addition, the proposed contract included the FAAD C^2I interface as a desirable characteristic rather than a technical requirement. The Army concurred with the recommendations of the report.

Other Matters of Interest (U)

(U) **Regional Operations Command interface control unit.** CINCPACAF has budgeted $31.2 million, to integrate the Navy's ROTH-R data into the Hawaii command and control center. As of the time of the audit, $1.5 million had been spent, and $29.7 million remains budgeted for integration of additional ROTH-R systems programmed for the Pacific theater and for international flight plan information within the Guam ROTH-R coverage area. The Air Force terminated further funding for its Over-the-Horizon Backscatter Radar program in February 1991 and

plans to abandon existing systems. The Navy was undecided regarding the continuation of its ROTH-R program. Navy cost analyses indicate that it may be cheaper to permit the contractor to complete the three ROTH-R systems on contract than to terminate the contract. If those systems are completed, it must be determined whether the systems should be fielded or stored because of the relatively high operational costs to maintain the ROTH-R facilities. USCINCPAC comments on the draft of this report stated that CINCPACAF had terminated the ROTH-R connectivity program and the Navy is ceasing the ROTH-R program for the Aleutian Islands in FY 1992.

(U) **Korea FAAR waiver.** The request for a waiver by the 2d Infantry Division, 8th United States Army, Korea, to retain the FAAR in theater was denied by the Army's Deputy Chief of Staff for Operations and Plans to preserve the cost-cutting measures of Defense Management Report Decision No. 927. The FAAR replacement, the Light and Special Division Interim Sensor, will be fielded in Korea in fiscal year 1992. During the interim, forward defense observer teams equipped with radios and binoculars are providing the 2d Infantry Divisions with early warning capability.

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PART II - FINDINGS AND RECOMMENDATIONS (U)

A. JOINT AIR DEFENSE INTEROPERABILITY (U)

(U) Air Force F-15 air defense fighter aircraft will lack a high-capacity information distribution system that would increase overall force effectiveness and provide pilots with increased situational awareness and target allocation capabilities. The Air Force has decided not to procure and field the JTIDS for its fighter aircraft. In addition, DoD has not developed a long-range strategy plan for transitioning to the JTIDS message standard. As a result, joint and combined command, control, and communications interoperability will not be fully effective in the mid- to late 1990's as the other Military Departments and Allies move forward with their acquisition and fielding of JTIDS.

DISCUSSION OF DETAILS (U)

Background (U)

(U) **The joint requirement for JTIDS.** The joint DoD requirement for JTIDS was based on an analysis of Southeast Asia combat experiences. That analysis revealed that timely, secure, and jam-resistant information transfer; positive identification of friendly units; and highly accurate position identification would significantly enhance mission execution and would substantially reduce aircraft losses to hostilities. More recent U.S. military operations in Libya and Grenada have revalidated the requirement for enhanced interoperability in both joint and combined operations. The Joint Staff validated the JTIDS Multiple Required Operational Capability (MROC) document in August 1989. The MROC states that ". . . Joint Warfighting Doctrine requires automated command and control systems to utilize survivable digital data links to bind together naval, land, and air components into one fighting force." JTIDS was developed primarily to provide a high level of interoperability among the tactical forces.

(U) The operational tests and evaluations of the JTIDS terminals were completed on the F-15 in early 1987. These tests focused on how well fighter mission effectiveness would be enhanced with JTIDS and how combat survivability could be improved in unfavorable or severe electronic combat environments. The tests validated improved interoperability between Army and Air Force air defense forces.

(U) **Air Force requirements.** The Air Force has been and remains the lead Component for joint development of JTIDS. It has strongly supported JTIDS for command and control platforms and ground control station applications. JTIDS terminals are

deployed in all U.S. Air Force Airborne Warning and Control Systems and Combat Reporting Center ground sites and some Tactical Air Control Systems radar units. JTIDS terminals were originally planned for F-15 fighter aircraft.

(U) **Fielding of JTIDS on F-15's.** The JCS JTIDS Concept of Operations and JCS MROC documents identify a requirement for JTIDS on F-15 aircraft. The Air Force initially planned to install JTIDS in two fighter wings (144 aircraft). However, due to reliability test failures in the JTIDS initial terminals, Air Force funding for 38 terminals was terminated. In February 1990, a Program Management Directive was issued requiring installation of the JTIDS terminals in 20 F-15 aircraft. An additional 14 terminals were to be procured; 9 were to be used as trainers and 5 as spares. The 20 modified aircraft were to be used at Nellis Air Force Base to support testing for future production decisions and to develop Air Force doctrine and tactics for JTIDS-equipped aircraft.

The Decision on Procuring JTIDS (U)

(U) **F-15 JTIDS application.** In a May 1990 message from Headquarters, Tactical Air Command, the Air Force stated that it was no longer interested in the F-15 JTIDS application and wanted to terminate its efforts. The Air Force stated that ". . . affordability of JTIDS for fighter aircraft and the severely constrained budget environment only exacerbates our concern." The Air Force recommended that the 34 terminals under the low-rate-initial-production be redirected to the Joint Surveillance Target Attack Radar System, Airborne Battlefield Command and Control Center, and to ground command and control programs. As of the time of the audit, the Air Force had all but abandoned the deployment of JTIDS on F-15 fighters because of JTIDS initial reliability failures, unaffordability, and incompatibility with Air Force doctrine.

(U) **Reliability.** The JTIDS terminal had the reputation among Air Force personnel as being unreliable. Since the initial failure of the reliability tests, Phase 1 of the JTIDS reliability growth program has been successfully completed ahead of schedule. During reliability tests, 4,150 operating hours were accumulated on two (F-14/F-15) network JTIDS terminals, yielding a mean-time-between-failure rate of 402 hours, which exceeds the contract specification requirement of 400 hours. The rate indicates a significant achievement in the program given the earlier history of the terminal's reliability.

(U) **Affordability.** The Tactical Air Command stated that the Air Force supports interoperability in general; however, due to current DoD budget constraints, the cost of installing

JTIDS terminals in F-15 aircraft remains prohibitive. The Air Force has already spent approximately $130 million in software integration costs to integrate JTIDS terminals into F-15 aircraft. In addition, as part of the F-15 Multi-Stage Improvement Program (Improvement Program), the Air Force has paid approximately $6 million for 198 aircraft to be wired for JTIDS installation. Additional expenditures for wiring F-15's will be made as the aircraft are scheduled for the Improvement Program. Since software integration and JTIDS wiring has been or is being installed in F-15 fighters, the only additional cost would be the terminals, estimated to cost $650,000 per unit.

(U) **Doctrine.** The Air Force stated that installing JTIDS on F-15 fighters to assign targets would be incompatible with Air Force doctrine and would only compound problems of doctrine and procedures between aircraft from different Military Departments. The Air Force does not believe JTIDS will enhance the F-15 fighter effectiveness because of the method in which the Air Force employs its fighters. Air Force doctrine emphasizes fighter aircraft operations under decentralized control with the fighter aircraft leader responsible for mission execution.

(U) Tactical Air Command Regulation 55-79, "Aircrew/Weapons Controller Procedures for Air Operations," October 23, 1987, states that successful mission accomplishment demands effective coordination among all participants. The most effective method of employing fighter aircraft is to optimize the interfacing of command and control systems with airborne weapon systems. In addition, the Regulation requires the controllers and aircrews for the weapon systems to coordinate in order to prevent inadvertent multiple engagements of the same target during defensive counter-air operations. In our opinion, the Regulation supports equipping F-15's with JTIDS.

Operational Characteristics of JTIDS (U)

(U) **JTIDS network.** JTIDS equipped aircraft automatically feed status information into the JTIDS terminal and then to the JTIDS network. Appendix B illustrates the integrated JTIDS network. This information includes target data; aircraft position, altitude, ground speed, direction, fuel and weapons reserve, and radar signature returns. Using a cockpit JTIDS display unit, pilots can select information about their aircraft or other aircraft on the JTIDS network to provide a real-time situation display of the tactical environment. The display unit can include status information beyond the inherent range of aircraft radar. This real-time information provides fighter pilots with enhanced force effectiveness, situational awareness, and target allocation.

(U) **Force effectiveness.** JTIDS was designed to enhance the effectiveness of available command, control, and weapon systems in combat operations by providing electronic countermeasure resistant communications, the positioning of friendly and enemy air defenses, and the identification of aircraft. The unique feature of JTIDS is its "party-line" approach that simultaneously interconnects all participants. JTIDS also features a passive mode of operations, which permits the subscriber to maintain radio silence while still receiving updated mission and threat information. Today, mission information is usually transmitted from a command and control system to a fighter aircraft by voice communications. The use of voice communication requires mission planning in advance to coordinate key and frequency schemes. Tactical Air Command officials stated that the Air Force has consistently had problems with "radio discipline." Pilots can become saturated with constant radio sound and may ignore information broadcast over the radio. The pace of modern warfare may no longer permit the transmission of large volumes of tactical data by voice. Appendix C provides a more detailed discussion on the improved force effectiveness of JTIDS equipped aircraft.

(U) **Situational awareness.** JTIDS would give an F-15 pilot unprecedented situational awareness by providing a current assessment of the changing air defense picture based on all available information in the JTIDS network. Pilots currently do not have the capability on the F-15 aircraft to detect aircraft behind them. The F-15's radar antenna, located in the nose of the aircraft, can look above and below the aircraft at a maximum angle of 40 degrees from the nose. With JTIDS, the pilot can see 360 degrees around the aircraft. The automated position reporting of aircraft ensures that fratricide from other JTIDS served weapon systems, such as the Forward Area Air Defense Command, Control and Intelligence System ($FAADC^2I$), is minimized. Status and threat information from airborne and ground sources is shared by all JTIDS-equipped friendly forces, permitting effective battlefield visibility and coordination in a real-time environment.

(U) **Target allocation.** In a JTIDS-equipped aircraft, pilots can assign to themselves or be assigned a particular aircraft target. Pilots can determine if another friendly aircraft's fuel and weapon reserve, speed, and location could be used to support them on a particular mission. The assignments can be identified over the JTIDS network to other users so that a unified target assignment can be coordinated. JTIDS permits each friendly aircraft to track assigned and unassigned threats, which is especially important in a dense airborne threat environment and greatly reduces the chances of multiple engagements of the same threat.

(U) Long-range interoperability planning. DoD has not developed a long-range plan for transitioning from the various joint Military Departments' TADILs to TADIL-J, the JTIDS message standard. TADILs permit the flow of automatically processed data between command and control systems and weapon systems computers. The most common joint TADILs employed are TADIL-A and TADIL-B, used for surveillance and weapons employment; and TADIL-C, used for aircraft control. TADILs are described in greater detail in Appendix D. The three TADILs are vulnerable to exploitation and interception, support only a limited number of participants and information exchange, and are severely degraded in a jamming environment. TADIL-J provides a revolutionary and generational advance in data link development that would provide survivable, secure, high-capacity communications capabilities (see Appendix E).

(U) The Joint Staff's JTIDS Concept of Operations and the MROC are effective requirements documents. However, the documents do not represent a long-range strategy or master plan to effectively transition from existing TADILs to TADIL-J within DoD. A master plan should be established to allow for an orderly transition and to increase joint interoperability during the transition period. Transitions from fielded equipment to new equipment must be adequately planned to ensure there is no degradation in capabilities during the transition period. The TADIL-J message standard must be approved and implemented within DoD, otherwise interoperability cannot be assured.

(U) Effects of the Air Force decision. Air Force's decision not to support JTIDS in fighter aircraft may reduce the overall military effectiveness of the TADIL-J network. The planned improvement of survivability of weapon systems during combat engagements in a combined theater of operations may not result. Fratricide from other JTIDS-served weapon systems may not be minimized. Improved overall force effectiveness may not be realized. The Army, Navy, and NATO forces plan to optimize benefits of the JTIDS capability. JTIDS will be utilized by the Military Departments on systems listed in Appendix F.

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(U) **NATO plans.** JTIDS terminals operate with a number of NATO aircraft and ground-based systems. Eighteen NATO E-3 airborne warning and control system aircraft are equipped with JTIDS terminals. The British Panavia Tornado and Sea Harrier will be equipped with the functional equivalent of JTIDS terminals, the Multifunctional Information Distribution System. Germany, France, Spain, and Italy also have plans to equip their aircraft, command and control units, and helicopters with the functional equivalent. The NATO Air Defense Ground Environment, the air defense command and control network that produces the Recognized Air Picture for NATO, employs JTIDS terminals. Studies completed by the United States and NATO have shown an increase in combat effectiveness when using JTIDS-equipped aircraft.

(U) Summary. Interoperability requires joint planning and cooperation among the Military Departments and a willingness on the part of each Military Department to accept joint doctrine even if it may conflict with a traditional doctrine of a Military Department. We believe that the effectiveness of important joint weapons programs such as JTIDS should not be degraded by the unilateral decision of a single Military Department to withdraw its support. The value of JTIDS is enhanced by the number of players and degraded by the loss of any one of them. Effective communications among the Military Departments requires that joint requirements (i.e., stated and validated objectives) be clearly defined and accepted by all involved at the outset.

RECOMMENDATIONS, MANAGEMENT COMMENTS, AND AUDIT RESPONSES (U)

(U) 1. We recommend that Assistant Secretary of Defense (Command, Control, Communications and Intelligence):

(U) a. Establish guidance that requires each Military Department to submit a Tactical Data Information Link-J transition plan in a standardized format.

(U) b. Develop a DoD-wide Tactical Data Information Link-J transition plan.

(U) Management comments. The Director, Theater and Tactical Command, Control, and Communications, Office of the

Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) (ASD(C^3I)) nonconcurred with Recommendation A.1.a. and partially concurred with Recommendation A.1.b. A complete text of the comments is in Part IV. The response stated that implementation of the TADIL-J is based on approved military operational requirements and is not considered to be a policy issue. The requirement is documented in the Joint Staff JTIDS MROC and reiterated in the functional architectures approved by the Joint Staff and ASD(C^3I). The comments stated that all Military Departments have or are preparing their individual data link plans to include all data links (not just TADIL-J). A decision will then be made on whether to incorporate these individual plans in a DoD-wide plan.

(U) **Audit response.** Regarding Recommendation A.1.a; we agree that the requirement for implementation of JTIDS on command and control elements as well as F-15 fighters was documented and validated in the Joint Staff MROC, August 18, 1989. We accept that the Joint Staff MROC and the Joint Tactical C^3 Architecture for Air Defense and Airspace Control in a Combat Zone validates the joint requirement for JTIDS. The intent of the recommendation was for the ASD(C^3I) to require the Military Departments to submit consistent data link transition plans to ensure interoperability. However, we changed Recommendation A.1.a. to require the ASD(C^3I) to establish guidance that requires the Military Departments to submit standardized TADIL-J transition plans. We request that the ASD (C^3I) comment on the revised recommendation in response to the final report (see Appendix G).

(U) Regarding Recommendation A.1.b., the fact that the Military Departments are in the process of developing a transition plan that includes all data links is considered positive. However, we maintain the position that a DoD-wide transition plan be developed. This transition plan is necessary to ensure that a joint and combined, integrated, interoperable data link capability is maintained as the Military Departments and the Allies procure and field the JTIDS/TADIL-J requirement. Since radio systems for transmitting TADIL-A, -B, -C, and -J are different and operate at different information rates and in different frequency bands, systems must be comparably equipped to have an interoperable mode of data communications. Transitions from fielded equipment (TADIL -A, -B, and -C) must be adequately planned to ensure a minimal degradation in capabilities between the Military Departments during the transition period. In addition, such a plan will provide U.S. Allies a schedule of DoD's joint implementation of JTIDS/TADIL-J, allowing them to determine their

interoperability requirements. We request that management reconsider its position in responding to the final report (see Appendix G).

(U) **2. We recommend that the Secretary of the Air Force utilize the Joint Tactical Information Distribution System and Tactical Data Information Link-J for the F-15, as agreed to in the Concept of Operations and Multiple Required Operational Capability documents, to allow for operational deployment of a fighter-based Tactical Data Information Link-J network.**

(U) **3. We recommend that the Commander, Tactical Air Command develop Air Force doctrine and tactics for F-15 Joint Tactical Information Distribution System equipped aircraft.**

(U) **Management comments - Air Force.** The Department of the Air Force nonconcurred with Recommendations A.2. and A.3. A complete text of the comments is in Part IV. The Air Force stated that it does not have a requirement for Class 2 terminals (Class 2 is the product name for the implementation of the JTIDS/TADIL-J requirement) on F-15 aircraft. The Air Force stated that it has thoroughly tested the concept and cannot find sufficient operational utility to justify the effort or expense. In addition, the Air Force stated since there is no Air Force requirement for the Class 2 terminal on the F-15, Tactical Air Command cannot develop JTIDS doctrine.

(U) **Audit response.** Regarding Recommendation A.2., the Air Force response emphasizes the lack of a JTIDS Class 2 terminal requirement but does not address the requirement for JTIDS/TADIL-J capability. The report recommendation is to utilize the JTIDS/TADIL-J capability, as prescribed in the Joint Staff MROC to allow for operational deployment of a fighter-based TADIL-J network. The report makes no mention of establishing a Class 2 terminal requirement.

(U) The Air Force's response does not address the joint requirement for the program. DoD Directive 4630.5, "Compatibility and Interoperability of Tactical Command, Control, Communications, and Intelligence Systems," October 9, 1985, states that it is DoD policy to develop, acquire, and deploy tactical command, control and communications (C^3) systems and equipment that effectively meet the essential needs of U.S. tactical forces and are compatible and interoperable, when required, with other U.S. and Allied tactical C^3 systems and equipment. The need for effective command and control of diverse force elements

employing various weapons systems in air defense and airspace control operations requires achieving technical and operational interoperability.

(U) The Joint Tactical C^3 Architecture For Air Defense and Airspace Control in a Combat Zone states that the capability of the current C^3 system to support Commander in Chief joint air defense and airspace control operations is assessed as unsatisfactory. The Architecture further states that joint problems in airspace control are often related to a lack of automation and a reliance on voice communications for coordination. The use of voice communications has been acceptable in the past but no longer meets many of today's near real-time information exchange needs for air defense and airspace control. A data link capability in addition to voice communications is needed in fighters. This requirement was confirmed by Tactical Air Command Message R221243Z, August 1991, which states:

> TAC supports data links between command and control platforms and to shooters.
>
> . . . . . .
>
> Both voice and data links are important to provide situational awareness.
>
> . . . . . .
>
> TAC has not abandoned data links for our fighters. We have begun pursuing a lower cost, JTIDS compatible, data link.

(U) We request that the Air Force reconsider its position in response to the final report. Regarding Recommendation A.3., we maintain that the requirement for the Air Force to equip F-15 fighters with JTIDS/TADIL-J capability is still valid for reasons stated in the audit response to Recommendation A.2., and we request that management reconsider its position on Recommendation A.3. in response to the final report (see Appendix G).

(U) **Management comments - Joint Staff.** The Joint Staff nonconcurred with Finding A. A complete text of the comments is in Part IV of the report. The Joint Staff stated that the audit report exceeded its stated objectives, and that the use of a generic statement "not be fully effective" in findings concerning interoperability could be applied to any piece of equipment or weapon system procured. In addition, the Joint Staff disagreed with the logic behind justifying continuation of the program because the Air Force had already spent $130 million for integration and wiring costs. The Joint Staff recommended that Recommendation A.2. be changed to read that the Commander in Chiefs of the combatant commands determine their requirements for JTIDS in relation to the

F-15 and work with the providing Military Department to acquire the system. In addition, the Joint Staff also recommended that Recommendation A.3. be rewritten to state that joint doctrine should be developed for the employment of TADIL systems for air, sea, and ground systems to enhance C^3 capability.

(U) **Audit response.** The stated objectives of the audit included assessing the effects of interoperability issues on air defense capabilities in the Pacific theater. As stated in the "Scope" section of the report, the JTIDS/TADIL-J issue was extended beyond the Pacific theater due to worldwide applicability of the Air Force decision not to field JTIDS capability on F-15 fighters. The expansion in scope of the issue by the auditors does not make the issue any less valid. In 1993, the 7th Fleet in the Pacific theater is scheduled to be the first JTIDS/TADIL-J operational unit. Several Pacific theater allies, including Japan and Australia, have expressed interest in JTIDS/TADIL-J capability. Although only 4 of our 15 NATO allies are procuring JTIDS/TADIL-J capability, these 4 nations and the United States make up the predominate NATO air defense force.

(U) We agree that the logic behind continuing a program should not be based solely on sunk cost associated with the program. We discussed the $130 million spent for integration and wiring to inform the reader that those costs had already been incurred. A decision to equip F-15's with JTIDS/TADIL-J capability would require only the cost of the implementing terminals. This was only one of several factors affecting our conclusions.

(U) We agree with the Joint Staff that joint doctrine should be developed for the employment of tactical data information link systems. However, the Joint Staff has approved the JTIDS Concept of Operations, which provides an outline of operational employment concepts. We commend the Joint Staff initiative to develop joint doctrine for TADIL systems. However, we maintain our position that the Tactical Air Command must develop doctrine and tactics for data link employment on fighter aircraft.

(U) **Management comments - Army.** The Army concurred with Finding A and the related recommendations.

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B. COMMAND AND CONTROL (U)

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DISCUSSION OF DETAILS (U)

Background (U)

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HTACC Design (U)

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(U) U.S. Forces Korea command personnel stated that the approval document (DD Form 1391) for the CDIP project containing detailed cost estimates and normal construction procedures had not been prepared. Since a formal DD Form 1391 had not been prepared, we could not ascertain to what extent the proposed repair and construction would correct the chemical and biological deficiencies reported in the survivability study.

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RECOMMENDATIONS, MANAGEMENT COMMENTS, AND AUDIT RESPONSES (U)

(U) 1. We recommend that the Commander, United States Forces Korea:

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(U) b. Require key command personnel from the 602d Tactical Air Control Center to participate in joint United States and Korean exercises.

(U) 2. We recommend that the Commander, Republic of Korea/U.S. Air Component Command:

(U) a. Require Hardened Tactical Air Control Center personnel to wear chemical and biological gear during exercises pending full implementation of Recommendation 1.a.

(U) b. Restore the Alternate Tactical Air Control Center for continuity of operations as required by Air Component Command Standard Operating Procedures Part IV and Air Component Command Regulation 55-45, "Korean Tactical Air Control Operations."

(U) Audit response. Management's comments on Recommendations B.1.a. and B.2.a. are considered fully responsive, and no additional response is required. The study initiated to consider available options and feasibility of establishing an alternate TACC and need for the 602d TACC to participate in joint exercises is considered responsive to Recommendations B.1.b. and B.2.b. However, we request that management provide the results of the study and the implementation dates of corrective actions to the Office of the Assistant Inspector General for Analysis and Followup, DoD (see Appendix G).

(U) Management comments - Army. USCINCPAC concurred with Finding B and the related recommendations.

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C. 7TH BATTALION (HAWK), 200TH AIR DEFENSE ARTILLERY, NEW MEXICO ARMY NATIONAL GUARD (U)

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DISCUSSION OF DETAILS (U)

Background (U)

(U) The Battalion was organized on March 6, 1986. HAWK is a mobile surface-to-air missile system that provides all-weather air defense against aircraft operating at very low to medium (to about 40 kilometers) altitudes. Fielding of HAWK equipment to the unit was completed in April 1987.

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The Battalion's Theater of Operation (U)

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conditions and mountainous terrain. Key installations are relatively isolated, separated by vast distances and vulnerable to attack, either from the air or on the ground by special forces. Distance and lack of secure communications add to command and control problems. At that latitude, high frequency, long-haul communications cannot provide required connectivity due to extremely unreliable propagation (radio wave transmission) conditions. Moreover, the Adak Island group shields high-altitude radar coverage to the west of Shemya Island, the direction from which the threat is expected.

(U) Theater training. In the January 1991, "Annual Report to the President and the Congress," the Secretary of Defense emphasized the need for realistic and demanding training. He stated:

> Training exercises and programs must emphasize joint and combined operations, and test the interoperability of Active and Reserve forces. Training is the centerpiece of readiness, and readiness is essential to force effectiveness.

(U) Army Field Manual No. 25-100, "Training the Force," provides that training must include the techniques and procedures of integrated command and control, enable units to apply joint and combined doctrine and tactics, and exercise all support systems required to sustain combat operations. These functions have not been exercised in the Battalion's theater of operations. Although key Battalion personnel have conducted site surveys in the theater, a representative element of HAWK equipment and personnel have not deployed to train in the Aleutian Islands.

(U) U.S. Army Regulation 310-34, "Equipment Authorization and Usage Program," states that when considering adding equipment, commanders will select weapons and other systems compatible with the units' missions. The regulation further states that requests to increase or decrease MTOE allowances should be identified on

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Department of the Army Form 4610-R, "Equipment Changes in MTOE/Table of Distribution and Allowances." Requests are submitted to and approved by the Office of the Deputy Chief of Staff for Operations and Plans, Headquarters, Department of the Army. Prior to submitting the request, unit requirements must be validated by the gaining Commander in Chief. As of the time of our audit, the unit's mission-essential equipment requirements were not validated by the USCINCPAC.

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(U) **Army Doctrine.** U.S. Army Forces Command (FORSCOM) Regulation 55-1, "Transportation and Travel, Unit Movement Planning," requires Reserve Component units to develop unit deployment movement plans. The Regulation requires Reserve Component units either to develop deployment movement plans or to modify deployment movement plans to supplement mobilization station deployment movement planning from mobilization stations to ports of embarkation. Although the Reserve Component units are required to develop the movement plans, it should be noted that the Inspector General, U.S. Army, has criticized the Regulation for not providing clear planning guidance. We have not addressed the adequacy of the Regulation, since the Inspector General has accomplished this.

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RECOMMENDATIONS, MANAGEMENT COMMENTS, AND AUDIT RESPONSES (U)

(U) 1. We recommend that the Commander in Chief, U.S. Pacific Command, require the 7th Battalion (HAWK), 200th Air Defense Artillery, New Mexico Army National Guard, to attend training in the next joint exercise in the Aleutian Islands theater of operations.

(U) Management comments. Management concurred with Recommendation C.1. and stated that it will include the Battalion in Artic Warrior exercises in the future. A complete text of the comments is in Part IV of the report.

(U) Audit responses. Management's comments are considered responsive; however, we request that management provide an implementation date in response to the final report (see Appendix G).

(U) 2. We recommend that the Commander, 7th Battalion (HAWK), 200th Air Defense Artillery, New Mexico Army National Guard:

(U) a. Submit a Department of the Army Form 4610-R for a revised Modified Table of Organization and Equipment that includes TADIL-A capability, radomes, and other theater-unique equipment identified during training exercises to the Office of the Deputy Chief of Staff for Operations and Plans, Headquarters, Department of the Army.

(U) b. Develop a deployment movement plan for the movement of equipment and personnel, to include sustainment planning, from the Battalion's Fort Bliss, Texas, mobilization station to the Aleutian theater.

(U) c. Coordinate the deployment movement plan with the National Guard Bureau; Headquarters, U.S. Army, Pacific; and with the Commanding General, Fort Bliss, Texas.

(U) Management comments. The Assistant Deputy Chief of Staff for Operations and Plans, Force Development, Department of the Army responded for the Commander, 7th Battalion (HAWK). The Army concurred with Recommendations C.2.a., C.2.b., and C.2.c. However, a National Guard Bureau nonconcurrence in the three recommendations was enclosed with the Army response. In addition, the Army recommended that

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the Pacific Command provide theater mission and planning guidance to allow full implementation of the recommendations. A complete text of the comments is in Part IV of the report.

(U) **Audit response.** The Army provided contradictory comments on the draft report. We request that the Army clarify its response and provide implementation dates for planned corrective actions (see Appendix G). We agree that the Pacific Command might need to support the Army's implementation of Recommendation C.2. by providing the necessary theater mission and planning guidance to the Army.

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PART III - ADDITIONAL INFORMATION (U)

(U)

APPENDIX A - Reinforcement Units Selected

APPENDIX B - The Joint Tactical Information Distribution System Network

APPENDIX C - Improved Force Effectiveness of JTIDS Equipped Aircraft

APPENDIX D - Fielded Tactical Digital Information Links (TADIL)

APPENDIX E - Tactical Digital Information Link Performance Characteristics

APPENDIX F - Joint Tactical Information Distribution System Proposed and Planned Requirements

APPENDIX G - Status of Recommendations

APPENDIX H - Summary of Potential Benefits Resulting from Audit

APPENDIX I - Activities Visited or Contacted

APPENDIX J - Report Distribution

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APPENDIX A: REINFORCEMENT UNITS SELECTED (U)

(U)

Department of the Army

1st Battalion, 52d Air Defense Artillery, Fort Lewis, Tacoma, WA
1st Battalion, 62d Air Defense Artillery,
Schoefield Barracks, HI
30th Ordinance Battalion, Fort Lewis, Tacoma, WA

Department of the Navy

Navy Fighter Squadron Strike Fighter Aircraft (VFA)-125, Naval Air Station Lemore, CA
Navy Fighter Squadron VFA-301, Miramar Naval Air Station, San Diego, CA
Navy Fighter Squadron VFA-302, Miramar Naval Air Station, San Diego, CA
Navy Fighter Squadron VFA-303, Naval Air Station Lemore, CA
Navy Tactical Air Control Squadrons 11 and 12, Naval Air Station Coronado, CA

Marine Corps

3d Light Antiaircraft Missile (LAAM) Battalion, Cherry Point, NC
Marine Corps Fighter Squadron Fighter Attack Aircraft (VMFA)-531, El Toro Marine Corps Air Station, CA
Marine Corps Fighter Squadron VMFA-321, Andrews Air Force Base, MD
Marine Corps Fighter Squadron VMFA-323, Marine Corps Air Station, Iwakuni, Japan

Department of the Air Force

19th Tactical Fighter Squadron, 363d Tactical Fighter Wing, Shaw Air Force Base (AFB), SC
34th Tactical Fighter Squadron, 388th Tactical Fighter Wing, Hill AFB, UT
44th Tactical Fighter Squadron, Kadena AFB, Okinawa

National Guard

7th Battalion (HAWK), 200th Air Defense Artillery, Rio Rancho, NM
182d Tactical Fighter Squadron, Air National Guard, Kelly AFB, San Antonio, TX
199th Tactical Fighter Squadron, Hawaii National Guard, Hickam AFB, HI
704th Tactical Fighter Squadron, Air National Guard, Bergstrom AFB, Austin, Texas

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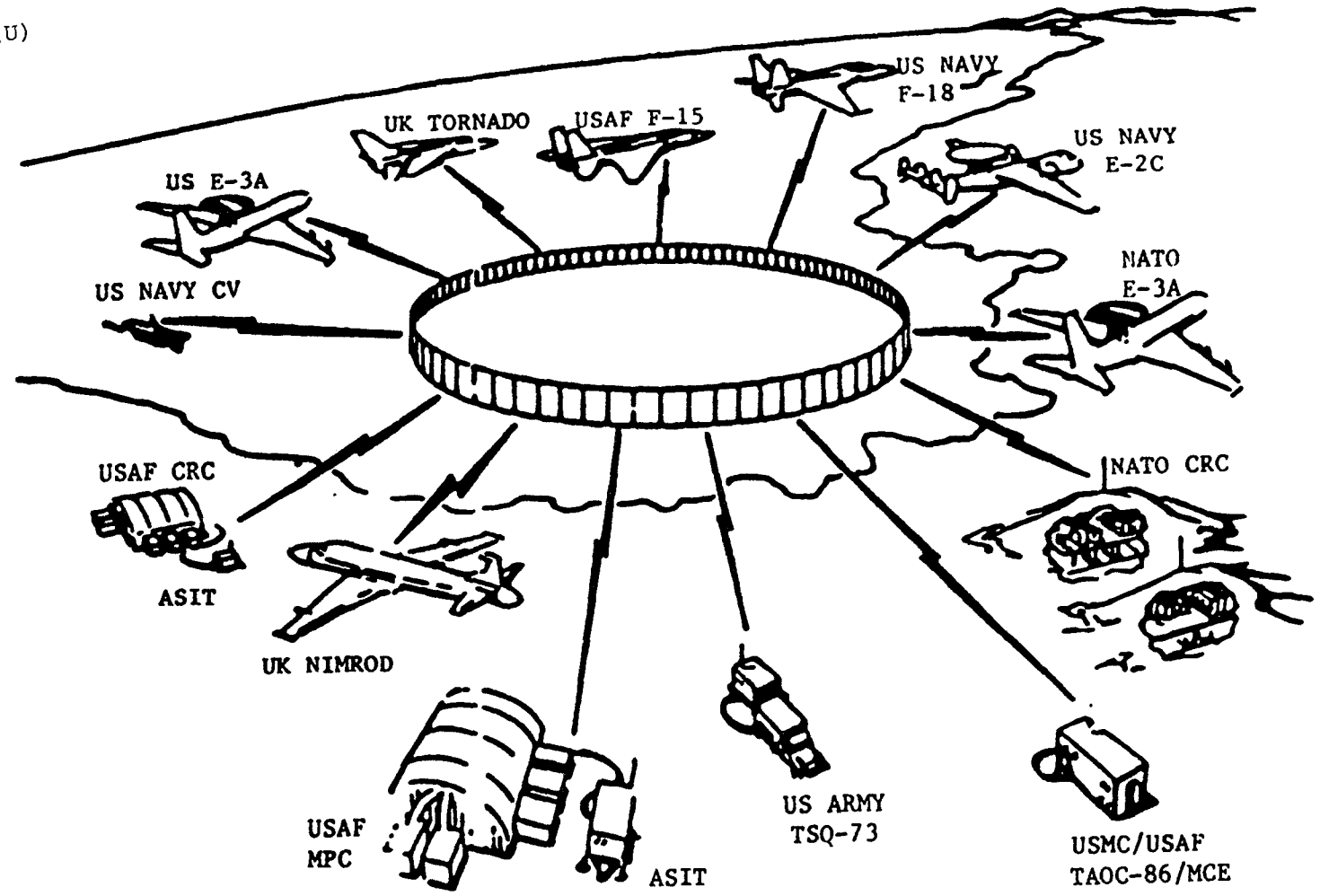
APPENDIX B: THE JOINT TACTICAL INFORMATION DISTRIBUTION CENTER NETWORK (U)

(U)



Acronyms Used:
ASIT - Adaptable Surface Interface Terminal
CRC - Control and Reporting Center
CV - Carrier Unit
MPC - Message Processing Center
TAOC/MCE - Tactical Air Operations Center; Mobile Control Equipment
TSQ - Transportable Special Equipment

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APPENDIX C. IMPROVED FORCE EFFECTIVENESS OF JTIDS EQUIPPED AIRCRAFT (U)

(U) The emphasis of the JTIDS program had been to develop a system that would enhance the capability of tactical aircraft and ground based weapons to destroy enemy air, surface, and subsurface targets. JTIDS should also result in a higher rate of survivability during combat engagements in a combined arms theater of operations. Overall force effectiveness is improved through enhanced communications, navigation, and identification of friend or foe (IFF) capabilities.

(U) Enhanced communications. The JTIDS network is composed of a pool of weapons, sensors, and command information that is continuously updated by each participant in the network. The participant taps the pool for tactical data and is provided with information for force management and coordination. The user does not have to request information from a specific party or wait until notified of important information. Instead, the user can decide which data are needed (e.g., hostile aircraft within an 80-kilometer range) and query the JTIDS network to receive the information.

(U) Enhanced navigational capabilities. U.S. fighter aircraft, ground forces, and antiaircraft weapons operate within the same battle area. To be effective in their assigned missions, each must know its location in relation to both friendly and hostile forces. It is imperative that information generated by friendly forces be shared. This information must be highly accurate, easy to understand, and current.

(U) JTIDS provides both surface and airborne elements with a position location capability within a common position reference grid (common frame of reference). A JTIDS-equipped fighter aircraft can use on-board navigation systems to automatically feed status information to the JTIDS terminal and then to the JTIDS network. Pilots can select information from the JTIDS network to display navigational situations including locations of targets; surface-to-air missile sites; friendly air bases and alternate recovery bases; flight paths; safe-passage corridors; friendly, hostile, and unknown aircraft; and friendly and hostile ground forces.

(U) Improved IFF capabilities. JTIDS provides an inherent IFF capability and can expand that capability to include activity, nationality, and specific identification. Air defense

APPENDIX C. IMPROVED FORCE EFFECTIVENESS OF JTIDS EQUIPPED AIRCRAFT (U) (CONTINUED)

users can pass high-volume tracking data internally and exchange friendly identification information with the Air Force. JTIDS position and identification reports can be accurately correlated with other surveillance system reports to reduce the erroneous identification of friendly aircraft as hostile during the inherent confusion in warfare.

APPENDIX D. FIELDED TACTICAL DIGITAL INFORMATION LINKS (TADIL) (U)

(U) **TADIL-A (LINK-11)**: TADIL-A is a two-way data link, operating on High Frequency (HF) and Ultra High Frequency (UHF), that was first implemented by the U.S. Navy in 1961. The TADIL is a secure system with no jam-resistant capability. It functions as the primary surveillance/combat weapons direction/ battle management link. Originally, the TADIL was developed as an Anti-Air Warfare link for use on aircraft carriers and guided missile cruisers. Its role has expanded to include many other Navy ships, and it is now implemented on E-2C, S-3, and P-3 aircraft.

(U) **TADIL-B (Link-1)**: The operational use of TADIL-B is identical to that of TADIL-A. The architecture, however, is very different. TADIL-B is a hierarchical system with one unit directly connected to the other unit. It is secure and uses two dedicated channels per user pair.

(U) **TADIL-C (Link-4A)**: TADIL-C is a one- or two-way air intercept control link for Tactical Air Wing Aircraft. This link operates in the UHF frequency spectrum, is unsecure, and has no jam-resistant features. Link-4 was designed in the late 1950's for the one-way control of airborne interceptors and includes a Carrier Inertial Navigation System alignment and Automatic Carrier Landing system communications capability. TADIL C was improved during the 1960's and was subsequently installed in numerous carrier-based aircraft, including the F-4B/J, A-6, A-7, EA-6B, E-2B/C, S-3A, and F/A-18A aircraft. During the 1970's a two-way system, designated Link-4A, was developed for the F-14A aircraft. This development allowed the fighter to down-link its status to the air controller. Link-4A uses a unique message standard, OS-404, which was developed specifically to satisfy the air control requirement.

(U) **TADIL-C (Link-4C)**: Development of the improved TADIL-C began in 1984. TADIL-C provides the F-14 aircraft with jam-resistant fighter-to-fighter communications capability. Unique sets of data link messages have been developed to support the Link-4C requirement as an adjunct to message standard OS-404. Commonly referred to as ASW-27C because of the equipment used, Link-4C is planned as an interim information capability in the F-14 aircraft until JTIDS is fielded.

(U) **TADIL-J (Link-16)**: TADIL-J is a revolutionary and generational advancement in data link development. JTIDS is the transmission system that supports TADIL-J (Link-16). Current data communications capabilities supporting tactical command and control information exchanges are vulnerable to exploitation and

APPENDIX D. FIELDED TACTICAL DIGITAL INFORMATION LINKS (TADIL)
(U) (CONTINUED)

interception and are severely degraded in a frequency jamming environment. TADIL-J will overcome these deficiencies and provide tactical decision makers with survivable, secure, anti-jam, high-capacity communication, navigational, and identification capabilities.

APPENDIX E. TACTICAL DIGITAL INFORMATION LINK PERFORMANCE CHARACTERISTICS (U)

(U)	TADIL-A (LINK-11)	TADIL-B (LINK-1)	TADIL-C (LINK-4A/4C)	TADIL-J (LINK-16)
Jamming Protection	No	N/A	No	Yes[1/]
Secure	Yes	Yes	No	Yes
Participants	20	2	4 to 8	Thousands
Critical Nodes[2/]	Yes	Yes	Yes	No
Priority Interrupt[3/]	No	No	No	Yes
Voice	No	No	No	Yes
Architecture[4/]	Broadcast	Point to Point	Point to Point	Broadcast

1/ JTIDS waveform provides jam resistance.

2/ Relay stations that, if destroyed, would disrupt communications.

3/ Capability to prioritize information exchange depending on system information requirement ranking.

4/ Radio transmission design.

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APPENDIX F: JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM PROPOSED AND PLANNED REQUIREMENTS* (U)

(U)

Department of the Army

PATRIOT Missile
HAWK Missile
Forward Area Air Defense System
AN/TSQ-73 Missile Minder Group Operations Center
Enhanced Position Location and Reporting System
Net Control Station

Department of the Navy

F-14D Tomcat Aircraft
F/A-18 Hornet Aircraft
EA-6B Prowler Aircraft
E-2C Hawkeye Command and Control Aircraft
Attack Aircraft Carrier
Guided Missile Cruiser
Guided Missile Destroyer

Marine Corps

F/A-18 Hornet Aircraft
Tactical Air Operations Module

Department of the Air Force

F-15 Eagle Aircraft
Airborne Warning and Control System
Joint Surveillance Target Attack Radar System
Airborne Command and Control Center
Modular Control Equipment

Multinational

Tornado (United Kingdom Air Defense Variant)
Sea Harrier (United Kingdom)
Rafale (France)
Eurofighter Aircraft
NATO E-3A Airborne Warning and Control System
NATO Air Defense Ground Environment
NATO Airborne Early Warning/Ground Environment Integration
U.S. Air Defense Ground Environment

* These planned and proposed requirements are reflected in the JTIDS Concept of Operations and Multiple Required Operational Capability documents. The requirements do not necessarily reflect DoD planned procurements.

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APPENDIX G: STATUS OF RECOMMENDATIONS (U)

(U)

Number	Addressee	Response to Draft Report	Response to Final Report Should Include: Reconsideration of Position	Response to Final Report Should Include: Implementation Date
A.1.a.	ASD(C3I) [1]	Nonconcurred	X[2]	X
A.1.b.	ASD(C3I)	Partially Concurred	X	X
A.2.	SEC AF [3]	Nonconcurred	X	X
A.3.	CDR/TAC [4]	Nonconcurred	X	X
B.1.a.	CDR/USFK [5]	Concurred		[6]
B.1.b.	CDR/USFK [5]	Concurred		
B.2.a.	CDR/ROK/USACC [7]	Concurred		[6]
B.2.b.	CDR/ROK/USACC [7]	Concurred		
C.1.	USCINCPAC [8]	Concurred		X
C.2.a.	CDR, 7th Battalion [9]	[10]	X	X
C.2.b.	CDR, 7th Battalion [9]	[10]	X	X
C.2.c.	CDR, 7th Battalion [9]	[10]	X	X

[1] ASD(C3I) = Assistant Secretary of Defense (Command, Control, and Communications)
[2] Recommendation has been revised.
[3] SEC AF = Secretary of the Air Force
[4] CDR/TAC = Commander, Tactical Air Command
[5] CDR/USFK = Commander, United States Forces, Korea response incorporated in USCINCPAC comments
[6] Provide the results of the study relating to the recommendation to the OIG and the implementation date of that action.
[7] CDR/ROK/USACC = Commander, Republic of Korea/U.S. Air Component Command response incorporated in USCINCPAC comments
[8] USCINCPAC = Commander in Chief, U.S. Pacific Command
[9] CDR, 7th Battalion = Commander, 7th Battalion (HAWK), 200th Air Defense Artillery, New Mexico Army National Guard
[10] Needs clarification of Army position.

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APPENDIX H: SUMMARY OF POTENTIAL BENEFITS RESULTING FROM AUDIT (U)

(U) Recommendation Reference	Description of Benefits	Type of Benefit
A.1.	Economy and efficiency. Increased joint force effectiveness by helping to ensure data link interoperability and by identifying areas requiring attention.	Nonmonetary
A.2.	Economy and efficiency. Improved force effectiveness, situational awareness, and target allocation through use of JTIDS.	Nonmonetary
A.3.	Economy and Efficiency. Increased overall force effectiveness by developing doctrine and tactics for the use of JTIDS.	Nonmonetary
B.1.a.	Economy and efficiency. Increased force effectiveness by providing a primary command and control facility resistant to chemical and biological attack.	Nonmonetary
B.1.b.	Economy and efficiency. Increased force effectiveness by providing training for contingency command and control operations.	Nonmonetary
B.2.	Economy and efficiency. Increased readiness posture by providing an alternate facility for tactical air control and by requiring tactical air control personnel to wear chemical and biological gear during training exercises.	Nonmonetary
C.1.	Economy and efficiency. Increased joint readiness posture by scheduling appropriate training in the theater of operations.	Nonmonetary
C.2.	Economy and efficiency. Increased force effectiveness and overall joint readiness posture by identifying theater-unique equipment needs, and by developing and coordinating the unique deployment movement plans.	Nonmonetary

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APPENDIX I: ACTIVITIES VISITED OR CONTACTED (U)

(U)
Office of the Secretary of Defense

Undersecretary of Defense for Policy, Washington, DC
Director, Defense Research and Engineering, Under Secretary of Defense for Acquisition, Washington, DC
Assistant Secretary of Defense (Command, Control, Communications and Intelligence), Washington, DC
Assistant Secretary of Defense (Force Management and Personnel), Washington, DC
Assistant Secretary of Defense (Production and Logistics), Washington, DC
Assistant Secretary of Defense (Program Analysis and Evaluation), Washington, DC
Assistant Secretary of Defense (Reserve Affairs), Washington, DC
Comptroller of the Department of Defense, Washington, DC

The Joint Staff

Office of the Director, Operations (J-3), Washington, DC
Office of the Director, Strategic Plans and Policy (J-5), Washington, DC
Office of the Director, Command, Control, and Communications (J-6), Washington, DC
Office of the Director, Operational Plans and Interoperability (J-7), Washington, DC

Department of the Army

Assistant Secretary of the Army (Research, Development and Acquisition), Washington, DC
U.S. Army Deputy Chief of Staff for Operations and Plans (Force Development), Washington, DC
U.S. Army Training and Doctrine Command, Office of the Deputy Chief of Staff for Combat Developments, Fort Monroe, VA
U.S. Army Air Defense Artillery School, Fort Bliss, TX
U.S. Army Missile Command, Program Executive Office, Air Defense, Redstone Arsenal, AL
Headquarters, United States Army, 1st Battalion, 52d Air Defense Artillery, Fort Lewis, Tacoma, WA
Headquarters, United States Army, 30th Ordinance Battalion, Fort Lewis, Tacoma, WA

Department of the Navy

Office of the Deputy Chief of Naval Operations (Naval Warfare), Washington, DC
Naval Air Systems Command, Crystal City, VA

APPENDIX I: ACTIVITIES VISITED OR CONTACTED (U) (CONTINUED)

(U)
Department of the Navy (Cont'd)

Space and Naval Warfare Systems Command, Crystal City, VA
Naval Research Laboratories, Washington, DC
Naval Surface Warfare Center, White Oaks Laboratory, Silver Spring, MD
Headquarters, United States Navy Fighter Squadron VFA 301, Miramar Naval Air Station, San Diego, CA
Headquarters, United States Navy Fighter Squadron VFA 125, Naval Air Station Lemore, CA
Headquarters, United States Navy Fighter Squadron VFA 302, Miramar Naval Air Station, San Diego, CA
Headquarters, United States Navy Fighter Squadron VFA 303, Naval Air Station Lemore, CA
Headquarters, United States Navy Tactical Air Control Squadrons 11 and 12, Naval Air Station Coronado, CA

Marine Corps

Headquarters, United States Marine Corps, Arlington, VA
U.S. Marine Corps Research, Development, and Acquisition Command, Aviation Command and Control Program Management Office, Quantico, VA
Headquarters, United States Marine Corps Fighter Squadron VMFA 531, El Toro Marine Corps Air Station, CA
Headquarters, 3d LAAM Battalion, Cherry Point, NC
Headquarters, United States Marine Corps Fighter Squadron VMFA 321, Andrews Air Force Base, MD

Department of the Air Force

Office of the Deputy Chief of Staff for Plans and Operations, Washington, DC
Office of the Deputy Chief of Staff for Programs and Resources, Washington, DC
Aeronautical Systems Division, Wright-Patterson Air Force Base (AFB), OH
Electronic Systems Division, Hanscom AFB, MA
Headquarters, U.S. Air Force Tactical Air Command, Langley AFB, VA
Headquarters, 602d Tactical Air Command and Control, Bergstrom AFB, TX
Headquarters, 19th Tactical Fighter Squadron, 363d Tactical Fighter Wing, Shaw AFB, SC
Headquarters, 34th Tactical Fighter Squadron, 388th Tactical Fighter Wing, Hill AFB, UT

APPENDIX I: ACTIVITIES VISITED OR CONTACTED (U) (CONTINUED)

(U)
National Guard

National Guard Bureau, Washington, DC
New Mexico Army National Guard Headquarters, Santa Fe, NM
Headquarters, 7th Battalion (HAWK), 200th Air Defense Artillery, Rio Rancho, NM
Headquarters, 182d Tactical Fighter Squadron, Air National Guard, Kelly AFB, San Antonio, TX
Headquarters, 199th Tactical Fighter Squadron, Hawaii National Guard, Hickam AFB, HI
Headquarters, 704th Tactical Fighter Squadron, Air National Guard, Bergstrom AFB, TX

U.S. Pacific Command

Headquarters, U.S. Pacific Command, Camp H.M. Smith, HI
Alaska Command, Elmendorf, AK
U.S. Army Pacific Command, Fort Shafter, HI
Commander In Chief, Pacific Fleet, Pearl Harbor, HI
Headquarters, Fleet Marine Force Pacific, Camp H.M. Smith, HI
Headquarters, U.S. Pacific Air Force, Hickam AFB, HI
Headquarters, United States Army, 1st Battalion, 62d Air Defense Artillery, Schoefield Barracks, HI
U.S. Army Japan, IX Corps, Camp Zama, Japan
Fleet Command Center, Seventh Fleet, Yokosuka, Japan
Headquarters, Marine Corps Air Station, Futenma, Okinawa, Japan
III Marine Expeditionary Force, Camp Butler, Okinawa, Japan
Headquarters, United States Marine Corps Fighter Squadron VMFA 323, Marine Corps Air Station, Iwakuni, Japan
Headquarters, 5th Air Force, Yokota AFB, Japan
Headquarters, 44th Tactical Fighter Squadron, Kadena AFB, Okinawa, Japan
U.S. Forces Korea, Office of the Assistant Chief of Staff for Operations, Seoul, Korea
U.S. Army Korea, Eighth U.S. Army, Yongsan, Korea
Commander, U.S. Naval Forces, Yongsan, Korea
Headquarters, 7th Air Force, Osan AFB, Korea
Republic of Korea/U.S. Air Component Command, Osan AFB, Korea

Other Commands

Headquarters, Republic of Korea, U.S. Combined Forces Command, Yongsan, Korea

Defense Agencies

Defense Intelligence Agency, Washington, DC
Joint Tactical Command, Control and Communications Agency, Reston, VA

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APPENDIX J: REPORT DISTRIBUTION (U)

(U)

Office of the Secretary of Defense

Assistant Secretary of Defense (Reserve Affairs), Washington, DC

Department of the Army

Secretary of the Army
Assistant Secretary of the Army (Financial Management)
Inspector General (Operations, Plans and Analysis)

Department of the Navy

Secretary of the Navy
Assistant Secretary of the Navy (Financial Management)

Department of the Air Force

Secretary of the Air Force

The Joint Staff

Director, Joint Staff
Office of the Director, Operations (J-3), Washington, DC
Office of the Director, Strategic Plans and Policy (J-5), Washington, DC
Office of the Director, Command, Control, and Communications (J-6), Washington, DC

National Guard

Chief, National Guard Bureau

Defense Agencies

Defense Intelligence Agency, Washington, DC
Joint Tactical Command, Control, and Communications Agency, Reston, VA

Non-DoD Activities

Office of Management and Budget
U.S. General Accounting Office, NSIAD Technical Information Center

APPENDIX J: REPORT DISTRIBUTION (U) (CONTINUED)

(U)
Non-DoD Activities (Continued)

Congressional Committees:

Senate Committe on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Subcommittee on Readiness, Sustainability, and Support
Committee on Armed Services
Senate Select Committee on Intelligence
Senate Committee on Govermental Affairs
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Subcommittee on Readiness, Committee on Armed Services
House Permanent Select Committee on Intelligence

PART IV - MANAGEMENT COMMENTS (U)

(U)
Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)

Commander In Chief, U.S. Pacific Command

Department of the Army

Department of the Air Force

Joint Staff

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MANAGEMENT COMMENTS FROM ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE) (U)

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D C. 20301

29 AUG 1991

COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE

MEMORANDUM FOR INSPECTOR GENERAL, DIRECTOR, READINESS AND OPERATIONAL SUPPORT

SUBJECT: Draft Audit Report on Pacific Theater Air Defense Activities (Project A-60664)

The subject report has been reviewed and the following comments are offered to those recommendations directly pertaining to this office.

Recommendation:

a. That the DoD establish a policy requiring all Military Departments to transition to Tactical Data Information Link-J and require that each Military Department submit a plan of action to transition to Tactical Data Information Link-J.

Comment: Nonconcur. Implementation of the Tactical Data Information Link-J is not considered to be a policy issue. Its implementation should be, and is, currently based on approved military operational requirements. As your report points out, this requirement is documented in the JCS JTIDS Multiple Required Operational Capability (MROC). All of the Services have plans to field an interoperable Link-J capability for key command and control elements. Additionally, both the JCS and the ASD(C3I) participate in the approval of so-called functional C3 architectures which require implementation of Link-J. We believe these processes are sufficient and that no special policy statement is required.

b. Develop a DoD-wide Tactical Data Information Link-J transition plan.

Comment: Partially concur. A DoD-wide data link plan that includes all data links (not just Link-J) would serve to better insure data link interoperability and identify areas requiring attention. All the Services currently have or are preparing their individual data link plans. This office intends to conduct a thorough review of these plans to determine potential interoperability or compatibility problems. A decision will then be made as to whether or not to incorporate these individual plans into a DoD-wide plan.

We appreciate the opportunity to comment on the Draft Audit Report and your interest in these vital mission areas. Request that a copy of the comments provided by other addressee be provided to this office.

Richard G. Howe
Director, Theater & Tactical C3

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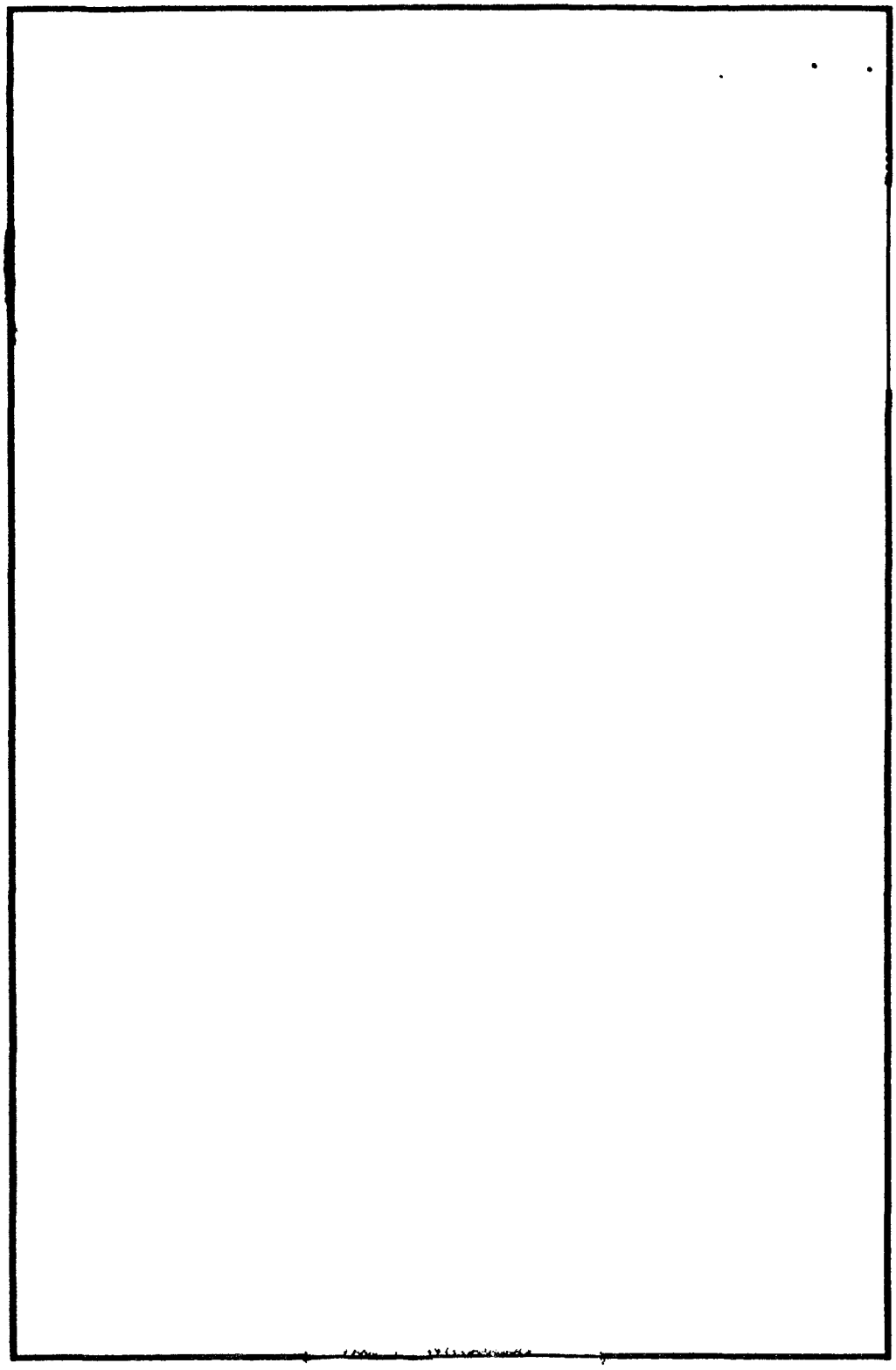
MANAGEMENT COMMENTS FROM THE COMMANDER IN CHIEF, U.S. PACIFIC COMMAND (U)

Final Report Reference



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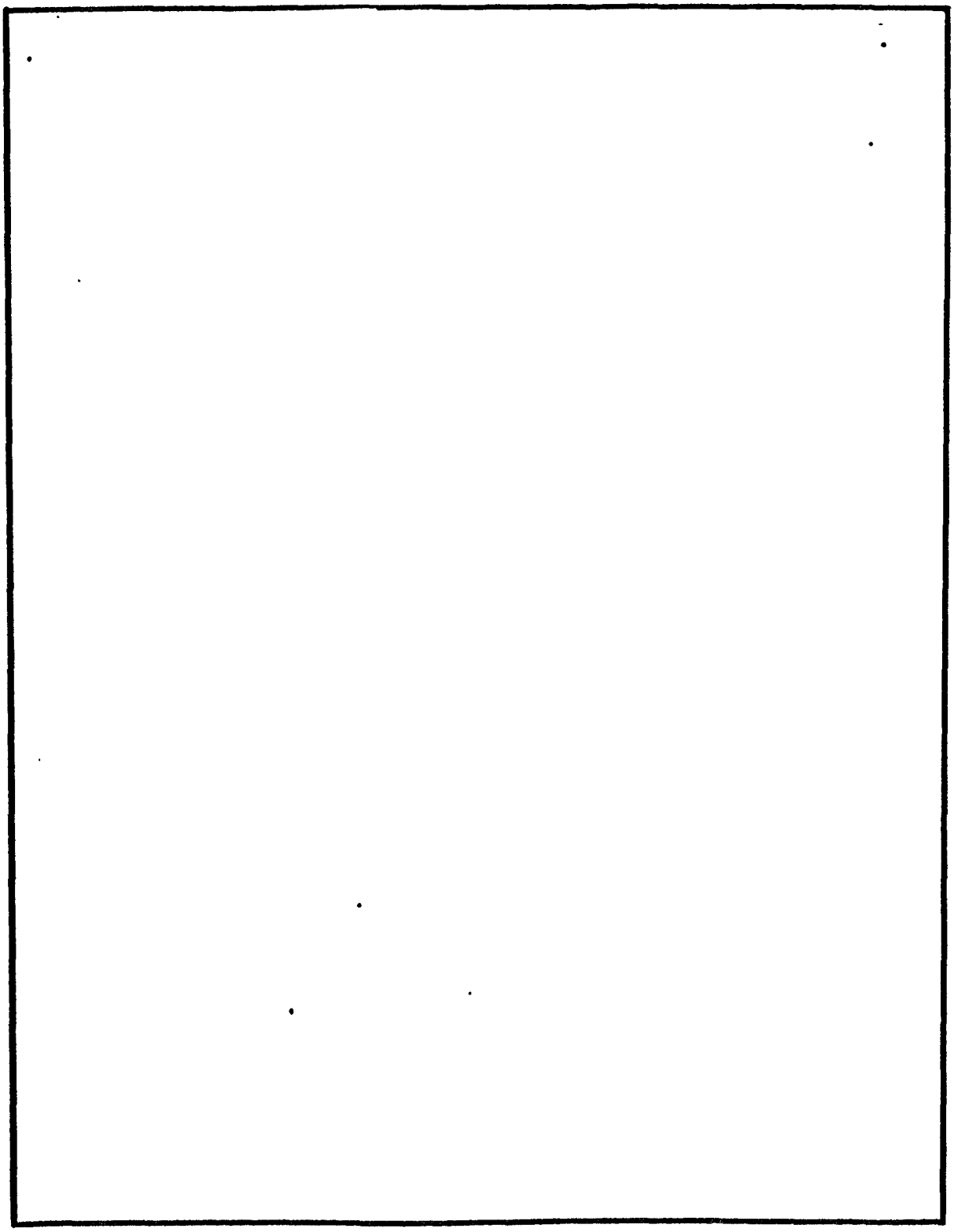

MANAGEMENT COMMENTS FROM THE DEPARTMENT OF THE ARMY (U)

DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS
WASHINGTON, DC 20310-0400

REPLY TO ATTENTION OF
DAMO-FDE

05 SEP 1991

MEMORANDUM THRU ASSISTANT ~~DEPUTY CHIEF OF STAFF FOR OPERATIONS~~ AND PLANS, FORCE DEVELOPMENT
~~DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS~~
DIRECTOR ~~OF THE ARMY STAFF~~ 10/9
ASSISTANT SECRETARY OF THE ARMY (MANPOWER AND RESERVE AFFAIRS)

FOR OFFICE OF THE INSPECTOR GENERAL, DOD

SUBJECT: Draft Audit Report on Pacific Theater Air Defense Activities (Project No. ORA-0064)

1. Concur with findings and recommendations regarding air defense interoperability and command and control in the Pacific Theater.

2. Concur with recommendations related to 7th Battalion (HAWK), 200th ADA, New Mexico National Guard, but recommend that:

a. Pacific Command (PACOM) should provide theater mission guidance to the Army National Guard to allow 7-200 ADA to submit necessary changes to their Modified Table of Organization and Equipment.

b. PACOM provide planning guidance to enable 7-200 ADA to develop a deployment and sustainment plan to fully meet mission requirements.

JAMES J. CHAVENS, JR
Brigadier General, GS
Director of Requirements
(Support)

Encl
ARNG Command Reply (TAB A)
CF: SAIG-PA
DAMO-ZQ

MAJ Napoleon/30795
91056920

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
WASHINGTON, D.C. 20310-2000

NGB-ARC (36-5d) 21 AUG 1991

MEMORANDUM FOR Deputy Chief of Staff for Operations and Plans,
ATTN: DAMO-FDE

SUBJECT: DODIG Draft Report, Pacific Theater Air Defense Activities, Project No. ORA-0064

1. Subject report was reviewed and the Army National Guard Bureau reply is provided at Enclosure 1.

2. The POC for this action is Ms. Pat Condon, NGB-ARC-MR, 697-3665.

FOR THE CHIEF, NATIONAL GUARD BUREAU:

RUSSELL J. DELANEY
Colonel, GS
Chief, Army Comptroller Division

Encl

CF:
NGB-IR-C
DoD IG

Encl

Final Report Reference

ARMY NATIONAL GUARD BUREAU
COMMAND REPLY
DoD IG AUDIT OF
PACIFIC THEATER AIR DEFENSE ACTIVITIES
PROJECT NO. ORA-0064
30 JUNE 1991

(U) 1. FINDING C. 7th Battalion (HAWK), 200th Air Defense Artillery New Mexico Army National Guard.

25 Page 40, line 4, change "73d Special Infantry Brigade" to read 73d Separate Infantry Brigade."

30 (U) 2. RECOMMENDATION C-2a. Submit a Department of the Army Form 4610-R for a revised Modified Table of Equipment that includes TADIL-A capability, radomes, and other theater unique equipment identified during training exercises.

NONCONCUR.

(U) a. ARNG is unable to provide the required information until we are provided source documents for Pacific mission as outlined in basic draft report.

(U) b. Over the past year, several elements of the ARNG Directorate, NGB, have been attempting to validate the Specific Mobilization Mission(s) of all our HAWK Battalions. Other than having our battery TPFOL with the 73d Infantry Brigade for deployment purposes, we have been unsuccessful in determining this information or recognition of requirements from U.S. Army Pacific. This may also explain the inability of that headquarters to validate special equipment requirements mentioned in this report.

30 (U) 3. RECOMMENDATION C-2b. Develop a deployment movement plan for the movement of equipment and personnel, to include sustainment planning, from the Battalion's Fort Bliss, Texas, mobilization station to the Aleutian theater.

(U) NONCONCUR. FORSCOM Reg 55-1 requires ARNG units to prepare a CONCEPT OF DEPLOYMENT PLAN which addresses the movement from the mobilization station to ports of embarkation. Planning for debarkation and sustainment in the area of operations is an operational issue, not a mobilization planning issue. U.S. Army Pacific should task the unit to develop operational plans separately from mobilization plans.

30 (U) 4. RECOMMENDATION C-2c. Coordinate the deployment movement plan with the National Guard Bureau; Headquarters, U.S. Army, Pacific; and with the Commanding General, Fort Bliss, Texas.

(U) NONCONCUR. The CONCEPT of Deployment Plan required by FORSCOM Reg 55-1 is developed jointly between the mobilizing unit and the mobilization station. Neither NGB or U.S. Army, Pacific have sufficient data available to comment.

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MANAGEMENT COMMENTS FROM THE DEPARTMENT OF THE AIR FORCE (U)

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC 20330-1000

OFFICE OF THE ASSISTANT SECRETARY

SEP 26 1991

MEMORANDUM FOR THE INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

SUBJECT: Proposed Audit Report PACIFIC THEATER AIR DEFENSE ACTIVITIES, PROJECT ORA-0064

Thank you for the opportunity to comment on the findings in your subject audit. In particular I appreciate the opportunity to comment on your Finding A, that relates to the projected consequences of the Air Force not fielding the JTIDS Class 2 terminal on the F-15. We do not concur with either Recommendations 2 or 3.

We non-concur with Recommendation 2 because the Air Force does not have a requirement for the Class 2 terminals on F-15 aircraft. We have thoroughly tested the concept, and we cannot find sufficient operational utility to justify the effort and expense. At the Defense Acquisition Board on October 11, 1989, the Air Force stated their doubts about fielding the Class 2 terminal on the F-15 and stated that no funds were budgeted to field the JTIDS Class 2 terminal in operational F-15s. In May 1991, the Air Force notified USD(A) that we had no operational requirement for JTIDS Class 2 on F-15s. On June 18, 1991, the Air Force also briefed ASD(C3I) that the Air Force has no operational requirement for this capability. Since there is no Air Force requirement for the Class 2 terminal on the F-15, TAC can not develop a JTIDS doctrine for the F-15 as stated in Recommendation 3 of your audit.

The audit attributes utility to the installation that just is not there. It asserts that without JTIDS the Air Force F-15 will not be interoperable with allied and other US fighters. However, the USAF only provides 5 percent of the air defense fighters available in Korea. The Republic of Korea provides the other 95 percent and there are no plans to equip these fighters with JTIDS. Therefore, JTIDS will not provide interoperability with allied fighters in this theatre. The real interoperability will be accomplished via voice as was most recently demonstrated quite successfully during operation DESERT STORM.

A like numerical situation can be found in NATO's Central Region, where USAF F-15s account for only four squadrons of the entire integrated air defense force. The other units are provided by European nations and none of them, with the exception of a few air defense Tornados, will have a JTIDS capability in the foreseeable future.

The same situation exists with the US Navy. The Class 2 terminal is only compatible with the F-14D, and there are only 40-50 of them in the inventory. The F/A-18, just like the F/A-16, cannot accept the Class 2 terminal because of size limitations.

Air Force doctrine for fighter employment emphasizes operations under decentralized control, with the flight leader responsible for mission execution. The Air Force has gone to great lengths to equip its current and future generations of fighters with both the on-board sensors and access to information from supporting systems that make that possible. Given this capability, incorporating JTIDS on Air Force fighters at great expense is not required and not planned.

The utility of equipping F-15s with Class 2 terminals, in the judgement of people who have flown, commanded, and committed fighters in battle, is minimal at best and does not justify the expense in a time of severely constrained resources.

JOHN E. JAQUITH, Lt Gen, USAF
Principal Deputy, Assistant Secretary
of the Air Force (Acquisition)

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MANAGEMENT COMMENTS FROM THE JOINT STAFF(U)

THE JOINT STAFF
WASHINGTON, DC

Reply ZIP Code:
20318-0300

DJSM-985-91
28 August 1991

MEMORANDUM FOR THE INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

Subject: Draft Audit Report on Pacific Theater Air Defense Activities (Project No. 0RA-0064)

1. The Joint Staff nonconcurs in Finding A of the draft audit report. The enclosed comments are forwarded for your consideration.

2. The Joint Staff point of contact is Lieutenant Colonel Otis Williams, extension 46660.

3. Without enclosure, this memorandum is UNCLASSIFIED.

RUDOLPH OSTOVICH III
Major General, USA
Vice Director, Joint Staff

Enclosure

Classified by Multiple Sources
Declassify on OADR

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Final Report Reference

ENCLOSURE

COMMENTS AND RECOMMENDED CHANGES TO DRAFT PROPOSED AUDIT REPORT (PROJECT NO. 0RA-0064) (U)

1. (U) General Comments

a. (U) The stated objectives of the audit and the resultant conclusions in Finding A leave questions as to the intent and validity of this portion of the report. Using your data, it shows that Korea, responsible for 95 percent of its own air defense; Japan, in the process of assuming responsibility for defense within 1,000 miles of its shores; or several other allies such as Thailand, Malaysia, Philippines, and Australia are not on the Joint Tactical Information Distribution System (JTIDS) acquisition list. This indicates that JTIDS is certainly not currently a prime CINC interoperability issue for the air defense of the Pacific theater and that the audit report is exceeding its stated objectives.

9 b. (U) The use of a generic statement "not be fully effective" in findings concerning interoperability issues (page 15, 1st paragraph, 4th sentence) could be applied to any piece of equipment or weapon systems procured, whether between US Services or our allies, and is weak justification for a conclusion. Unless every weapon system procured is identical in configuration, specification, and capabilities, some interoperability problem can be identified. Even if systems were identical, policy, procedures or doctrine (especially with allies) can preclude interoperability. Additionally, the finding does not take into consideration changes in US doctrine, tactics, and organizations.

i 2. (U) Executive Summary, 1st page, 3d paragraph, 1st sentence. Delete.

Classified by Multiple Sources
Declassify on OADR

1 Enclosure

Final Report Reference	
ii	3. (U) Executive Summary, page ii, 1st bullet, 2d sentence. Delete. REASON: (U) Improper conclusion. This statement is not the conclusion of the Service that is charged with the responsibility of air defense of the United States. JTIDS might be "nice" to have, but "necessary" to have on F-15 fighters certainly was not borne out in the recent Gulf War or previous EXERCISE HAMMER operations, a 3AF (United Kingdom) joint and combined exercise involving over 350 aircraft attacking the UK. Additionally, the value for combined interoperability is questionable when only one-third of the NATO allies (Appendix F) are scheduled to acquire JTIDS or a compatible system.
ii	4. (*)
3	5. (*)
	REASON: (U) Correction of statement.
9	6. (U) Page 15, Part II, Section A, 1st paragraph. Delete.

Final Report Reference	
	REASON: (U) Conclusion is outside the scope of the stated objectives of the report and is misleading. To state that joint and combined C3 interoperability will not be fully effective as other Military Departments and allies move forward with their acquisition and fielding of JTIDS leads one to conclude that great numbers of allies are procuring the system. However, Appendix F indicates only 5 of 16 NATO nations and none of our Pacific or Mideast allies are in line to procure the system.
9	7. (U) Page 16, Background, 1st paragraph, 3d sentence. Delete.
	REASON: (U) Incorrect statement. Joint doctrine does not "require" any action be taken. It is authoritative, but not directive. Military doctrine presents principles that guide the employment of forces.
10, 11	8. (U) Pages 18 and 19, "Affordability" paragraph. Comment: Disagree with the logic behind the justification to continue the program. Just because the Air Force already spent $130 million for integration and wiring costs, does not mean that it should continue the program because the terminals are the only item left to procure and only cost $650,000 each. That unit cost times 144 aircraft is approximately $94 million. There are other joint programs that have become too costly for the anticipated benefit that have been stopped after considerable investment has been made, such as the Airborne Self Protection Jammer.
14	9. (U) Page 26, 1st line. Change as follows: ". . . Military Department to accept ~~DoD~~ joint doctrine even".
	REASON: (U) There is no DOD doctrine, only Service and joint doctrine.
14	10. (U) Page 26, Recommendations, paragraph 2. Nonconcur with the recommendation. Delete, and substitute the following:
	"We recommend that the CINCs of the combatant commands determine their requirements for JTIDS in relation to the F-15, and if it is determined to be a necessary system, to work with the providing service, or through the CINCs priority list, to acquire the system."
	REASON: (U) CINCs are to determine their warfighting requirements. The Services are to provide, train, and equip the forces required to meet CINC needs.

MANAGEMENT COMMENTS FROM THE JOINT STAFF(U)

(continued)

Final Report Reference

16

11. (U) Page 27, Recommendations, paragraph 3. Delete, and substitute the following:

"Joint doctrine should be developed for the employment of tactical data information link (TADIL) systems for air, sea, and ground platforms to enhance C3 capability."

REASON: (U) The employment of JTIDS on the F-15 is questionable. There are enough other users, however, that warrant the development of joint doctrine for TADIL systems. The current Joint Doctrine Master Plan identifies the need. The TADIL systems will be addressed in Joint Pub 6-02 and TADIL-J will be addressed in one of the Joint Pub 6-02 series (6-02.XX).

4 Enclosure

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LIST OF AUDIT TEAM MEMBERS

Willliam F. Thomas, Director, Readiness and Operational Support Directorate
Ronald Porter, Deputy Director
Michael Joseph, Program Director
Evelyn Klemstine, Project Manager
William Hopple Jr., Team Leader
Walter Jackson, Team Leader
John Galloway, Auditor
Randy Fowler, Auditor
James Baker, Auditor
Christa Long, Auditor
Rhonda Swain, Auditor
Cassandra Moore, Auditor
Wei K. Chang, Engineer