Audit Report

MANAGEMENT OF DOD LONG-HAUL
TELECOMMUNICATIONS REQUIREMENTS

Report No. 99-140 April 21, 1999

Office of the Inspector General
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Acronyms

ASD(C3I)	Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
DISA	Defense Information Systems Agency
DISN	Defense Information Systems Network
DSC	DISN Service Center
GAO	General Accounting Office
MAN	Metropolitan Area Network
WWOLS-R	World Wide On-Line System - Replacement

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April 21, 1999

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE)
DIRECTOR, DEFENSE INFORMATION SYSTEMS AGENCY

SUBJECT: Audit Report on the Management of DoD Long-Haul Telecommunications Requirements (Report No. 99-140)

We are providing this report for review and comment. We conducted the audit in response to a request from the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence). The Naval Audit Service, the Air Force Audit Agency, and the Office of the Inspector General, Defense Information Services Agency also participated in this audit. We considered management comments on a draft of this report in preparing the final report.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) concurred with the recommendations; however, the comments did not respond to the specific actions proposed in Recommendation B. Therefore, we request that the Assistant Secretary provide comments on Recommendation B.1. by June 21, 1999. The Director, Defense Information Systems Agency, comments were responsive to the recommendations; therefore, the Director, Defense Information Systems Agency, need not comment on the final report.

We appreciate the courtesies extended to the audit staff. Questions on the audit should be directed to Mr. Robert M. Murrell, at (703) 604-9176 (DSN 664-9176) (rmurrell@dodig.osd.mil) or Ms. Judith I. Padgett, at (703) 604-9217 (DSN 664-9217) (jpadgett@dodig.osd.mil). See Appendix B for the report distribution. The audit team members are listed inside the back cover.

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Office of the Inspector General, DoD

Report No. 99-140 **April 21, 1999**
(Project No. 8CC-5005)

Management of DoD Long-Haul Telecommunications Requirements

Executive Summary

Introduction. The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) requested an audit of DoD long-haul telecommunications requirements and their management on September 12, 1997. The request reiterated the current policy that pronounces the Defense Information Systems Agency as the sole provider and manager of long-haul telecommunications systems and services for the DoD. The request also stated that the way to achieve an affordable, efficient DoD telecommunications system that supports the missions of the Department is to implement standard solutions supported by interoperable, common-user systems for all identified and validated requirements. The Defense Information Systems Agency contracted for transmission services at $5 billion over a 9-year period to support the DoD common-user system, the Defense Information Systems Network. The Naval Audit Service, the Air Force Audit Agency, and the Office of the Inspector General, Defense Information Services Agency also participated in this audit.

Objectives. The audit objective was to evaluate long-haul telecommunications requirements and their management across DoD. We also evaluated the adequacy of the management control program as it pertained to the audit objective.

Results. Management of long-haul telecommunications requirements in the DoD was fragmented and in need of improvement. As a result, DoD Components acquired metropolitan, regional, and application-specific telecommunications networks independent of the DoD common-user networks. The DoD Components reported to the General Accounting Office that their annual recurring costs on 67 networks were $89.6 million. Although DoD Components appeared to achieve cost savings when obtaining telecommunications independently, they duplicated costs that must be met at the DoD-level whether or not the DoD Components use the DoD telecommunications infrastructure. In addition, the independently developed telecommunications networks posed interoperability and security situations that will either generate additional costs to integrate into the DoD common-user systems or deteriorate the overall quality of the common-user systems (finding A).

DoD did not have an effective review and revalidation program for long-haul circuit requirements. As a result, the DoD Components did not fully participate, thus losing potential cost reductions over the next 6 years of as much as $18.4 million in 2 regions. In addition, the DoD Components did not take advantage of the opportunity to obtain accurate circuit inventories, which provide a basis for payment, reconfiguration, and integration purposes (finding B). See Appendix A for details on the management control program.

Summary of Recommendations. We recommend that the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) issue policy requiring a strategy for metropolitan or regional networks, and task the Defense Information Systems Agency to develop that strategy by the end of FY 1999. We recommend that the Director, Defense Information Systems Agency develop performance goals for customer support and challenge customer telecommunications circuit requests. We also recommend that the Assistant Secretary of Defense: direct the Defense Information Systems Agency to develop and fund a contract to conduct DoD-wide review and revalidation, establish policy for the DoD Components to cooperate in use of the contract, and revise the DoD directive to ensure that users justify circuits and use the review and revalidation results to reconfigure and optimize telecommunications networks.

Management Comments. The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) agreed to update the policy to include a strategy for metropolitan or regional networks. The Director, Defense Information Systems Agency, concurred with the recommendations. The Director is developing performance goals for customer support and is reviewing the procedures to challenge customer requests and provide the best possible solutions. Although the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) indicated concurrence with all recommendations, the comments did not fully respond to the proposed actions regarding review and revalidation of telecommunications circuits. A discussion of management comments is in the Findings section of the report and the complete text is in the Management Comments section.

Audit Response. The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) comments regarding the review and revalidation program for telecommunications circuits are not responsive to the recommendations. We request that the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) provide comments on the final report by June 21, 1999.

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Background

Interest in Long-Haul Telecommunications Management. The Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD [C3I]) requested an audit of DoD long-haul telecommunications requirements and their management on September 12, 1997. The request reiterated the current policy that pronounces the Defense Information Systems Agency (DISA) as the sole provider and manager of long-haul telecommunications systems and services for the DoD. DISA obtains transmission services to support the DoD common-user system, the Defense Information Systems Network, with a contract for $5 billion over a 9-year period. The request also stated that the way to achieve an affordable, efficient DoD telecommunications system that supports the missions of the Department is to implement standard solutions supported by interoperable, common-user systems for all identified and validated requirements. The Naval Audit Service, the Air Force Audit Agency, and the Office of the Inspector General, Defense Information Services Agency also participated in this audit.

Defense Information Systems Agency. The DISA is responsible for managing and acquiring long-haul telecommunications equipment and services for the DoD. While the DoD Components determine requirements for telecommunications services, DISA is responsible for working with the DoD Components in planning for the most effective and economical long-haul telecommunications equipment and service acquisitions for the DoD. DISA establishes and maintains a central inventory of all long-haul telecommunications equipment and services. It also develops an automated access system to the central database for DoD Component use in implementing their review and revalidation programs, reconciling their accounts, and optimizing their telecommunication services.

Objectives

The primary audit objective was to evaluate long-haul telecommunications requirements and their management across DoD. We also evaluated the adequacy of management controls as they pertained to the primary audit objective. See Appendix A for a discussion of the audit process, prior coverage, and the review of the management control program.

A. Management of Long-Haul Telecommunications

Management of long-haul telecommunications requirements in the DoD was fragmented and in need of improvement. These circumstances developed because DISA had not: established a strategy to develop and manage metropolitan and regional area networks, managed the acquisition of telecommunications equipment and services effectively, or provided adequate customer service. As a result, DoD Components have acquired numerous metropolitan area, regional area, or application-specific long-haul telecommunications networks. These networks may cause duplicative costs at the DoD-level and pose interoperability and security situations that will either generate additional costs to integrate into the DoD common-user systems or deteriorate the overall quality of common-user systems.

Telecommunications

In DoD, telecommunications equipment and services (not applicable to communications facilities organic to military forces, tactical telecommunications, or on-site facilities associated with or integral to weapons systems) are divided into two groups, base communications and long-haul communications. Both base and long-haul communications are used to transmit voice, data, and video. DoD uses metropolitan area networks, regional area networks, or regional services to take advantage of new technology and the geographic proximity of some installations.

Base Communications. DoD Directive 4640.13, "Management of Base and Long-Haul Telecommunications Equipment and Services," December 5, 1991, and DoD Instruction 4640.14, "Base and Long-Haul Telecommunications Equipment and Services," December 6, 1991, define base communications. The guidance states that base communications include those facilities, equipment, and services that are used to support the communication requirements within the boundary of a component post, camp, station, base, or installation. The DoD Components acquire needed base telecommunications equipment and services independent of DISA.

Long-Haul Communications. DoD Directive 4640.13 and DoD Instruction 4640.14 state that transmission or reception of voice, data, or video to or from any component post, camp, station, base, or installation at field or headquarters level should be viewed as long-haul communications.

Metropolitan Area Network. A Metropolitan Area Network (MAN) generally is a telecommunications network covering an area larger than a local area network. It typically connects two or more local area networks or multiple locations within a campus, city, or local access area. A MAN may operate at higher speed, cross administrative boundaries, use multiple access methods, and

extend as far as 50 kilometers. Implementation of a MAN can provide telecommunications users with integrated services for real-time voice, data, and video transmission. One means for a MAN to provide those services is to use a fiber ring for transmission. A fiber ring is an advanced, high-speed network that can connect directly to a long distance carrier's network and provide alternatives to local telecommunications services.

Regional Area Networks. A regional area network generally connects multiple MANs or multiple offices that share the same geographic location (although this would generally encompass a larger geographical area than a metropolitan area) so that one large network is formed allowing users to share information and services from different sites. Users who share information or pass data amongst themselves are a key component of a regional area network. In our opinion, within DoD, a regional area network should, if feasible, include or connect users from all DoD Components, rather than just those from one Military Department or Agency.

ASD(C3I) 1997 Policy Letter. A May 1997 policy clarification letter from the ASD(C3I) reaffirmed the DoD position on long-haul and regional telecommunications systems and services for the DoD. The letter states that long-haul telecommunications services comprise any and all intersite voice, data, and video switching and transmission services and associated network management, to include MANs or regional services.

Regional Management Strategy

DISA had not established a strategy to develop and manage metropolitan and regional area networks using DoD long-haul telecommunications services. In a May 5, 1997, policy clarification letter, the ASD(C3I) reaffirmed that DISA is the manager of DoD long-haul telecommunications systems and services, to include MANs or regional services. However, DISA has not developed and provided a strategy to identify potential metropolitan or regional area network candidates, to include all DoD Components within potential metropolitan or regional networks, or to establish metropolitan or regional long-haul networks in the most efficient and economical manner.

For example, DISA had a working group that tracked the development of metropolitan and regional networks. Instead of providing guidance on how to design network initiatives, DISA's main concern was to find out if a planned metropolitan or regional network was in full compliance with DoD long-haul telecommunications policies and specifications. DISA disapproved metropolitan and regional network initiatives without providing directions or criteria to customers. As a result, DoD Components, on at least six occasions, have circumvented DISA to independently plan metropolitan or regional networks.

Unchallenged Circuit Requests

DISA had not managed the acquisition of telecommunications equipment and services effectively in accordance with the guidance found in DoD Instruction 4640.14. The Instruction states that DISA shall manage and acquire long-haul telecommunications equipment and services for the DoD to include determining which contract will satisfy the requirement. Reviews of circuit files, requests for service, telecommunications service requests, and telecommunications service orders, showed that service requesters had specified the types of circuits (for example, a circuit capable of transmitting at a particular rate) needed rather than specifying the requirement for the service. DISA contracted for the type of circuit specified instead of requesting additional information to determine how to best satisfy the requirement. By providing the specific type of circuit wanted by the service requesters, DISA did not effectively implement the DoD Instruction.

Service Provided by DISA

DISA had not provided adequate customer service. DISA customers developing metropolitan or regional networks reported that they received unsatisfactory responses when contacting DISA for technical guidance and support. According to customers, DISA either responded slowly, or with incomplete information, or in some cases, not at all. For example, in the San Diego, California area, the Navy requested DISA support to develop the San Diego MAN, yet DISA had not visited the area.

In another example, DISA proposed a solution that was not cost-effective for the Navy. In the Puget Sound region, located in the state of Washington, the Navy wanted, and implemented, a voice regional network. The Navy determined that networking voice communications was where the savings for the region would first be realized. DISA wanted to implement a data regional network first, with no guarantee that a voice regional network would work.

In the San Antonio, Texas region, the network control center staff at Randolph Air Force Base, Texas, did not want the base medical facility to be connected directly to the regional network. The regional network is used primarily by the medical community to connect all of the medical facilities in the San Antonio region. The network control center staff wanted the Defense Megacenter (a DISA subordinate organization located in San Antonio) to connect the medical facility through the network control center to prevent establishing any vulnerable points to the base networks.

The Air Force had implemented an information protection program, called Barrier Reef, to protect the information systems on its installations. Under the Barrier Reef program, the Air Force restricts all communications entry to a base through the network communications center regardless of the organization the circuit services. A combination of computer software and hardware acts as an

electronic gatekeeper to information transferred through communications networks to resident information systems. The electronic gatekeeper inspects traffic and allows entry to authorized traffic only.

Randolph Air Force Base network control center operators have resisted efforts to connect the base medical facility to the San Antonio regional network because the Defense Megacenter proposed a direct connection from the medical facility to the regional network; thus circumventing the base network communications center and electronic gatekeepers. The Randolph Air Force Base network control center staff discussed their position with DISA numerous times from February through August 1998. However, in late August, DISA requested specific objections from the Air Force to the Randolph site concurrence letter. The Randolph network control center staff responded that the Air Force had stated its objections on numerous occasions and reiterated their own position. The Randolph staff also forwarded their concerns to installation officials and higher headquarters.

Acquisition of Metropolitan and Regional Area Networks

DoD Components are developing metropolitan or regional area networks in seven areas within the continental United States. Of those seven networks, DISA has approved only one location for development and implementation. DISA has not approved the other six networks either because DISA was not involved or was unaware of the development. The location, coordinating component or agency, and type of service for each of the seven metropolitan or regional networks appear in the following table.

Developing Metropolitan or Regional Networks

	Design Oversight	Type of Service	Configuration	Organization Serviced
Puget Sound, Washington	Navy, DISA	Voice, Data, Video	Spoke	Navy
San Diego, California	Navy	Voice	Ring	Navy
Colorado Springs, Colorado	Air Force	Voice	Undetermined	Air Force
San Antonio, Texas	Defense Mega-center	Data, Video	Ring	Medical Facilities
New Orleans, Louisiana	Navy Reserve	Data, Voice, Video	Star	Navy
Jacksonville, Florida	Navy	Undeter-mined	Undetermined	Navy
Norfolk, Virginia	Navy	Voice, Data, Video	Ring	Navy

When developing a metropolitan or regional area network, there are several factors that could influence decisions about the network:

- size of the geographic region,
- potential participants,
- amount of communication among the potential participants, and
- inventory of local and long-haul circuits to include in the network.

Before implementing a metropolitan or regional area network, the sponsoring organization must also: negotiate ownership of the infrastructure, decide the order of transition from existing services, obtain the cooperation of the DoD Components and installations affected by the transition, and establish a billing procedure for those using the services. DISA should be involved in this process.

The importance of considering factors such as obtaining cooperation of the Defense Components and affected installations can be further illustrated by the examples of unsatisfactory customer service provided by DISA discussed on page 5.

Application-Specific Telecommunications Networks

DoD Components have acquired and operated many application-specific telecommunications networks to support their various mission requirements. DoD organizations prefer to control their own telecommunications systems and costs, and to provide telecommunications services directly to their specific user community. However, the majority of those redundant and stovepiped telecommunications systems are not interoperable and cannot share information across functional and organizational boundaries. Generally, the acquisition and use of independent telecommunications systems does not comply with DoD policies and may generate higher costs when integrated into the DoD common-user systems. Nevertheless, many DoD organizations continue to independently develop redundant and application-specific networks.

Further, as discussed previously, DISA did not reject specific circuit requests that resulted in DoD Components implementing independent networks. For example, in the report, "Defense Networks: Management Information Shortfalls Hinder Defense Efforts to Meet DISN [Defense Information Systems Network] Goals," July 1998, the General Accounting Office (GAO) states that the Military Services were operating at least 87 independent networks that supported a variety of long-haul telecommunications requirements.

After GAO began its audit, DISA distributed a survey to the Military Services and Defense agencies and identified 153 additional long-haul and regional networks planned or operating throughout the DoD. Five of the seven regional networks listed in the above table were included in the DISA results of survey. Before the GAO audit, DISA did not know the number, functions, or costs of application specific telecommunications networks operating in the DoD, and we do not believe it yet has an accurate count.

Cost and Quality Implications

Cost Implications. The DoD Components are hampering the DoD ability to provide the most cost-effective long-haul common-user telecommunications systems. When the DoD Components develop and obtain networks independently, the costs at the installation and command levels appear to decline. However, even though installation and command level costs may decline, the cost to the DoD rises because the independent networks normally duplicate service that DISA can provide and must pay for whether or not the DoD Components use that service capability. To illustrate, the $89.6 million annual recurring costs on 67 independent networks that the DoD Components reported to the General Accounting Office were additional costs to the $5 billion the DoD would pay over the 9-year life of contract for the common-user network. Additionally, the independently developed networks may pose interoperability and security situations that will generate additional costs to integrate into the DoD common-user systems.

Quality Implications. In addition to cost implications, the independently developed networks may pose interoperability and security situations when integrating into the DoD common-user systems that will deteriorate the overall quality of common-user systems. That deterioration of quality could take the form of denial of service (that is receiving a "busy" signal) errors in transmitting data, or delays in transmitting data and email.

Recommendations, Management Comments, and Audit Response

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

a. Issue policy requiring a DoD metropolitan and regional telecommunications network strategy.

b. Direct the Defense Information Systems Agency, in coordination with key Defense Components, to complete a joint strategy by the end of Fiscal Year 1999 for the uniform implementation of metropolitan or regional telecommunications networks to include:

(1) A survey of the Continental United States to establish network candidates based on geographical area.

(2) A uniform business case assessment of network candidates to determine economic feasibility.

(3) Information technology and security standards for Defense Components to use in engineering metropolitan or regional telecommunications networks.

(4) Implementation plans for those geographical areas found to be economically feasible by the business case assessment.

c. Revise DoD Directive 4640.13, "Management of Base and Long-Haul Telecommunications Equipment and Services," to require that Defense Components submit bandwidth requirement estimates and termination points with all telecommunications circuit requests.

Management Comments. The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) concurred with the recommendations. The Assistant Secretary established a process, called the Global Networked Information Enterprise, which will institute policy and performance measures for DoD long-haul and network telecommunications, and to ensure compliance with the established policies and performance measures. The process will also replace the existing DoD Directive 4640.13.

A.2. We recommend that the Director, Defense Information Systems Agency:

a. Develop performance goals for responding to customer inquiries and requests about developing, and implementing metropolitan area or regional networks.

b. Challenge telecommunications circuit requests, and support the DoD Components in describing their requirements before fulfilling a telecommunications service order.

Management Comments. The Director, Defense Information Systems Agency concurred with the recommendations. The Defense Information Systems Agency will develop performance goals for customer requests pertaining to metropolitan and regional networks as stated in its FY 2000 Performance Contract with the Defense Management Council. The Defense Information Systems Agency will also review telecommunications requests and provide solutions that comply with guidance in the DISA directive on telecommunications services.

B. Effectiveness of the Review and Revalidation Program

The review and revalidation program for long-haul telecommunications circuit requirements was not effective. It was not effective because the ASD (C3I) had not ensured compliance with its existing policy, reissued more effective policy, or attempted innovative procedures for conducting the review and revalidation program. Further, DISA initiated a labor-intensive review and revalidation program and did not take any action on results that were received or when input was not forthcoming. As a result, DoD Components experienced no penalty for ignoring the program and perceived few benefits from participating; therefore, they did not always participate. The lack of participation led DoD Components to lose potential cost reductions from unneeded or unused circuits and equipment and from inaccurate circuit inventories that impeded systems reconfigurations and integration.

Regulatory Requirements for Review and Revalidation

DoD Directive 4640.13, "Management of Base and Long-Haul Telecommunications Equipment and Services," December 5, 1991, and DoD Instruction 4640.14, "Base and Long-Haul Telecommunications Equipment and Services," December 6, 1991, establishes the policy for DoD Components to perform a review and revalidation of long-haul telecommunications. The guidance states that DoD Components should conduct an inventory of all leased base and long-haul voice, data, video, and integrated telecommuni-cations equipment and services at least every 2 years. That inventory should include revalidation of the requirement for the equipment and service. According to the Instruction, the DoD Components should submit the revalidation information to DISA for entry into the central database. Any changes to the service or equipment must be updated in the database within 30 days.

Goals and Procedures for the Review and Revalidation Program

Goals and procedures have been established for the review and revalidation program.

Goals for the Review and Revalidation Program. The review and revalidation program was established to accomplish the following goals:

- Determine whether a user has a continuing need for the service and capability provided.

- Determine whether the user has the equipment and service configured in the most cost-effective way.
- Ensure that circuits for dedicated service transferred to common-user systems are disconnected.
- Update and document user justifications that have changed.

The review and revalidation should be documented and retained until the next review.

Procedures for Conducting a Review and Revalidation. Every 2 years, DoD Components are to conduct an inventory of all telecommunications equipment and services, to include a revalidation of the requirement for the equipment and service. The DoD Components initiate action once the DISN Service Center (DSC) distributes a database of its recorded inventory of circuits. The inventory is distributed to the major commands and claimants by a program designator code that identifies the command or claimant paying for the circuit. However, the command or claimant that pays for the circuit does not necessarily use it. The major commands and claimants normally then further distribute the inventory to the subordinate organizations to perform the review and revalidation.

Oversight of the Review and Revalidation Effort

According to DoD Directive 4640.13, the ASD(C3I), "Shall provide oversight of the base and long-haul functional area to ensure that policies are fully implemented, to include any reporting requirements." However, the ASD(C3I) had not taken any evident action to encourage or require the DoD Components to participate in the 1996 review and revalidation effort, or to meet the biennial inventory by some other means (the 1998 review and revalidation took place after our audit work). ASD(C3I) made no comment on the participation rate in the 1996 review and revalidation by the Army (30 percent), Navy (15 percent), and Air Force (80 percent).

Implementation of the Review and Revalidation Effort

DISA initiated a labor-intensive review and revalidation program but did not take any action on results that were received or when input was not forthcoming.

Resources for Conducting a Review and Revalidation. DISA initiated a labor-intensive review and revalidation program. For the 1996 review and revalidation efforts, DSC distributed the circuit inventories via email (for the first time) and diskette so the results could be recorded electronically. After the

subordinate organizations complete the review and revalidation of their circuits, the information is returned to the major command or claimant. The major command or claimant consolidates the information and forwards it to DSC. At that point, DSC updates its records, but does not update the Defense Information Technology Contracting Organization financial database or the World Wide On-Line System - Replacement technical database.

Many organizations that we contacted expressed frustration with the 1996 review and revalidation program while others either did not remember participating, or did not have difficulty conducting the review and revalidation. The most frequently cited frustration was difficulty operating the electronic program. The personnel who conducted the review and revalidation also found the form provided by DSC too complex, and the effort too resource intensive. Those with numerous circuits determined the review could take two or three staff as much as 3 months to complete.

Follow-up Actions to the Review and Revalidation Effort. DSC did not take any actions based on the responses to the review and revalidation in 1996. When the DoD Components completed their review and revalidation of long-haul telecommunications circuits, they forwarded the results to DSC. DSC filed the data collected until the next review. The procedures did not include follow-up inquiries to organizations that did not participate, or cross-referencing the results of the review and revalidation to the DISA databases. DISA and DoD regulatory procedures place responsibility for updating or correcting the databases with the user of the circuits. The DSC staff stated that no reconfiguration or optimization actions were taken by their organization as a result of information gathered during the review and revalidation process.

Implications of Review and Revalidation Results

DoD Components could miss opportunities to disconnect invalid circuits, reconfigure valid circuits, and integrate dedicated circuits into common-user systems.

Potential Cost Reductions. By not participating in the review and revalidation program, the DoD Components could miss opportunities to disconnect invalid circuits and reconfigure valid circuits. For example, in the San Diego area, the Navy auditors identified circuits that could be disconnected that would avoid costs of $2.3 million over the next 6 years. The Navy auditors also identified potential San Diego area circuit consolidations for telecommunications engineers to consider that could avoid costs of as much as $13.3 million over the next 6 years. In the Atlanta area, auditors identified circuits that could be disconnected that would avoid costs of $2.8 million over the next 6 years.

Impact of Inaccurate Inventories. The DISA and other DoD Components did not maintain accurate inventories of long-haul telecommunications equipment and services, at least in part, because of the ineffectiveness of the review and revalidation program. Without accurate inventories, DoD Components could

experience difficulties integrating dedicated circuits into the common-user systems when dedicated circuits requirements are no longer needed. Inaccurate inventories could also impair consolidation efforts and metropolitan and regional network implementations.

Contractor Support to Evaluate Requirements

The Air Force Space Command, headquartered in the Colorado Springs, Colorado area, implemented an initiative to evaluate and reduce long-haul telecommunications requirements, optimize telecommunications circuit use, and identify billing errors by supplementing their management team with telecommunications service contractor support.

According to the Air Force Audit Agency, using company-developed, government-owned software, the contractor: validated current and future long-haul requirements, evaluated long-haul operations, identified long-haul service without activity, and issued Cost of Business reports specifying both cost and telecommunications bandwidth savings options. For example, at Peterson Air Force Base, Colorado, management consolidated small requirements totaling over 11 megabytes into single common lines resulting in better usage of capacity. Using the system's review and revalidation results avoided costs after contractor payment of $1.1 million over a 2-year period (more than 7 percent of annual long-haul costs). The contractor support also identified $175,000 in telecommunications overcharges that DISA refunded to the Air Force Space Command.

Conclusion

The Air Force Space Command approach could provide an innovative way for DoD to improve the review and revalidation program. Contractor support could supplement the telecommunications management team for review and revalidation rather than placing additional demands on limited staff, thus freeing resources for other management needs. Contractor support could also be used on a continuous basis, rather than every 2 years as currently required. Further, the contractor support could result in validated requirements and inventories, discontinued unneeded requirements, and consolidated services that, in turn, could result in funds available for other telecommunications requirements needed by DoD Components. Finally, we believe that a DoD-wide contract for review and revalidation developed and funded by DISA could be the most effective approach for the Department. This approach could significantly reduce contract management costs, centralize the management of review and revalidation, achieve the termination of unneeded requirements and consolidation of services, reduce DoD Component telecommunications management resources used for review and revalidation, and provide better service to DoD Component telecommunications customers.

Recommendations

B.1. We recommend that the Assistant Secretary of Defense for Command, Control, Communications and Intelligence:

a. Direct the Defense Information Systems Agency to develop and fund a contract that it will use to conduct DoD-wide review and revalidation of telecommunications services and to reconfigure and disconnect circuits based on the results of the review and revalidation.

b. Establish a policy for the DoD Components to cooperate with the contractor efforts during the review and revalidation process.

c. Revise DoD Directive 4640.13, "Management of Base and Long-Haul Telecommunications Equipment and Services," to require that the Defense Information Systems Agency:

(1) Terminate circuits when, during the review and revalidation process, the Defense Components do not submit necessary justification or documentation supporting continued requirements.

(2) Use the review and revalidation results to reconfigure and optimize telecommunications networks.

Management Comments Required

The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) concurred with the report recommendations; however, the comments did not respond to the specific actions regarding the review and revalidation process. Therefore, we request that the Assistant Secretary provide comments on their proposed actions regarding the review and revalidation process in response to the final report.

Appendix A. Audit Process

Scope

Work Performed. This audit was performed in response to a request from ASD(C3I). We evaluated dedicated long-haul circuits in three geographic regions that we judged would be candidates for regional management. The auditors from Naval Audit Service, Air Force Audit Agency, DISA Inspector General, and the DoD, Inspector General reviewed a cumulative total of over 2,600 long-haul telecommunications circuits for those regions. Those geographic regions that we judgmentally selected, based on records dated through January 30, 1998, were centered in Colorado Springs, Colorado; San Diego, California; and Atlanta, Georgia. We also evaluated regional telecommunications networks that DoD Components were developing in seven geographic regions that DISA identified. We reviewed the regional network development and implementation efforts for Puget Sound, Washington; San Diego, California; Norfolk, Virginia; Colorado Springs, Colorado; New Orleans, Louisiana; Jacksonville, Florida; and San Antonio, Texas.

DoD-wide Corporate Level Government Performance and Results Act Goals. In response to the Government Performance and Results Act, the Department of Defense has established 6 DoD-wide corporate level performance objectives and 14 goals for meeting these objectives. This report pertains to achievement of the following objective and goal:

> **Objective:** Fundamentally reengineer the Department and achieve a 21st century infrastructure. **Goal:** Reduce costs while maintaining required military capabilities across all DoD mission areas. **(DoD-6)**

DoD Functional Area Reform Goals. Most major DoD functional areas have also established performance improvement reform objectives and goals. This report pertains to achievement of the following information technology management functional area objectives and goals:

> **Objective:** Become a mission partner. **Goal:** Serve mission information users as customers. **(ITM-1.2)** **Goal:** Facilitate process improvement. **(ITM-1.3)**
>
> **Objective:** Provide services that satisfy customer information needs. **Goal:** Build architecture and performance infrastructures. **(ITM-2.1)**
>
> **Goal:** Modernize and integrate Defense information infrastructure. **(ITM-2.2)** Improve information technology management tools. **(ITM-2.4)**
>
> **Objective:** Reform information technology management processes to increase efficiency and mission contribution. **Goal:** Institute fundamental information technology management reform efforts. **(ITM-3.2)**

GAO High Risk Area. The GAO has identified several high risk areas in the DoD. This report provides coverage of the Information Management and Technology high risk area.

Methodology

We reviewed telecommunications service requests, telecommunications service orders, inventory documents, review and revalidation records, and other relevant documents for over 2600 circuit identification-coded items representing long-haul telecommunications equipment and services. To assess DISA management and oversight of long-haul telecommunications and the DoD review and revalidation program, we interviewed circuit users and telecommuni-cation management officials. We also contacted personnel within the DoD Components and DISA who were knowledgeable about developing and implementing metropolitan and regional telecommunications networks.

Use of Computer-Processed Data. The audit relied on computer-processed data from the World Wide On-Line System - Replacement (WWOLS-R) for information and to develop our conclusions. We assessed the reliability of the information in the WWOLS-R on the basis of completeness and determined that the WWOLS-R does not contain all necessary long-haul telecommunications data.

We used our assessment to form the basis of some of our conclusions. We did not find errors that would preclude use of the computer-processed data to meet the audit objectives or that would change the conclusions in the report.

Audit Type, Dates, and Standards. We performed this economy and efficiency audit from March through October 1998. The audit was performed in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD.

Contacts During the Audit. We visited or contacted individuals or organizations within the DoD and other Government and non-government agencies. Further details are available on request.

Management Control Program

DoD Directive 5010.38, "Management Control (MC) Program," August 26, 1996, requires DoD Organizations to implement a comprehensive system of management controls that provides reasonable assurance that programs are operating as intended and to evaluate the adequacy of the controls.

Scope of Review of the Management Control Program. We evaluated DoD and DISA policy and guidance concerning implementation of management controls for accumulating information to support metropolitan and regional networks and long-haul telecommunications equipment and services. Further,

we evaluated the adequacy of management controls used by the Army, Navy, Air Force, and DISA to monitor the review and revalidation process, identify telecommunications equipment and services that are no longer required, and ensure that those equipment and services are discontinued when the requirement ceases.

Adequacy of Management Controls. We identified material management control weaknesses for the Assistant Secretary of Defense (C3I) and the Director, DISA, as defined by DoD Directive 5010.38. The ASD(C3I) management controls had not been established to provide adequate guidance and support on the design and implementation of metropolitan and regional networks to the DoD Components. Also, management controls were not effective to execute and monitor the review and revalidation program. The recommendations in this report, if implemented, will improve the management and oversight of long-haul telecommunications. A copy of the report will be provided to the senior officials in charge of management controls for the ASD(C3I) and the Director, DISA.

Adequacy of Management's Self-Evaluation. In the FY 1997 and FY 1998 Annual Statements of Assurance, the Secretaries of the Military Departments and the Director, DISA, did not identify the specific material management control weaknesses identified by the audit. DISA and the Military Departments did not identify metropolitan and regional networks or the review and revalidation program as assessable units. In the FY 1997 and FY 1998 Statements, the Navy identified base telecommunications infrastructure and DISA identified the system used to track the review and revalidation process as material control weaknesses. However, the Navy and DISA planned actions would not correct the specific weaknesses addressed by the recommendations in this report.

Appendix B. Summary of Prior Coverage

The General Accounting Office issued four and the Office of the Inspector General, DoD issued seven reports in the last 5 years that discussed the requirement validation for telecommunications services.

General Accounting Office

General Accounting Office, Report No. AIMD-98-182 (OSD Case No. 1637), "Defense Information Services Business Area: Improved Pricing and Financial Management Practices Needed," September 15, 1998.

General Accounting Office, Report No. AIMD-98-202 (OSD Case No. 1631), "Defense Networks: Management Information Shortfalls Hinder Defense Efforts to Meet DISN Goals," July 30, 1998.

General Accounting Office, Report No. AIMD-97-9 (OSD Case No. 1244), "Defense Communications: Performance Measures Needed To Ensure DISN Program Success," November 27, 1996.

General Accounting Office, Report No. AIMD-95-136 (OSD Case No. 9685-A), "Defense Communications: Management Problems Jeopardize DISN Implementation," July 13, 1995.

Inspector General

Inspector General, DoD, Report No. 95-309, "Requirements Validation for Telecommunications Services-Guam," September 25, 1995.

Inspector General, DoD, Report No. 95-074, "Requirements Validation for the Defense Logistics Agency Command and Control Voice Communication System," January 11, 1995.

Inspector General, DoD, Report No. 95-071, "Requirements Validation for Telecommunications Services-Philadelphia Area," January 6, 1995.

Inspector General, DoD, Report No. 94-173, "Selected Special-Purpose Telecommunications Circuits," August 8, 1994.

Inspector General, DoD, Report No. 94-120, "Telecommunications Circuit Allocation Programs-Jacksonville Area," June 6, 1994.

Inspector General, DoD, Report No. 94-072, "Telecommunications Circuit Allocation Programs-Kansas City Area," March 31, 1994.

Air Force Audit Agency

Air Force Audit Agency, Report No. 98058032, "Long-Haul Telecommunications," March 10, 1999.

Appendix C. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense (Comptroller)
  Deputy Chief Financial Officer
  Deputy Comptroller (Program/Budget)
Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
Assistant Secretary of Defense (Public Affairs)
Director, Defense Logistics Information Exchange

Department of the Army

Auditor General, Department of the Army

Department of the Navy

Assistant Secretary of the Navy (Financial Management and Comptroller)
Auditor General, Department of the Navy

Department of the Air Force

Assistant Secretary of the Air Force (Financial Management and Comptroller)
Auditor General, Department of the Air Force

Other Defense Organizations

Director, Defense Contract Audit Agency
Director, Defense Information Systems Agency
Director, Defense Logistics Agency
Director, National Security Agency
  Inspector General, National Security Agency
Inspector General, Defense Intelligence Agency

Non-Defense Federal Organizations and Individuals

Office of Management and Budget
General Accounting Office
  National Security and International Affairs Division
    Technical Information Center

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Commerce, Science, and Transportation
Senate Subcommittee on Communications, Committee on Commerce, Science, and Transportation
Senate Committee on Governmental Affairs
House Committee on Appropriations
House Committee on Armed Services
House Committee on Commerce
House Subcommittee on Telecommunications, Trade and Consumer Protection, Committee on Commerce
House Committee on Government Reform
House Subcommittee on Government Management, Information, and Technology, Committee on Government Reform
House Subcommittee on National Security, Veterans' Affairs, and International Relations, Committee on Government Reform

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

COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
6000 DEFENSE PENTAGON
WASHINGTON, DC 20301-6000

April 6, 1999

MEMORANDUM FOR DIRECTOR, CONTRACT MANAGEMENT DIRECTORATE, OFFICE OF THE INSPECTOR GENERAL

SUBJECT: Audit Report on the Management of DoD Long-Haul Telecommunications Requirements (Project No. 8CC-5005) -- DRAFT REPORT

We have reviewed the subject draft Audit Report. In general, we agree with the recommendations, as stated. We are involved in the process, referred to as the Global Networked Information Enterprise (GNIE), that will result in policy addressing many of your findings and recommendations. Specifically, it will result in policy replacing the existing DoD Directive 4640.13, "Management of Base and Long-Haul Telecommunications Equipment and Services." This will address the Defense Information System Network (DISN) as well as the Wide-Area Networks (WANs), Metropolitan-Area Networks (MANs), base-level networks, and Local-Area Networks (LANs), that comprise it. Key to this policy will be the performance metrics and criteria for assessing accomplishment and enforcing compliance.

Effective, efficient, and assured global networked information services are critical to the readiness of the Defense Enterprise and of the individual Defense Components that comprise that Enterprise. It is in the best interests of the Department that the policies governing the acquisition, provision, and management of these services, and of the requirements that they support, be effective, efficient, and accountable, as well. To this end, it is our intent, through the GNIE process and various associated CIO efforts, to ensure that appropriate policy, with implementing instructions, and accountability for its execution are in place to enable and assure that end state.

Marvin J. Langston
Deputy Assistant Secretary of Defense
(CIO Policy and Implementation)

Defense Information Systems Agency Comments

DEFENSE INFORMATION SYSTEMS AGENCY
701 S. COURTHOUSE ROAD
ARLINGTON, VIRGINIA 22204-2199

IN REPLY REFER TO: Inspector General (IG)

31 March 1999

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE
(ATTN: CONTRACT MANAGEMENT DIRECTORATE)

SUBJECT: Response to DoD IG Draft Report, Management of DoD Long-Haul Telecommunications Requirements (Project 8CC-5005)

1. The following is the Agency's response to the subject report:

Recommendation A2. We recommend the Director, Defense Information Systems Agency:

A. Develop performance goals for responding to customer inquiries and requests about developing and implementing metropolitan area or regional networks.

DISA Response: Concur. DISA will develop performance goals in responding to customers on MANs and regional networks as stated in DISA's FY2000 Performance Contract with the Defense Management Council. Standard metrics measuring timeliness of service will be developed through a planned benchmarking study. ECD: 31 December 1999

B. Challenge telecommunications circuit requests, and support the DOD Components in describing their requirements before fulfilling a telecommunications service order.

DISA Response: Concur. Any telecommunications request that is presented to DISA by a DOD Component will be reviewed for proper requirements statement with the best solution for the customer and the Enterprise being proposed. DISA will then provide a solution IAW DISA Circular 310-30-1, Telecommunications Service Manual managed by D3, Networks Division.

2. If you have any questions, please call Ms. Stacy Miller, Audit Liaison, at (703) 607-6316.

RICHARD T. RACE
Inspector General

Quality Information for a Strong Defense

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