DEPARTMENT OF DEFENSE

AUDIT REPORT

REQUIREMENTS VALIDATION FOR TELECOMMUNICATIONS SERVICES

No. 90-005

October 16, 1989

Office of the Inspector General

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
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MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE)
COMPTROLLER OF THE DEPARTMENT OF DEFENSE

SUBJECT: Audit Report on Requirements Validation for Telecommunications Services (Report No. 90-005)

This is our final report on the Audit of Requirements Validation for Telecommunications Services for your information and use. The audit was performed from August 1987 to November 1988 at the request of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) (ASD[C^3I]) through the Director, Defense Communications Agency (DCA). The objectives of the audit were to determine if existing leased telecommunications services are discontinued when no longer required and to evaluate the adequacy of applicable internal controls.

The cost to Defense users for telecommunications services (both general-purpose and special-purpose circuits) leased through the Communications Services Industrial Fund was estimated at $987 million in FY 1988 and $1.06 billion in FY 1989. For our audit, we selected a universe from the DCA operational data base, known as the World-Wide On-Line System. Our universe contained 27,664 Command Communications Service Designators (the identifier for circuits leased and owned by DoD) issued for Defense Communications System single-channel special-purpose circuits. General-purpose and multichannel special-purpose circuits were excluded from our universe. The disbursements for circuits in the universe that were leased from communication vendors amounted to a net annual cost to the Government of $218.4 million (overhead, rate stabilization, and common-user system charges were excluded from this cost). The cutoff date for this selection was October 17, 1987. Using a cluster site-selection technique and computer-generated random numbers, we identified 6 installations in each Military Department and 3 installations representing Defense agencies, for a total of 21 audit sites. We then extracted an inventory of circuits from the universe for each of the 21 audit sites; this amounted to 1,323 Command Communications Service Designators. The disbursements for circuits in our sample that were leased from communications vendors amounted to a net annual cost to the Government of $10.2 million as of August 31, 1988.

The audit showed that Defense communications managers did not adequately revalidate the requirements for existing telecommunications services; therefore, they continued to pay for services that were no longer required. The Army and the Air Force conducted revalidation efforts during FY 1988, but in our opinion, their revalidation programs can be improved.

The Navy did not have a revalidation program. The Navy conducted a limited revalidation in 1983, but could not document the results. When informed of the results of our audit, the Commander, Naval Telecommunications Command, took immediate action to establish revalidation procedures by preparing a draft Navy instruction. This prompt action is commendable.

The Defense Logistics Agency also did not have a revalidation program. On several occasions during our audit, we informed senior communications managers of the seriousness of the audit results. However, no action was taken to establish a review and revalidation program.

Further, the ASD(C^3I) did not establish a definitive policy for the review and revalidation of Defense Communications System telecommunications services. The results of the audit are summarized in the following paragraphs, and the details, audit recommendations, and management comments are in Part II of this report.

Twenty-one percent of the 1,323 sample circuits reviewed at 21 DoD installations continued to be left in service or leased although the circuits were no longer required, were not cost-effective in their current configuration, or could not be identified. As a result, the Department of Defense may pay as much as $21.3 million during FY 1989 and $117.1 million in unnecessary leased communications costs during the execution of the FY 1989 - FY 1993 Five Year Defense Plan. We recommended that the ASD(C^3I) establish a definitive policy requiring DoD Components to review and revalidate telecommunications circuits leased and owned by the Defense Communications System at least once every 2 years, or annually if possible; review DoD Components' procedures to ensure that review and revalidation programs are effective and in compliance with established DoD policy; designate the World-Wide On-Line System data base as the official inventory of telecommunications circuits leased and owned by the Defense Communications System; require that all DoD Components establish and accurately maintain perpetual circuit inventories at the user, communications command, or communication

management levels; and require that DoD Components verify their inventories of Defense Communications System telecommunications circuits by physical count at least once every 2 years, or annually if possible, and reconcile these inventories to the World-Wide On-Line System data base. We also recommended that the Comptroller of the Department of Defense reduce the DoD communications budget for FY 1989 by $21.3 million and by $117.1 million for the FY 1989 - FY 1993 Five Year Defense Plan (taking into account reductions already made as a result of our audit) for telecommunications circuits leased through the Communications Services Industrial Fund (page 7).

The audit identified an internal control weakness as defined by Public Law 97-255, Office of Management and Budget Circular A-123, and DoD Directives 5010.38. Controls to identify telecommunications services that are no longer required and to ensure that services no longer required are discontinued were not established, and controls that were established were ineffective. We recommended that the ASD(C^3I) report DoD's lack of review and revalidation policy as a material internal control weakness to the Secretary of Defense. Recommendations 1.a. through 1.e. in this report, if implemented, will correct this weakness. We have determined that the monetary benefit that can be realized by implementing Recommendations 1.a. through 1.e. is $117.1 million. A copy of this report will be provided to the senior official responsible for internal controls within the Office of the ASD(C^3I).

A draft of this report was provided to management for review and comments on June 30, 1989. Comments on the draft were received from the Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) on September 8, 1989; and from the Office of the Comptroller of the Department of Defense on August 24, 1989. The management comments on a draft of this report did not fully comply with the requirement of DoD Directive 7650.3. The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence (ASD[C^3I]) concurred in Recommendations 1.a. through 1.d. and partially concurred with Recommendations 1.e. and 1.f. The ASD(C^3I) described corrective actions that would extend the application of Recommendations 1.a., 1.c., 1.d., and 1.e. to address non-Defense Communications System circuits. The ASD(C^3I) also proposed an alternative method in responding to Recommendation 1.c. that incorporates both the World-Wide On-Line System data base and the Communications Services Industrial Fund data base into the designated official inventory. Although

neither non-Defense Communications System circuit requirements nor the uses of the Communications Services Industrial Fund data base were included in our audit scope, we agree with these proposals and commend the ASD(C^3I) for this initiative and foresight. The ASD(C^3I) fully concurred and provided responsive actions to Recommendation 1.b.

Regarding Recommendation 1.e., the ASD(C^3I) stated that a physical inventory of sample locations, rather than a 100-percent inventory of all locations, could satisfy the review and revalidation requirement and that inventories performed include non-Defense telecommunications circuits. For reasons discussed in Part II of the report, we maintain that a complete physical count at all locations is still warranted, and we request that the ASD(C^3I) reconsider the position on this recommendation and provide comments in response to this final report. The ASD(C^3I) partially concurred in Recommendation 1.f. and proposed a series of actions that will eliminate the internal control weakness found during the audit. However, the ASD(C^3I) comments did not respond to the requirement to report this matter as a material internal control weakness to the Secretary of Defense in accordance with DoD Directive 5010.38. Accordingly, we request that the ASD(C^3I) provide comments on the reporting of the internal control weakness, including estimated or actual completion dates of corrective action taken, in response to this final report.

The Comptroller of the Department of Defense concurred in Recommendations 2.a. and 2.b. and described corrective action planned or taken, but did not provide the estimated or actual dates for the action proposed or taken; therefore, we ask that the Comptroller provide those dates in responding to this final report.

Based on comments from both the ASD(C^3I) and the Comptroller, we have deleted draft report Recommendations 1.f. and 2.c., which addressed an incentive program to retain a portion of savings achieved by eliminating circuits. Recommendation 1.g. in the draft report has therefore been renumbered Recommendation 1.f. in the final report.

DoD Directive 7650.3 requires that all audit recommendations be resolved within 6 months of the date of the final report. Accordingly, final comments on the unresolved issues in this report should be provided within 60 days of the date of this memorandum.

The courtesies and cooperation extended to the audit staff are appreciated. A list of audit team members is in Appendix J. Copies of this report are being provided to the activities listed at Appendix K. If you have any questions concerning this audit, please contact Mr. John A. Gannon at (202) 693-0113 (AUTOVON 223-0113) or Mr. Robert M. Murrell at (202) 693-0122 (AUTOVON 223-0122).

Stephen A. Trodden
Assistant Inspector General
for Auditing

cc:
Secretary of the Army
Secretary of the Navy
Secretary of the Air Force

REPORT ON THE AUDIT OF REQUIREMENTS VALIDATION FOR TELECOMMUNICATIONS SERVICES

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Prepared by:
Readiness and Operational
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REQUIREMENTS VALIDATION FOR TELECOMMUNICATIONS SERVICES

PART I - INTRODUCTION

Background

The Defense Communications System (DCS) is a worldwide composite of DoD-owned and leased telecommunications subsystems and networks composed of facilities, personnel, and materiel under the management control and operational direction of the Defense Communications Agency (DCA). The DCS provides long-haul, point-to-point, and switched network telecommunications services for the DoD and for certain other Government agencies. The leased services consist of general-purpose (common-user) backbone networks, such as the Automatic Voice Network and the Defense Data Network, and other special-purpose (dedicated) leased circuits, trunks, and networks. The DCS does not include communications facilities organic to military forces; tactical telecommunications; base communications (post, camp, base, station user and subscriber facilities, and terminals); or on-site facilities associated with or integral to weapon systems. Appendix A defines other communications terms.

Requirements for telecommunications services are determined through such activities as the headquarters of the Military Departments and Defense agencies, major commands, communications management offices, and local commanders. The DCA operates the Communications Services Industrial Fund to procure authorized commercial communications circuits, services, facilities, and equipment for the DoD and for other Government agencies. This procurement function is carried out by the Defense Commercial Communications Office, which is the operating arm of the Communications Services Industrial Fund, and obtains telecommunications services by issuing Communications Service Authorizations. These authorizations are service contracts placed against basic ordering agreements established with various vendors, and are authorized by Telecommunications Service Orders from the Allocation and Engineering Directorate, a subelement of the DCA Operations Center. The Telecommunications Service Order is based on a Telecommunications Service Request that the supported activity submits to the DCA Allocation and Engineering Directorate through its Telecommunications Certification Office. Each Telecommunications Service Request, in turn, is based on a Request for Service that a subordinate activity (such as a local commander, a major command's communications manager, or a network's communications manager) submits to its responsible Telecommunications Certification Office.

Within CONUS, the certification functions for the Army, Navy, and Air Force are performed by elements of the U.S. Army Information

Systems Command (U.S. Army Commercial Communications Office), the Naval Telecommunications Command (Navy Commercial Communications Office), and the Air Force Communications Command (Air Force Telecommunications Certification Office). The major Defense agencies are authorized to have their own internal certification function. The certification offices review the Requests for Service, prepare the Telecommunications Service Requests, and certify that each request for service is valid, approved, and funded. The Allocation and Engineering Directorate supports the Telecommunications Certification Offices by maintaining a DCS inventory of existing circuits and trunks, known as the World Wide On-Line System (WWOLS), and by assigning the Command Communications Service Designator to each circuit on the WWOLS data base.

Objectives and Scope

This audit was conducted in response to a request made by the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) (ASD[C^3I]) through the Director, DCA. The request addressed the potential underutilization of leased communications services by the Military Departments and the Defense agencies. The audit objective was to determine if existing leased telecommunications services are discontinued when no longer required. We also evaluated the adequacy of applicable internal controls used to identify leased telecommunications services that are no longer required and to ensure that these services are discontinued.

The costs to Defense users for telecommunications services leased through the Communications Services Industrial Fund were estimated at $987 million in FY 1988 and $1.061 billion in FY 1989 for both general-purpose and special-purpose circuits. For our review, however, we selected an audit universe from the WWOLS data base. Our universe contained 27,664 Command Communications Service Designators (CCSD's) (for circuits leased and owned by DoD) issued for DCS single-channel special-purpose circuits. General-purpose and multichannel special-purpose circuits were excluded from our universe. The cutoff date for this selection was October 17, 1987. When these designators were matched to cost information in the Defense Commercial Communications Office data base, the disbursements for leased circuits in the audit universe amounted to a net annual cost (excluding overhead, rate stabilization, and common-user system charges) to the Government of $218.4 million as of August 31, 1988. The audit universe was selected from the WWOLS data base using the following six criteria:

Organization	-	Military Departments and Defense agencies.
Geographical	-	CONUS, Alaska, and Hawaii.
Classification	-	CCSD's identified as "Unclassified" and "For Official Use Only."
Origin	-	CCSD's identified as "From" a geographical location.
Status	-	CCSD's identified as "Active" or "Contingent."
Type of Service	-	Codes selected to identify single-channel leased circuits (codes for multichannel or trunk circuits were not selected).

The audit universe contained 1,377 geographical locations. For our sample, we used a cluster site-selection technique and computer-generated random numbers. We identified 6 locations in each Military Department and 3 in Defense agencies other than DCA, for a total of 21 audit sites. After randomly selecting the audit sites, we found that the three locations representing Defense agencies were field activities of the Defense Logistics Agency.

We then extracted an inventory of circuits from the audit universe for each of the 21 audit sites, which amounted to 1,323 CCSD's (for circuits leased and owned by DoD). The audit sample for the verification phase of our review consisted of these 1,323 CCSD's, representing more than twice the number of necessary sample items needed for a valid statistical projection of the results. When we matched the sample items to the Defense Commercial Communications Office data base, we found that disbursements for leased circuits in our audit sample amounted to a net annual cost to the Government of $10.2 million as of August 31, 1988. Using statistical sampling techniques, our Quantitative Methods Division projected the dollar value of our audit sample verification results against the dollar value of the audit universe. Circuits without leased costs would not be included in this projection of dollar values. To verify the audit sample, we visited or contacted a number of activities in addition to the audit sites. (These activities are listed at Appendix I).

Further, to provide real-time audit results, we sent 15 letters to Navy, Air Force, and Defense Logistics Agency installations or senior communications managers concerning the circuits that we determined were unjustified. In a meeting with senior

representatives of the U.S. Army Commercial Communications Office, we discussed unjustified circuits found at four Army installations, and the representatives agreed with our conclusions. We also informed the DCA, the Defense Commercial Communications Office, communications commands of the Military Departments, and when necessary, major commands and tenant units concerned with the circuits reviewed at each installation. We discussed the details of our results and recommendations with senior communications management personnel. In our correspondence and meetings, we explained the bases for our conclusions and asked that corrective action be taken to either discontinue or reconfigure the unjustified circuits.

We reviewed the justification for each of these sample circuits to determine whether a valid requirement existed, and whether service had been properly discontinued when it was found that a valid requirement no longer existed. We reviewed applicable internal controls at each audit site, as well as internal control policies of the ASD(C^3I), each Military Department's communications command, and the Defense Logistics Agency. Our audit showed that DoD's lack of formal policy for the revalidation of telecommunications services provided by the Defense Communications System constituted a material internal control weakness.

This economy and efficiency audit was made from August 1987 to November 1988 in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD, and accordingly, included such tests of internal controls as were considered necessary.

Prior Audit Coverage

In Report No. 81-030, "Audit of Revalidation Procedures for Special-Purpose Communication Circuits in Europe," dated December 19, 1980, the Defense Audit Service stated:

> Revalidation procedures in the U.S. European Command needed improvement to ensure that individual user requirements were realistic and provided a basis to match theater requirements with available resources. Annual revalidation programs established by the Army and Air Force were not effectively implemented. The Navy, Defense Communications Agency-Europe and other U.S. Government users had not established formal programs.

The report recommended that the ASD(C^3I), in conjunction with the Director, DCA, improve revalidation programs in Europe and "determine the economic feasibility of continuing and expanding revalidation procedures into centrally managed programs, both regional and potentially worldwide in scope." The ASD(C^3I) and DCA agreed that improved revalidation procedures were needed for special-purpose circuits, and DCA indicated that it had been preparing a proposed Department of Defense instruction that specifically addressed this need. Both the ASD(C^3I) and DCA emphasized, however, that any revalidation programs in Europe should comply with the proposed instruction, which was to be worldwide in scope. Although the U.S. European Command took some corrective actions, the Defense Audit Service report disclosed that an instruction on revalidation policy or procedures was never issued. The conditions described in the Defense Audit Service report and this report are similar. However, the Defense Audit Service report addressed conditions peculiar to problems overseas, but did not address telecommunications problems in the United States.

The Office of the Assistant Inspector General for Auditing, DoD, Report No. 87-005, "Control of Unofficial Telephone Calls," dated October 8, 1986, stated:

> DoD leased and paid for more than 5,600 telephone main lines in the National Capital Region that were not used during January 1985. . . . We observed two factors that restricted assurance that all leased telephone lines continued to be necessary and were actually in use.

The Defense Telecommunications Service-Washington (DTS-W) did not maintain its own inventory of telephone main lines, and telephone control officers needed access to circuit records and training to effectively monitor changes in line inventories and to identify unused lines. The report recommended that DTS-W establish an inventory of leased telephone main lines independent of the telephone company's billing records. The report further recommended that telephone control officers have access to circuit listings and be trained to conduct effective quarterly reviews of main line requirements. The Director, DTS-W, concurred in the recommendations to provide access to circuit listings and training for telephone control officers, but nonconcurred in the recommendation to establish an inventory. The Director, DTS-W, felt it was impractical "to establish an independent data base of 90,000+ lines and then continually update it." DTS-W proposed that the 5,600 lines be physically

checked against the same records the auditors had reviewed to determine if the lines were actually being used. This alternative method satisfied the intent of the recommendation.

PART II - FINDING AND RECOMMENDATIONS

Revalidation of Requirements for Telecommunications Circuits

FINDING

A review of the requirements for 27,664 existing Defense Communications System (DCS) telecommunications circuits with an annual cost of more than $218 million showed that these requirements often were not adequately revalidated. We found that 21 percent of the 1,323 sample circuits reviewed at 21 DoD installations continued to be left in service or leased although they were no longer required, were not cost-effective in their current configuration, or could not be identified. This condition occurred primarily because the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) had not established a definitive policy for the review and revalidation of DCS telecommunications circuits. Also, when revalidation efforts were made, they were hampered by inadequate review procedures, and by missing or inaccurate circuit inventories and associated records. As a result, leased circuits that are no longer required or not cost-effective may cost DoD as much as $21 million during FY 1989 and $117 million during the execution of the FY 1989 - FY 1993 Five Year Defense Plan. Further, the absence of definitive policy for the review and revalidation of DCS telecommunications circuits constituted a material internal control weakness.

DISCUSSION OF DETAILS

Background. Department of Defense Directive 5137.1, "Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)" (ASD[C^3I]), dated April 2, 1985, provides that the ASD(C^3I) is the Principal Staff Assistant and advisor to the Secretary of Defense for DoD policy, requirements, priorities, systems, resources, and programs for command, control, and communications. The Directive further provides that the ASD(C^3I) shall develop policies and issue guidance to DoD Components for this area of responsibility. Through DoD Directive 5134.1, "Under Secretary of Defense (Acquisition)" dated February 10, 1987, the Under Secretary assumed direction, authority, and control over the Defense Communications Agency (DCA) from the ASD(C^3I). However, in a memorandum entitled, "Duties and Responsibilities of the Assistant Secretary of Defense for Command, Control, Communications and Intelligence," dated September 21, 1988, the Under Secretary delegated authority to and directed the ASD(C^3I) to exercise control over DCA.

DoD Directive 5105.19, "Defense Communications Agency," dated December 12, 1988, provides that the Director, DCA, shall exercise operational control over the DCS; ensure that the DCS is operated and managed effectively and efficiently; acquire, as directed, commercial communications services for the DoD; and maintain the Communications Services Industrial Fund.

DCA Circular 310-130-1, "Submission of Telecommunications Service Requests," dated February 14, 1986, prescribes instructions for the preparation and submission of Telecommunications Service Requests applicable to requirements for DCS service. The Circular states:

> Telecommunications facilities established under the procedures outlined in this Circular, which interface with the DCS, are subject to the operational direction and management control of the Director, DCA [under provisions of DoD Directive 5105.19].... When these facilities are no longer required, they will be reported through established TCO [Telecommunications Certification Office] channels to the appropriate DCA action agency for discontinuation.

We took extensive steps to verify the communications requirements for the sample circuits. Using a multilevel approach as described in Appendix B, we interviewed communications personnel at each activity that we visited or contacted on other sources of information concerning the particular circuit being reviewed. We gathered data at the local-user level first, and if necessary, we pursued additional sources of information at higher communications management levels within the DoD Component, at DCA activities, or at telecommunications companies. We contacted the local users as many times as necessary to confirm data or explain our conclusions. After we had obtained complete information concerning the usage of and need for the circuit, we applied the three criteria discussed below to determine whether the telecommunications service was justified. We found that an effective revalidation program should include on-site visits, the use of questionnaires, and a multilevel approach to gather the necessary information. Revalidation reviewers must obtain enough information to determine whether an existing communications requirement is valid. Reviewers should contact all activities that are aware of the need for or the cost-effectiveness of a particular telecommunications circuit.

Revalidation of Requirements. We reviewed the usage of and need for 1,323 telecommunications circuits to determine whether a

valid requirement existed as of October 17, 1987 (the cutoff date for the audit sample), and whether the service had been properly discontinued when a valid requirement no longer existed. Three criteria were established for the review of each sample item:

- a need to communicate must have existed on October 17, 1987;

- if a need to communicate existed, the sample circuit must have been configured in the most cost-effective manner; and

- the user must have been able to find the sample circuit (physically locate it).

If a sample circuit failed to meet any of these criteria, we concluded that a valid requirement no longer existed for the circuit in its established configuration. For compiling our audit results, we labeled this type of circuit as unjustified.

Based on these criteria, almost 21 percent of the 1,323 telecommunications circuits reviewed at 21 DoD installations were unjustified, yet they continued to be left in service. The unjustified sample items totaled 277 circuits. Details are shown in the table below.

Unjustified DoD Circuits

DoD Component	No Requirement	Not Cost-Effective	Could Not Identify	Unjustified Circuits
Army	67	18	8	93
Navy	20	3	0	23
Air Force	21	3	4	28
Defense Agencies	27	106	0	133
Total	135	130	12	277

Appendix C lists the number of unjustified circuits found at each installation we visited. Appendix D provides examples of unjustified circuits and associated costs, and examples of our verification techniques.

These unjustified circuits were never revalidated or were not adequately revalidated, primarily because a definitive policy requiring the review and revalidation of DCS telecommunications circuits was not established. Our audit results showed that a significant problem existed in the Defense management of DCS special-purpose circuits, and that several opportunities to establish policy had been lost, which aggravated the situation.

Delays in Policy Development. Based on the Defense Audit Service Report No. 81-030, dated December 19, 1980, the ASD(C^3I) has known, since at least 1980, that review and revalidation procedures were needed within DoD. In a reply to the draft of that report, issued May 23, 1980, the ASD(C^3I) stated in a memorandum dated July 14, 1980, that "... we [ASD (C^3I) and DCA] agree with the need for establishing and implementing better procedures for revalidating special-purpose circuits." The ASD(C^3I) further stated:

> For several months, the Defense Communications Agency has been preparing a proposed Department of Defense Instruction (DoDI) which specifically addresses this need. The DoDI, entitled 'DoD Long-Haul Telecommunications Service Acquisition and Management,' will establish uniform criteria and procedures for the evaluation and periodic reevaluation of special-purpose long-haul telecommunications service requirements.

The replies from DoD Components to the draft instruction prepared by DCA were so diverse that new negotiations and draft policy and procedure statements were required. The issues raised by DoD Components were not resolved to the satisfaction of DoD telecommunications managers and, to date, the draft instruction has not been issued. DoD Directive 5105.19 requires DCA to exercise operational control over the DCS and to ensure that the DCS is operated and managed effectively and efficiently. However, DCA did not take the initiative to establish a revalidation program for telecommunications service within the DCS.

In January 1984, the Office of the Assistant Inspector General for Audit Followup, DoD, inquired about the status of the DCA draft instruction. In reply to this inquiry, the Principal Deputy Under Secretary of Defense for Research and Engineering suggested that further action be held in abeyance for 1 to 2 years to permit "a settling of the industry" due to the American Telephone and Telegragh (AT&T) divestiture and other regulatory actions. We concluded that the AT&T divestiture had little or no effect on the ability of telecommunications managers to determine whether a need to communicate existed on any particular circuit, and imposed no barrier to establishing a review and revalidation policy. However, 2 years passed and no policy had been issued by the ASD (C^3I).

Subsequently, the Defense Commercial Telecommunications Committee, chaired by personnel from the Office of the Assistant Secretary of Defense (Command, Control, Communications, and

Intelligence), also took up the task of developing DoD guidance for revalidation procedures. In 1986, the U.S. Army Commercial Communications Office produced a draft DoD Directive entitled, "Biennial Review and Rejustification of Long-Haul Telecommunications Services," for use by the committee. The committee also prepared a draft DoD Directive entitled, "Review and Revalidation of Telecommunications Services," for coordination among DoD Components. However, these efforts to establish policy were again unsuccessful because the draft directives were never issued. Consequently, 9 years after this problem was identified by audit, DoD Components were still without adequate guidance.

Review and Revalidation Programs. We did not audit the procedures of DoD Components that reviewed and revalidated their circuits. During the audit, however, we examined regulatory requirements, procedures, and documents issued to implement existing programs. When possible, we obtained copies of revalidation documents from earlier reviews of our sample circuits. We identified significant differences in the approaches used by DoD Components to revalidate special-purpose circuits that are part of the DCS. The DCA manages these special-purpose circuits, and the ASD(C^3I) has oversight responsibility for them. For example, the Army required that all special-purpose services be reviewed and revalidated every second year (biennially). The Air Force required that only leased services be reviewed and revalidated biennially. The Navy required biennial reviews, but did not require that dedicated networks and circuits be revalidated. The Defense Logistics Agency had no policy for review or revalidation. Circuit inventory records that provided the basis for review and revalidation programs often were not accurate, complete, or consistently drawn from the same data base. Therefore, neither the ASD(C^3I) nor the Director, DCA, could be assured that all existing DCS special-purpose circuits had valid requirements, that the circuit inventories of DoD Components agreed with the DCA operational data base (the WWOLS), or that the WWOLS accurately represented all special-purpose telecommunications resources in DCS.

Army. Army Regulation 105-10, "Communications Economy and Discipline," dated July 1, 1977, assigns the responsibility for review and revalidation to the Commanding General, U.S. Army Information Systems Command; this responsibility has been further delegated to the Director, U.S. Army Commercial Communications Office (USARCCO). Department of the Army Pamphlet (DA PAM) 25-5, "Preparing and Processing Requests for Long-Haul Information Transfer Services," dated July 17, 1987, established policy and procedures. Instructions that implemented the biennial reviews gave more detailed procedures.

USARCCO also maintains the Army's Leased Communications Management Information System, whose functions are described in DA PAM 25-5. Monthly extracts of special-purpose circuit records are derived from the Defense Commercial Communications Office (DECCO) financial and DCA operational data bases and merged to form the Leased Communications Management Information System. The system produces reports that give user activities the current inventory and financial status of communications resources leased and owned by the Army, and the data to determine whether existing services are effective and efficient. The reports may be used to identify duplicate services and to give users information for reviewing and revalidating leased services. These reports, however, were not available at all Army installations included in the audit.

The Army review and revalidation program and associated computerized reports are the most comprehensive of those that we examined, and can serve as models for other programs. However, the Army can make improvements in its program. For example, when we compared our audit sample extracted from the WWOLS data base to the computerized report obtained at USARCCO, we could not reconcile the Army inventory of circuits shown in the two documents. When questioned about the differences, USARCCO personnel could neither reconcile the two documents nor explain why the Army report and our WWOLS data extracts did not agree. Consequently, there was no assurance that the Army report gave an accurate count of special-purpose circuits leased and owned by the Army. The Army report should be reconciled to the WWOLS data base.

Navy. Office of the Chief of Naval Operations Instruction 2800.2, "Naval Telecommunications System (NTS) Operating Requirements," dated January 2, 1980, assigns responsibility to the Commander, Naval Telecommunications Command (NAVTELCOM) to conduct biennial reviews of dedicated networks and circuits to "determine whether such networks and circuits will be continued, or if the requirements can be fulfilled through use of DCS common-user networks." In our opinion, this policy statement is not comprehensive enough, because it does not specifically require the revalidation of all special-purpose circuits. The Navy has not established any review and revalidation program or procedures to implement this policy. According to NAVTELCOM personnel, Navy circuits were last revalidated in 1983, but they could not give us any details or documentation of that revalidation. Further, NAVTELCOM Instruction 5450.57, "Mission and Functions Assigned to Navy Commercial Communications Office," dated July 21, 1986, does not mention revalidation in assigning functions to the Navy Commercial Communications Office. Senior officials at NAVTELCOM agreed that the Navy's situation was serious and that prompt action was needed. When informed of the

results of the audit, the Commander, NAVTELCOM, and his staff took immediate action to establish revalidation procedures. NAVTELCOM prepared a draft instruction, "Procedures for Review and Revalidation of Telecommunications Systems," for review by the Office of the Chief of Naval Operations. The draft procedures were modeled on the Army program, and NAVTELCOM personnel stated that USARCCO helped them extract data from the WWOLS and DECCO data bases for preparing the Navy's revalidation questionnaires. This prompt action is commendable.

However, other improvements need to be made. NAVTELCOM does not maintain a data base of telecommunications circuits like the Army's; nor does NAVTELCOM use extractions from the WWOLS data base in revalidation efforts. Instead, Navy installations are required to submit an annual Communications Operating Facilities Report. The report, which is updated semiannually, gives the current status of communications operating facilities at Naval shore activities. However, NAVTELCOM frequently did not send the report to every installation for updating, and installations that received the report frequently did not update and return it. Some installations could not locate the report, and at other installations, the report was more than 1 year old and was not updated. Installations were not required to check the accuracy of these reports against NAVTELCOM records, match them to the WWOLS data base, or take physical inventories to verify the data. We do not believe, therefore, that the Communications Operating Facilities Report currently provides an accurate or complete inventory of Navy telecommunications services. The use of USARCCO computer software to extract Navy circuits from the DCA data base indicates that the report cannot support a NAVTELCOM review and revalidation program or other communications management missions. NAVTELCOM should take additional action to establish a perpetual inventory of Navy special-purpose circuits.

Air Force. Air Force Regulation 700-8, Volume I, "Introduction and Policy for Telephone System Management," dated June 1, 1987, states, "The DECCO inventory of leased services will be revalidated biennially in accordance with special instructions provided by the Air Force Telecommunications Certification Office (AFTCO)." The Air Force did not include its revalidation program and procedures in a permanent regulation as the Army did, but instead issued them in only a temporary memorandum that implemented the biennial review. The lack of permanent procedures hampered user activities' efforts to promote local revalidation reviews that support both the AFTCO program and Air Force policy. A well-planned program, established in a permanent regulation, would make revalidation more consistent for both the Air Force Communications Command and the user activities. Also, AFTCO did not maintain a perpetual inventory of special-purpose services; instead, AFTCO obtained computer

listings from the DECCO data base to reflect circuit Communications Service Authorizations. Although AFTCO used them for revalidation purposes, the listings were neither extracted from the WWOLS data base nor verified against it.

Since Telecommunications Service Requests are recorded in the WWOLS data base, an inventory based on the DECCO data base alone will not provide an accurate or complete record of telecommunications services. For example, the DECCO data base did not list DoD-owned circuits, because DoD did not incur lease costs for them. Although a reduction in DoD-owned services did not appear to produce an immediate dollar savings, a reduction could produce overall communications savings by freeing circuit channels, terminal equipment, or personnel for other communications requirements. Deleting an unneeded requirement from a DoD-owned circuit would free an additional circuit channel; perhaps a new circuit would not need to be leased, or an existing leased circuit could be reconfigured. The new or existing requirement could then be routed over the existing DoD-owned service at no cost. We do not believe, therefore, that a report extracted solely from the DECCO data base is complete enough to use for revalidation.

Defense Logistics Agency (DLA). The DLA did not issue policy or procedures for the review and revalidation of special-purpose telecommunications services. The Defense Systems Automation Center (DSAC) (the communications manager for DLA), did not take action either to revalidate special-purpose circuits or to extract any information from the WWOLS data base to verify DLA's inventory of circuits. User activities submitted requests for service through DSAC to DCA. DSAC maintained the requests for service as DLA's circuit inventory, along with documentation to support the requests. The files of service requests were accurately maintained; however, DSAC personnel did not send any reports to DLA field activities to have them verify circuit inventories or revalidate existing requirements. During our audit, we informed senior DLA communications managers on several occasions of the seriousness of this condition. However, no action was taken to establish a review and revalidation program.

Circuit Inventory Records. Our audit was hampered by the lack of accurate and complete circuit inventory records. The ASD(C^3I) had not designated a data base within DoD as the official inventory of DCS telecommunications services. Further, neither military nor DLA regulations clearly required installations to maintain perpetual circuit inventories or to comply with instructions in DCA Circular 310-130-1 on the use of the Command Communications Service Designator (CCSD). We found that 7 (33 percent) of the 21 installations did not maintain records that were adequate to support our revalidation

review, or did not comply with DCA instructions on the use of the CCSD as a cross-reference to commercial circuit numbers.

DoD Official Inventory. The ASD(C^3I) had not designated a data base within DoD as the official inventory of DCS telecommunications services for purposes of review and revalidation. DCA Circular 310-65-1, "Circuit and Trunk File Data Elements and Codes Manual of the Defense Communications System (DCS)," dated April 21, 1987, states, "The current DCS Circuit and Trunk Files [the WWOLS]...are used...to assist in the following activities..." (nine activities are listed). One of these activities was to provide an inventory of resources to operating agencies. Since all Telecommunications Service Requests for circuits leased and owned by DoD were recorded daily in the WWOLS data base to provide the data for this inventory and other purposes, the WWOLS data base served as the primary inventory of DCS telecommunications resources. The WWOLS, therefore, is an important tool in DoD's management of the DCS, and should accurately represent these resources.

The importance of this function should be recognized by designating the data base as the official inventory of DCS telecommunications services for DoD review and revalidation programs and other designated communications functions. The ASD(C^3I) should require that DoD Components reconcile their inventories of DCS circuits to the WWOLS data base to ensure that both the data base and DoD Components' inventories are accurately maintained. This reconciliation process should ensure that the WWOLS data base and circuit inventories are accurately maintained at all levels, provide the foundation for ongoing review and revalidation programs, and support other designated communications functions.

Perpetual Circuit Inventories. Perpetual circuit inventories should be maintained at user activities. Although leased special-purpose services are not investment expenditures, circuits should be accounted for as assets on circuit inventory records due to the high recurring costs and longevity of many connections. The Navy example discussed in Appendix D, for instance, showed that each of the four activities involved -- Naval Radio Station, Sugar Grove (the using activity), Naval Communications Area Master Station, Atlantic (the initiating activity), Navy Commercial Communications Office (the paying activity), and DECCO (the contracting and disbursing activity) -- relied on the others to identify the correct number of justified circuits in use. If the circuits had been physically counted during a local or Service-wide revalidation effort, and reconciled to the WWOLS data base through perpetual inventories maintained by users and communication commands, these discrepancies would have been easily found. Perpetual inventories

should agree with the assets on hand, such as telecommunications circuits in use, and records should be updated as changes occur. These inventories, for example, may consist of copies of user-generated Requests for Service, completed leasing action messages or other documentation, locally-generated inventory cards, reports prepared by central communications managers, or some combination of these records.

In turn, communications commands of the Military Departments and communications managers at other DoD Components should also maintain perpetual inventories of telecommunications services. These inventories should record all telecommunications circuits leased and owned by DoD and could be supplemented with financial data extracted from the DECCO data base or any other pertinent data necessary for communications management. Perpetual circuit inventories must also be fully reconcilable to the WWOLS data base.

As with any perpetual inventory system, change documents (for additions, deletions, or reconfigurations) would be used to update files, but assets would also have to be counted periodically to verify their actual existence and the documentation. Neither the Military Departments nor DLA required a periodic physical count of existing telecommunications circuits. The Air Force required a physical count in its guidance for the FY 1988 revalidation, but this requirement was not stated in Air Force communications regulations. User activities should count their circuits at least every 2 years, or annually if possible, to verify both the existence of the asset and the inventory documentation. The physical count of circuits is the first step in verifying that telecommunications resources are accurately identified.

Once the count has been made, user activities should reconcile their inventory records to records maintained by the communications command or other central communications managers. The centrally maintained records, in turn, should be reconciled to the WWOLS data base to complete the cycle. Revalidation can be conducted more easily when all types of special-purpose circuits are accurately identified.

Command Communications Service Designator (CCSD). DCA Circular 310-130-1 also states that the CCSD is the primary identification for all DCS circuits. All offices must either maintain files on DCS circuits by DoD circuit number, or be able to cross-reference telecommunications service request numbers or commercial circuit numbers to the assigned CCSD. Circuit identification aids reconciliation of user records to the WWOLS data base. DoD Component regulations did not state that user records will adhere to this requirement. Circuit identification

was not adequately done at seven installations included in the audit. Also, to properly identify circuits and assist in the physical count, both the CCSD and commercial circuit number should be labeled at the demarcation point of the circuit, thus the physical count would be facilitated and the circuit identification would be simplified. Otherwise, the physical count may not accurately identify the existence of a particular circuit.

Other Improvements. Measuring usage on both voice and data circuits is an important tool for determining whether a communications requirement is valid. Although Navy guidance did not specifically address usage, both Army and Air Force regulations cited usage as one criterion for the retention of special-purpose circuits. We found, however, that traffic volume was not frequently known or measured. Our questionnaire specifically requested traffic volume for each sample circuit. Of the 1,263 responses (60 sample items had been discontinued) to this inquiry, 1,012 did not provide traffic data. Of the remaining 251, we received traffic data for only 68 of the circuits from installations queried; 183 of the responses concerned access circuits for common-user networks where DCA measured the traffic. We recognize that a critical communications mission may require the retention of a circuit with little traffic, however, most circuits we examined did not support a mission with a critical requirement, and should be discontinued or reconfigured if the volume of traffic does not justify a special-purpose circuit. Increased emphasis should be placed on measuring traffic volume and evaluating the data during revalidation.

In summary, revalidation efforts were stymied and resources wasted because communications managers frequently did not maintain accurate records. User activities should be required to maintain accurate records of telecommunications circuits. This should be done so that local revalidations can be conducted and users' circuit inventories can be reconciled to centrally maintained inventories. Accurate records will also assist the Military Departments and Defense agencies in revalidating circuits, and will allow local communications managers to properly plan the addition, deletion, or reconfiguration of telecommunications services at their activities. Further, establishing and maintaining accurate perpetual inventories will reduce the resources needed to conduct adequate and comprehensive revalidation programs. An accurate inventory of resources is an effective managerial tool and an essential internal control. Finally, improved procedures such as the analysis of traffic data and utilization reports, and improved techniques, such as on-site visits and a multilevel approach, will increase the effectiveness of review and revalidation programs.

Cost Impact to the Government. The impact of the lack of a definitive revalidation policy, inadequate review procedures, and inaccurate circuit inventories is best shown in the annual cost of active circuits that are not required or that are not cost-effective. To illustrate, we found that the net annual cost to the Government for the unjustified circuits in our audit sample was almost 10 percent of the dollar value of the sample, and amounted to almost $995,000. Details are shown in the table below.

Annual Cost of Unjustified Circuits in DoD

DoD Component	Circuits With No Requirement	Circuits Not Cost-Effective	Unjustified Circuit Costs
Army	$ 217,132	$ 164,295	$ 381,427
Navy	93,264	3,141	96,405
Air Force	124,534	34,882	159,416
Defense Agencies	184,710	172,640	357,350
Total	$ 619,640	$ 374,958	$ 994,598

We could not determine if there were any costs associated with those circuits that could not be identified. Of the $995,000 unjustified circuit costs, Appendix D provides examples of how $430,000 could be saved. Appendix E lists the annual cost of unjustified circuits for each installation included in the audit.

The $995,000 represents the actual recurring annual cost of the sample circuits we identified as unjustified, and is the basis of our statistical projection. From our unjustified sample items, we also identified $35,471 in actual nonrecurring costs for the termination of discontinued circuits and the installation of reconfigured circuits. By projecting the results of our audit sample (at a 95-percent confidence level, plus or minus a 5.2-percent margin of error) to the audit universe, we extrapolated the recurring annual costs of unjustified circuits within DoD at $21.3 million and nonrecurring costs at $760,000. To project recurring and nonrecurring costs for FY 1989, we applied the established DoD inflation factor (3.8 percent for FY 1989) and calculated the amounts to be $22.1 million in recurring costs and $789,000 in nonrecurring costs. The net recurring annual costs for FY 1989 ($22.1 million minus $789,000) are $21.3 million. Using the FY 1989 recurring costs ($22.1 million) as the base year, we then applied the established DoD inflation factors (3.6 percent for FY 1990, 3.3 percent for FY 1991, 2.8 percent for FY 1992, and 2.3 percent for FY 1993)

for the next 4 fiscal years, calculating the total recurring costs for the current Five Year Defense Plan at $117.9 million. The net recurring costs for the Five Year Defense Plan ($117.9 million minus $789,000) were $117.1 million. We concluded, therefore, that DoD may pay as much as $21.3 million during FY 1989 and $117.1 million during FY 1989 through FY 1993 in unnecessary leased communications costs for circuits that are no longer justified. Projections of potential monetary savings resulting from this audit are at Appendix F.

At the conclusion of our audit, we briefed officials in the Office of Comptroller of the Department of Defense on our audit results and on the potential for substantial monetary savings. They agreed that the unjustified circuits identified in our audit were a serious problem that needed prompt action. Immediate action was taken by that office to reduce the DoD budget for leased telecommunications by $17 million in FY 1989. Subsequently, the DoD amended the "FY 1990/FY 1991 Biennial budget" for communications to reflect savings of $15 million in FY 1990 and $16.6 million in FY 1991. These reductions constituted a total savings of $48.6 million for FY 1989 through FY 1991.

Management Control. DoD Directive 5010.38, "Internal Management Control Program," dated April 14, 1987, guides DoD Components in establishing internal control programs. DoD Components should implement a comprehensive system of internal management controls to provide reasonable assurance that assets are safeguarded against waste, loss, unauthorized use, and misappropriation. An internal control program should also prevent mismanagement and correct specific weaknesses in a timely manner. The Directive specifies procedures for identifying and reporting material weaknesses in management controls. The Directive defines a material weakness as a condition in which management controls do not provide reasonable assurance that the objectives of the internal management control program are being met, and which requires the attention of the next higher level of management.

Internal management control programs at installations, military communications commands, and DLA did not address the revalidation of special-purpose telecommunications circuits. Also, the programs did not provide for the establishment of controls to identify leased telecommunications circuits that were no longer required or to ensure that unneeded services were discontinued. We attributed this lack of controls to the absence of a definitive policy for review and revalidation programs in DoD Components. Although the Army and the Air Force had established review and revalidation programs, these existed outside their formal internal management control programs and needed improvements in specific areas to be more effective.

DoD Components have not successfully prevented waste and mismanagement of communications resources, maintained adequate accountability over communications assets, or corrected specific weaknesses in a timely manner. The absence of definitive policies to identify telecommunications services that are no longer required, and to ensure that unneeded services are discontinued, constitutes a material internal control weakness as defined in Enclosure 4 of the Directive and should be reported to the Secretary of Defense.

RECOMMENDATIONS FOR CORRECTIVE ACTION

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

a. Establish a definitive policy requiring DoD Components to review and revalidate telecommunications circuits leased and owned by the Defense Communications System. The policy should require that the DoD Components review and revalidate Defense Communications System circuits at least once every 2 years, or annually if possible, to identify circuits that are no longer justified or are not cost-effective, and promptly disconnect or reconfigure those circuits.

b. Review DoD Components' procedures to ensure that review and revalidation programs are effective and in compliance with established DoD policy. Components' programs, at a minimum, should:

(1) Analyze traffic data and utilization reports.

(2) Coordinate the revalidation process with those activities that are aware of requirements and usage. This should include techniques such as on-site visits and multilevel queries.

c. Designate the World-Wide On-Line System data base as the official inventory of telecommunications circuits leased and owned by the Defense Communications System.

d. Require that all DoD Components establish and accurately maintain, at the user, communications command, or communications management levels, perpetual inventories of telecommunications circuits leased and owned by the Defense Communications System.

e. Require that DoD Component inventories of Defense Communications System telecommunications circuits be verified by physical count at least once every 2 years, or annually if possible, and be reconciled to the World-Wide On-Line System data base.

f. Report the absence of review and revalidation policy as a material internal control weakness to the Secretary of Defense in accordance with DoD Directive 5010.38, "Internal Management Control Program."

2. We recommend that the Comptroller of the Department of Defense:

a. Reduce the DoD communications budget for FY 1989 by $21.3 million (taking into account reductions already made) for telecommunications circuits leased through the Communications Services Industrial Fund.

b. Reduce the DoD communications budget for the FY 1989 - FY 1993 Five Year Defense Plan by $117.1 million (taking into account reductions already made) for telecommunications circuits leased through the Communications Services Industrial Fund.

MANAGEMENT COMMENTS

The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence), (ASD[C^3I]), concurred in the Finding and Recommendations 1.a., 1.b., 1.c., and 1.d. The ASD(C^3I) partially concurred with Recommendations 1.e. and 1.f. (formerly Recommendation 1.g. in the draft report). The complete text of the ASD(C^3I) comments is in Appendix G.

Regarding Recommendations 1.a., 1.c., and 1.d., the ASD(C^3I) proposed expanding the development of policy guidance and inventory management improvements to non-Defense Communications System telecommunications circuits (not included in our audit). The ASD(C^3I) also agreed to designate a data base as the official inventory of DoD telecommunications services. Rather than designating the World-Wide On-Line System as the official inventory, the ASD(C^3I) proposed to combine that system with the Commercial Services Industrial Fund data base.

Regarding Recommendation 1.e, the ASD(C^3I) agreed that Defense Communications System circuits be verified and reconciled to the DoD designated data base. The ASD(C^3I) further stated that non-Defense Communications System circuits should also be verified and reconciled to the DoD designated data base. However, the ASD(C^3I) stated that, because of resource constraints, a physical inventory of sample locations could satisfy the review and revalidation requirement rather than performing inventories at all locations. The ASD(C^3I) further stated that any discrepancies between the data bases of DoD Components and the designated official inventory data base would be physically inventoried.

Concerning Recommendation 1.f., the ASD(C^3I) acknowledged the absence of a review and revalidation policy and listed completed actions taken and planned. But, the ASD(C^3I) did not respond to the need to report the absence of a review and revalidation policy as a material internal control weakness to the Secretary of Defense.

The Comptroller of the Department of Defense concurred with the Finding and Recommendations 2.a. and 2.b. and stated that DoD communications budgets will be adjusted to reflect the elimination of unjustified special-purpose circuits and related costs. The Comptroller said that the amended FY 1990/FY 1991 Budget already reflects savings of $48.6 million, over 3 fiscal years for the elimination of these unjustified circuits. During the upcoming review of the FY 1991 Revised Budget, the budget review staff will evaluate Service and Agency submissions of this program, "to assure that the FY 1990-1994 estimates reflect reduced requirements from the elimination of unjustified special purpose circuits." Last, the Comptroller suggested that we update our estimated savings by using more current inflation indices than those used during the period in which our audit was conducted. The complete text of the Comptroller's comments is in Appendix H.

The ASD(C^3I) reviewed those recommendations addressed to the Comptroller and provided comments on each recommendation. The ASD(C^3I) partially concurred with Recommendations 2.a. and 2.b. and agreed with reducing the DoD communications budgets for leased telecommunication circuits that were unjustified. The ASD (C^3I) recommended that the FY 1989 and the FY 1989 - FY 1993 Five Year Defense Plan budget adjustments already imposed be changed. The recommended change was based on revised computations of unjustified circuits within the Army and the annual leased cost of these circuits.

AUDIT RESPONSE TO MANAGEMENT COMMENTS

The comments from the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) (ASD[C^3I]) on Recommendations 1.a., 1.b., 1.c., and 1.d., are fully responsive. The initiative and foresight displayed by the ASD(C^3I) in expanding proposed corrective actions to include telecommunications circuits that were not reviewed as part of our audit is commendable and should result in significant improvements in DoD management of telecommunications assets.

The ASD(C^3I) proposal to perform physical inventories at sample locations, rather than at all locations as stated in Recommendation 1.e., should be reexamined. If a DoD designated data base

is to become the official inventory, a complete, accurate, physical count of leased and owned circuits should be made at all locations before the count data is entered in the inventory record. Otherwise, the integrity of the data base could be jeopardized. We agree with the concept of a sampling approach, if properly managed, in subsequent years after the data base is accurately established. We maintain that the effect of resource constraints at the installation or activity level is negligible. Installation telecommunications managers, in conjunction with installation telecommunications users, are fully capable of conducting a complete physical count of telecommunications assets within a very short period of time. In addition to performing other tests and verification checks normal to the audit process, two auditors were able to conduct complete physical counts at activities visited within 1 or 2 weeks. Finally, we wish to point out that it is the responsibility of installation communications managers to maintain an accurate control over these telecommunications assets. The ASD(C^3I) should not be misled by specious claims of resource constraints. Accordingly, we request that the ASD(C^3I) reconsider the position taken in response to this recommendation in the reply to this final report.

The ASD(C^3I) position on Recommendation 1.f., although providing a solid basis for corrective actions, is not fully responsive to the recommendation. As shown in our audit report, the scope and magnitude of the problems noted and the disarray of review and revalidation procedures in the DoD Components audited is directly attributable to the lack of definitive DoD guidance, a material internal weakness at the OSD level. Draft policy, even if coordinated with the DoD Components, is not definitive policy. Further, the absence of such policy for at least 9 years significantly contributed to the problems disclosed by audit. In the comments provided in response to the draft report the ASD(C^3I) did not address the reporting of the weakness and apparently forgot to provide us with the actual or planned date that this weakness will be reported to the Secretary of Defense. In reply to this final report, we request that the ASD(C^3I) provide its position on this recommendation and also provide the date that this matter will be reported to the Secretary of Defense.

The comments from the Comptroller of the Department of Defense in response to Recommendations 2.a. and 2.b. are considered fully responsive. However, the dates of completed or planned corrective actions were not provided. Therefore, in the response to the final report, it is requested that we be provided the dates on which corrective actions to reduce DoD telecommunications budgets have or will be taken. We considered the Comptroller's suggestion to revise our estimate of savings

using more current inflation indices. We used inflation indices (issued in January 1988) that were current at the time our audit work was completed. We appreciate the Comptroller providing us with more current information. However, our analysis of the application of the December 1988 indices indicated only a slight increase in the net recurring savings and this change would be relatively insignificant. Further, since action is being taken by the Comptroller to achieve these savings, we have chosen to retain our original projection.

The ASD(C^3I) comments on audit recommendations made to the Comptroller were considered as requested. The ASD(C^3I) proposal to change our projected savings downward and reduce the budget adjustments already made were not supported by sufficient documentation or other necessary information to justify such changes. The ASD(C^3I) request to change only Army data and none of the other DoD Components' data strikes us as a curious proposal. During the audit, we went to extraordinary efforts to make sure that Army communications managers at all levels, as well as communications managers from all audited DoD Components, fully understood our audit methodology, results, cost savings, and projected cost benefits. In fact, senior officials of the U.S. Army Commercial Communications Office visited us and spent a full day examining every facet of our review of unjustified Army circuits. At the conclusion of their visit, these officials stated that they were in agreement with us regarding the number and cost of unjustified circuits in the Army. Since the ASD(C^3I) has not provided us with the details, we are unable to determine whether this information is similar to that reviewed in November 1988 or if the Army generated more recent data that was not discussed with us. In order to avoid being misled, we suggest that the ASD(C^3I) undertake a special review of the information attributed to the Army and ensure the accuracy, completeness, and validity of that information. Further, in reply to the final report, we request that the ASD(C^3I) provide us with the accurate, complete and validated data to support the proposal to change the Army tables. We will thoroughly evaluate them and reexamine our Army projections and estimated cost savings. However, until that occurs, a revision of our estimates cannot be made.

GLOSSARY

Circuit	A communication capability between two or more users, between a user terminal and a switching terminal, or between two switches.
CCSD	Command Communication Service Designator: a unique identifier for each single service, including user circuits, package system circuits, and interswitch trunk circuits. CCSD's are authorized only when the Defense Communications Agency (DCA) issues a telecommunications service order.
TCO	Telecommunications Certification Office: the activity designated by a Federal department or agency to certify to DCA that a specified telecommunications service or facility is a bona fide requirement, and that the department or agency is prepared to pay mutually acceptable costs to fulfill the requirement.
TSO	Telecommunications Service Order: an authorization from DCA Headquarters, from a DCA area, or from the DCA Operations Center's Allocations and Engineering Directorate to start, change, or discontinue circuits or trunks, or to make administrative changes.
TSR	Telecommunications Service Request: a valid, approved, and funded telecommunications requirement submitted to DCA or DCA activities for fulfillment. TSR's may not be issued except by specifically authorized TCO's.
WWOLS	World Wide On-Line System: the DCA Allocation and Engineering Directorate is required to maintain a complete and accurate data base inventory of Defense Communications System (DCS) circuits and trunks to reflect Telecommunications Service Requests and Telecommunications Service Orders. This data base is known as the WWOLS. The WWOLS contains specific engineering, operational, and management data to support the circuit and trunk allocation and transmission engineering functions performed for DCS telecommunications services.

VERIFICATION TECHNIQUES

This Appendix describes our multilevel approach to the verification of circuit requirements in more detail. The multilevel approach was necessary to obtain enough information for us to determine whether the requirement for a circuit was valid. For example, to obtain complete information, we had to visit or contact other sources (not located at the audit site) for 239 (86 percent) of the 277 circuits that we identified as unjustified. Appendix I lists the activities that we visited or contacted. Initially, we extracted Circuit Files from the World-Wide On-Line System (WWOLS) data base, which contains detailed technical and historical information from Telecommunications Service Requests. After the audit sites were selected, we obtained a complete Circuit File for each "From" sample circuit recorded on the WWOLS data base for the audit site. To familiarize ourselves with the use and configuration of the sample circuits before we arrived at the audit site, we grouped the circuits according to the "Purpose and Use" and "Type of Service" codes in the Command Communications Service Designator and extracted other pertinent technical data from each Circuit File.

We prepared questionnaires for each sample circuit and sent them to the audit site several weeks before our arrival. We used the questionnaires to gather data on which we based our analysis of the particular circuit. This included information on:

Requirements	- a description of the requirement for the circuit, - an explanation of why the service was necessary to the mission, - the identity of the organization that initiated the requirement, and - the identity of the current user.
Revalidation	- the extent of the previous revalidation, if any.
Usage	- the time period that the circuit was available for use, and - the volume of traffic when the circuit was in use.
Cost-effectiveness	- the potential for obtaining more cost-effective service through other communications technology, improved management, or the use of a general-purpose network.

VERIFICATION TECHNIQUES (Continued)

At the audit site, we verified the accuracy of the answers to our questionnaire, physically examined the actual circuit (if possible), and developed any further information necessary for our analysis. For those circuits that were not requested, used, identified, or adequately justified by the local user, we contacted other DoD and non-DoD activities to get the information needed to justify the requirement for a particular circuit. The DoD and non-DoD activities in this multilevel approach included: telecommunications activities such as technical control centers, the local Bell operating company, tenants, and other secondary users at the audit site; users at the other end of the circuit not located at the audit site; public common-carrier telecommunications companies; telecommunications managers located at intermediate command levels, major commands, network control centers, communications commands, and Telecommunications Certification Offices; activities other than the users who initiated the communications requirement or paid the lease costs of the circuit; and Defense Communications Agency activities such as the Defense Commercial Communications Office, the Defense Communications Engineering Center, the Defense Communications Agency Operations Center's Allocation and Engineering Directorate, and managers of the Automatic Voice Network, Defense Data Network, and Defense Commercial Telecommunications Network.

Application of these or other comprehensive techniques would enhance the effectiveness of DoD review and revalidation programs.

UNJUSTIFIED CIRCUITS IN DOD BY INSTALLATION

Installation	No Requirement	Not Effective	Could Not Identify	Unjustified Circuits
Army				
Anniston Army Depot	0	0	0	0
Fort Stewart	2	5	0	7
Fort Benjamin Harrison	5	4	0	9
Fort Monmouth	49	9	8	66
Atlanta (Fort Gillem and Fort McPherson)	11	0	0	11
U.S. Army Natick Research and Development Center	0	0	0	0
Total	67	18	8	93
Navy				
Naval Air Station, Key West	12	0	0	12
Marine Corps Base, Camp Lejeune	0	0	0	0
Naval Radio Station, Sugar Grove	2	0	0	2
Pacific Missile Test Center	3	0	0	3
Naval Air Station, Brunswick	1	3	0	4
Marine Corps Air Station, Beaufort	2	0	0	2
Total	20	3	0	23
Air Force				
March Air Force Base	2	0	0	2
Homestead Air Force Base	6	3	2	11
Cape Canaveral Air Force Station	4	0	0	4
Los Angeles Air Force Station	7	0	1	8
Niagara Falls International Airport	1	0	0	1
Buckley Air National Guard Base	1	0	1	2
Total	21	3	4	28
Defense Agencies				
Defense Personnel Support Center	7	62	0	69
Defense General Supply Center	13	44	0	57
Defense Depot Memphis	7	0	0	7
Total	27	106	0	133
Grand Total	135	130	12	277

EXAMPLES OF UNJUSTIFIED CIRCUITS AND COSTS

The following examples are representative of the 277 unjustified circuits, and the $994,598 in unjustified circuit costs. Of the 277 circuits found to be unjustified, most involved circumstances unique to the initial validation of the requirement and the circuit's use at the time of audit. In all cases, the requirement had not been adequately revalidated as of October 17, 1987. Details by Military Department and Defense Logistics Agency follow.

Army. At Fort Monmouth, New Jersey, our sample showed eight foreign exchange circuits that were leased between Fort Monmouth and Boston, New York, Philadelphia, and Washington, D.C. Fort Monmouth communications personnel described the requirement for these circuits as essential for maintaining the grade of service throughout the Fort Monmouth complex. However, foreign exchange circuits are established when a need exists to communicate a high volume of traffic from one specific geographic area to another, and this need is not served by a DCS common-user system. Foreign exchange circuits are not to be leased, therefore, as a substitute for or improvement to the Automatic Voice Network (AUTOVON). If these leased circuits are needed, their fixed costs should be less than the variable cost of long-distance toll services that would be incurred by the use of a common carrier. Fort Monmouth communications personnel could not tell us what individuals or activities would need to make calls to the four cities, why they would be required to make calls, who they were calling, whether calls made were official business, or whether the circuit was connected to the proper telephone company exchange in the area where the calls were made. In short, no records were maintained to revalidate the requirement for these circuits. At Fort Monmouth, therefore, based on the lack of any documentation to support the requirement for eight foreign exchange circuits, we recommended that all the circuits be disconnected. Disconnection would save DoD more than $40,000 annually.

At Fort Benjamin Harrison, Indiana, our sample showed that four foreign exchange circuits were leased between Fort Benjamin Harrison and the Washington, D.C., area. Communications personnel at Fort Benjamin Harrison said that these circuits were used in common-user mode for general-purpose and specialized interconnect for both voice and data transmission. More specifically, the circuits were used to communicate with non-Defense agencies, contractors, and Defense activities already connected by AUTOVON, as an improvement to the grade of service. The circuits were also used, according to personnel at

Fort Benjamin Harrison, to transmit data to DoD activities in the Washington metropolitan area. Joint Chiefs of Staff policy states, however, that AUTOVON is the first choice for voice communications before leasing dedicated circuits.

Although communications personnel at Fort Benjamin Harrison received call detail reports showing telephone numbers called (from and to) and usage in minutes, they had not determined who made the calls, who they were calling, or why the calls were made. Using the data recorded on the call detail reports and applying random statistical selection techniques, we analyzed the purpose of the calls. We selected 223 calls from a universe of 1,347 calls for review. We found that 24 percent of the traffic measured in minutes (41 percent of the calls) was to DoD activities served by AUTOVON circuits; these calls were used primarily for voice communications, and data were seldom transmitted over these circuits. We also found that 8 percent of the traffic measured in minutes (16 percent of the calls) consisted of unofficial calls; that is, the recipients of the calls stated that they had not conducted any official business with Fort Benjamin Harrison. Our analysis showed that 32 percent of the usage on the circuits was not justified. Based on this figure, we recommended that one of the four foreign exchange circuits be disconnected. Disconnection of one circuit would result in an annual savings of almost $9,000.

In another example, at Fort Gillem, Georgia; Fort Benjamin Harrison, Indiana; Fort McPherson, Georgia; and Fort Stewart, Georgia, we found that a valid requirement did not exist for four Army Training Requirements and Resource System (ATRRS) access circuits to the Defense Data Network. Our extract from the WWOLS data base showed that these circuits were leased between September 1986 and January 1987, but the connections were never activated. We discussed the situation with responsible personnel at each installation, at the U.S. Army Commercial Communications Office (USARCCO), and at the ATRRS management office. Since these circuits had not been connected in the 2 years they were leased, we concluded that no requirement existed or that the requirement was satisfied by other means, and that they should be disconnected. Communications personnel at USARCCO agreed that there was no requirement for dedicated ATRRS circuits, and stated that ATRRS requirements could be satisfied through dial-up connections. Disconnection of these four circuits would result in an annual savings of almost $49,000.

Navy. At the Naval Radio Station, Sugar Grove, West Virginia, our sample of circuits from the WWOLS data base showed

EXAMPLES OF UNJUSTIFIED CIRCUITS AND COSTS (Continued)

28 leased circuits routed between Sugar Grove and Annapolis, Maryland. Our physical examination at the site revealed only 26 active circuits. Navy personnel at the site and at the Naval Communications Area Master Station Atlantic, Norfolk, Virginia (the initiator of the original requirement), had no records to show when the two circuits were disconnected. Further, according to the contractor who serviced Sugar Grove, only 26 active circuits have been connected between Sugar Grove and Annapolis since 1981. However, when we contacted the Defense Commercial Communications Office (DECCO) contracting officer, we found that DECCO was paying for 29 circuits. We estimated that payments for these three nonexistent circuits from 1981 to 1988 exceeded $100,000. We also found that the monthly recurring charge billed to the Navy Commercial Communications Office for each circuit was $499, and that stopping payments for these three nonactive circuits would save about $18,000 annually in leased communications costs. The Navy has taken action to have these payments discontinued.

Air Force. At Los Angeles Air Force Station, California, we found seven circuits (five data circuits, one voice circuit, and one alternate voice circuit) used for the Air Force Systems Command Project Support Network to be unjustified. The original requirements for these circuits were developed by the Air Force Systems Command or subordinate units. The circuits were used to support Headquarters, Space Division at Los Angeles Air Force Station.

Two of the circuits served as a primary communications system to transmit data in support of the Space Transportation System/Inertial Upper Stage Program. According to Space Division personnel, these two circuits were not used because they did not transmit data reliably. A backup system was actually used as the primary means of transmitting data. We concluded that a valid requirement for the two circuits did not exist, since the circuits were technically unreliable and no longer served as a primary communications system, and that the requirement was duplicated by the use of a backup system.

Two other data circuits located in the data processing center were originally leased to support the financial system at Onizuka Air Force Station, California. According to personnel at Los Angeles Air Force Station, the Air Force Space Command satisfied the requirement by leasing its own circuits, but the Los Angeles Air Force Base circuits had not been disconnected. A valid requirement no longer existed for these two circuits.

EXAMPLES OF UNJUSTIFIED CIRCUITS AND COSTS (Continued)

The last data circuit was used to obtain schedules and technical information from the Consolidated Space Operations Center's computer at a contractor site in Torrance, California. Personnel at Los Angeles Air Force Station informed us that they no longer used the computer because the project is being implemented at Falcon Air Force Base, Colorado. Again, the circuit had not been disconnected. The requirement for this circuit at the contractor's site in Torrance is no longer valid.

A dedicated voice circuit at Los Angeles Air Force Station was leased so that the various Special Project Offices of the Space Division could communicate with a nearby contractor to develop compatible software for a Ground Station/Overseas Ground Station. The requirement for this circuit was invalid. Personnel at Los Angeles Air Force Station knew that the contractor facility had moved to another location, but the circuit had not been disconnected.

The alternate voice circuit to Norton Air Force Base, California, was used to support the base's financial system. However, this circuit could not be found. In an effort to identify this circuit, we contacted personnel at Air Force Systems Command, the Air Force Telecommunications Certification Office, and DECCO, but none of these activities could identify it. Although we could not identify any recurring monthly costs associated with this circuit, we asked Los Angeles Air Force Station to submit a request to disconnect it so that the WWOLS data base would be accurate.

We found that disconnecting the six circuits would save almost $55,000 annually in leased telecommunications costs. The Air Force has taken action to have all of these circuits disconnected.

Defense Logistics Agency (DLA). The DLA Network (DLANET) connects DLA field activities and provides access to various logistics data bases. Military Departments and DLA activities may be connected to the DLANET in order to access these data bases; these connections are known as customer-subscriber circuits. We audited 21 of these circuits at 3 of the 26 nodal (switch) sites in the DLANET. Sites included in our audit were: Defense General Supply Center, Richmond, Virginia (nine circuits); Defense Personnel Support Center, Philadelphia, Pennsylvania (seven circuits); and Defense Depot Memphis, Tennessee (five circuits). Traffic data were obtained from the Defense Systems Automation Center (DSAC), Columbus, Ohio, and from systems applications managers for 14 of the 21 circuits reviewed. Of the remaining seven circuits, DLA personnel

disconnected four, but were unable to provide traffic data for the remaining three. For the 14 circuits, we evaluated traffic data for March 1988 to determine how efficiently the circuits were being utilized. We based our evaluation on the 23 work days and 31 calendar days in March 1988. We found that the circuits were used an average of 5.1 percent of the time during an 8-hour workday, but only 1.3 percent of the total available leased time (24 hours daily).

We attributed the inefficient utilization of customer-subscriber circuits to ineffective network management and the lack of a revalidation policy or program. Network managers at DSAC did not adequately maintain or evaluate traffic data specifically for customer-subscriber circuits. Finally, our audit showed that the DSAC network management had not thoroughly reviewed the relationship between subscribers' locations and the geographical routing of circuits to DLANET nodes. As a result, DSAC connected too few customers to too many circuits; therefore, each circuit was significantly underutilized. Thus, payments were made for leased circuits that were not needed. Based on our audit results and discussions with technical personnel at DSAC, customer circuits could be reduced by consolidating subscribers on fewer circuits. For example, seven circuits in Richmond could be disconnected and all subscribers could be consolidated on two remaining circuits. In Philadelphia, two circuits could be disconnected and subscribers could be consolidated on one remaining circuit, and in Memphis, four circuits could be disconnected. Subscribers to these four circuits could be consolidated onto existing circuits at other DLANET nodes. We asked technical personnel at DSAC whether response time would be reduced if customers were consolidated on fewer circuits. They stated that the reconfiguration would need further study, but because the volume of traffic on these circuits was already very low, consolidation probably would not affect response time. We estimated that disconnecting 13 customer circuits at these 3 DLA installations would save more than $112,000 annually in leased communications costs.

In another DLA example in Philadelphia, we found that a valid requirement did not exist for five AUTOVON access circuits. The Central Regional Telecommunications Office (RTO) is located at DSAC, which manages DLA's AUTOVON lines to its field activities. To manage the AUTOVON lines, the Central RTO uses the AUTOVON Private Branch Exchange Access Line Grade of Service (GOS) Report issued semiannually by DCA. This report identifies the grade of service and shows the percentage of call blockage that occurred on AUTOVON access lines during the previous 12 months. The report also recommends the number of access lines

needed to achieve the grade of service objectives established by Joint Chiefs of Staff policy. The Central RTO reviews the GOS Reports and recommends to the field RTO's that DLA field activities add or delete AUTOVON lines. For the 62 AUTOVON lines between Philadelphia and Cedar Brook, Pennsylvania, the GOS Reports for the periods ending July 1986, December 1986, and July 1987 showed that 1 percent of incoming and outgoing calls were blocked, and recommended that 10 circuits be eliminated. Communications managers at DSAC, however, took no action during the 2-year period to reduce AUTOVON circuits in Philadelphia. This resulted in payments of almost $120,000 for circuits that were no longer required. Communications personnel at DLA agreed with our conclusion that the GOS Reports showed excessive AUTOVON lines in Philadelphia. According to the Eastern RTO, however, reducing the AUTOVON lines in increments of five would avoid a sudden disruption to the grade of service in Philadelphia. We agree with this approach, provided that the Eastern RTO reviews the GOS Report again after the five circuits are discontinued to determine whether more reductions are necessary. Disconnection of the first five circuits would save $31,000 annually in leased communications costs.

We also found that the remaining AUTOVON lines between Philadelphia and Cedar Brook consisted of 57 individually leased lines whose annual cost totaled almost $358,000. During the audit, we recommended that DLA lease trunk cables (known as T-1 service) to accommodate the AUTOVON lines, rather than leasing each circuit individually. As a result, DLA communications managers ordered one 24-channel trunk cable and one 44-channel trunk cable at an estimated annual cost of almost $242,000. Disconnecting the existing 57 circuits and reconfiguring them onto the 2 trunk cables would would save an estimated $116,000 annually in leased communications costs.

ANNUAL COST OF UNJUSTIFIED CIRCUITS IN DOD BY INSTALLATION

Installation	Circuits With No Requirement	Circuits Not Cost-Effective	Unjustified Circuit Costs
Army			
Anniston Army Depot	$ 0	$ 0	$ 0
Fort Stewart	25,574	7,111	32,685
Fort Benjamin Harrison	43,215	5,756	48,971
Fort Monmouth	40,125	151,428	191,553
Atlanta (Fort Gillem and Fort McPherson)	108,218	0	108,218
U.S. Army Natick Research and Development Center	0	0	0
Total	$217,132	$164,295	$381,427
Navy			
Naval Air Station, Key West	$ 10,320	$ 0	$ 10,320
Marine Corps Base, Camp Lejeune	0	0	0
Naval Radio Station, Sugar Grove	17,946	0	17,946
Pacific Missile Test Center	34,091	0	34,091
Naval Air Station, Brunswick	8,322	3,141	11,463
Marine Corps Air Station, Beaufort	22,585	0	22,585
Total	$ 93,264	$ 3,141	$ 96,405
Air Force			
March Air Force Base	$ 0	$ 0	$ 0
Homestead Air Force Base	20,324	34,882	55,206
Cape Canaveral Air Force Station	43,599	0	43,599
Los Angeles Air Force Station	59,764	0	59,764
Niagara Falls International Airport	847	0	847
Buckley Air National Guard Base	0	0	0
Total	$124,534	$ 34,882	$159,416
Defense Agencies			
Defense Personnel Support Center	$ 33,859	$150,092	$183,951
Defense General Supply Center	62,147	22,548	84,695
Defense Depot Memphis	88,704	0	88,704
Total	$184,710	$172,640	$357,350
Grand Total	$619,640	$374,958	$994,598

Report of Potential Monetary Savings and Other Benefits Resulting from Audit

Program	Element No.	Element Title	Impact on Five Year Defense Plan (FYDP) FY 89	FY 90	FY 91	FY 92	FY 93	Total FYDP
Recurring Savings (Operation and Maintenance)								
Strategic Forces	0102323F	TW/AA Interface Network	$ 58,676	$ 60,788	$ 62,794	$ 64,552	$ 66,037	$ 312,847
	0102331F	Communications-416L	328,998	340,841	352,089	361,948	370,272	1,754,148
General-Purpose Forces	0207425F	Command Communications-Tactical Air Forces	676,182	700,525	723,642	743,904	761,014	3,605,267
Intelligence and Communications	0303117K	Defense Communications Services	339,181	351,391	362,987	373,151	381,733	1,808,443
	0303126A	Long-Haul Communications	8,480,652	8,785,955	9,075,892	9,330,016	9,544,607	45,217,122
	0303126F	Long-Haul Communications	1,152,614	1,194,108	1,233,514	1,268,052	1,297,217	6,145,505
	0303126N	Long-Haul Communications	1,975,941	2,047,076	2,114,629	2,173,839	2,223,837	10,535,322
	0305130F	Consolidated Space Operations Center	128,691	133,324	137,723	141,580	144,836	686,154
	0305171F	Space Shuttle Operations	672,936	697,162	720,168	740,333	757,361	3,587,960
Central Supply and Maintenance	0702895F	Base Communications-Logistics	354,722	367,492	379,620	390,249	399,225	1,891,308
	0708021S	Logistics Support Activities-Communications	7,945,344	8,231,377	8,503,012	8,741,096	8,942,141	42,362,970
Total Recurring Savings			$ 22,113,937	$22,910,039	$23,666,070	$24,328,720	$24,888,280	$117,907,046
Nonrecurring Costs (Operation and Maintenance)								
Intelligence and Communications	0303117K	Defense Communications Services	$ 40,800					$ 40,800
Central Supply and Maintenance	0708021S	Logistics Support Activities-Communications	747,865					747,865
Total Nonrecurring Costs			$ 788,665					$ 788,665
Net Recurring Savings			$21,325,272	$22,910,039	$23,666,070	$24,328,720	$24,888,280	$117,118,381

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-3040

COMMAND, CONTROL,
COMMUNICATIONS
AND
INTELLIGENCE

SEP 8 1989

MEMORANDUM FOR DIRECTOR, INTELLIGENCE, COMMUNICATIONS AND RELATED PROGRAMS DIVISION, DOD IG

SUBJECT: Draft Audit Report on Requirements Validation for Telecommunications Services (Project No. 71C-052)

This memorandum is in response to your request for comments on the Draft Audit Report on Requirements Validation for Telecommunications Services (Project No. 71C-052), dated June 28, 1989. The objectives of the audit were to determine if existing leased telecommunications services are discontinued when no longer required and to evaluate the adequacy of applicable internal controls. The results of the audit indicated that Defense communications managers did not adequately revalidate the requirements for existing telecommunications services and that there was an internal control weakness in identifying telecommunications services that were no longer needed.

Although this office generally concurs with the DoD IG findings and recommendations, our specific comments are attached. We are concerned, however, about the discrepancies between your and the Army's data as reflected in the Appendices' Tables. This has an overall bearing on the suggested budgetary cuts. After careful review of the information provided to us by the Army and considering the audit's ground rules, we have recommended changes to the Tables as indicated. More importantly, we have learned that the early tentative results of the audit were briefed to organizations outside of the DoD IG almost one year prior to release of the draft report resulting in cuts to each Service's FY 1989-FY 1993 communications budget during the FY 1989 final budget review. Based on our analysis, some of these cuts were unjustified.

The ASD(C3I) point of contact for this action is Ray Lecuyer, x53136.

Thomas P. Quinn
Principal Deputy

Attachment

cc: DoD Comptroller

DoD IG DRAFT REPORT-DATED JUNE 28, 1989

PROJECT NUMBER 71C-052

REQUIREMENTS VALIDATION FOR TELECOMMUNICATIONS SERVICES

ASD(C3I) COMMENTS

* * * * *

RECOMMENDATIONS

- RECOMMENDATION 1.A: ASD(C3I) establish a definitive policy requiring DoD Components to review and revalidate telecommunications circuits leased and owned by the Defense Communications System (DCS). The policy should require that the DoD Components review and revalidate DCS circuits at least once every two years, or annually if possible, to identify circuits that are no longer justified or are not cost-effective, and promptly disconnect or reconfigure those circuits.

  ASD(C3I) POSITION: **Concur.** The ASD(C3I) will develop policy guidance on review and revalidation (R&R) of circuits. This guidance will stipulate that the R&R process be conducted at a minimum interval of every two years. The policy will also require the DoD Components to develop implementation procedures and provide copies of these procedures to the ASD(C3I) for review. Additionally, the policy guidance will be expanded to include non-DCS circuits.

  PLANNED ACTIONS: ASD(C3I) will develop and staff policy guidance (November 1989). DoD Components develop/update implementation procedures and provide copies to ASD(C3I) (February 1990).

- RECOMMENDATION 1.B: Review DoD Components' procedures to ensure that review and revalidation programs are effective and in compliance with established DoD policy. Components' programs, at a minimum, should:

  (1) Analyze traffic data and utilization reports.

  (2) Coordinate the revalidation process with those activities that are aware of requirements usage. This should include techniques such as onsite visits and multilevel queries.

  ASD(C3I) POSITION: **Concur.** Traffic analysis and communications engineering to ensure that local and long haul communications are properly sized and effective should be an ongoing process within the DoD Components. The effectiveness of these efforts should be evaluated periodically. The DoD R&R directive will require that the DoD Components include as

part of their implementation procedures an evaluation methodology to ensure the effectiveness of their traffic analysis programs.

PLANNED ACTIONS: As part of the DoD R&R directive, direct the DoD Components to provide an evaluation methodology as part of their implementation procedures (November 1989). DoD Components develop their evaluation plans as part of their implementation procedures and submit copies to ASD(C3I) (February 1990).

- RECOMMENDATION 1.C: Designate the World-Wide On-Line Systems (WWOLS) data base as the official inventory of telecommunications circuits leased and owned by the DCS.

ASD(C3I) POSITION: **Partially concur.** This office endorses the designation of an official data base against which to inventory DoD telecommunications services. However, the recommendation should be expanded to include non-DCS telecommunications requirements. A data base that incorporates both WWOLS information and the Defense Commercial Communications Office (DECCO) Commercial Services Industrial Fund (CSIF) data base information should be developed and designated as the official inventory of the DCS and non-DCS telecommunications services.

ASD(C3I) RATIONALE: The WWOLS data base is not adequate to insure proper revalidation of leased commercial communications needs. If the WWOLS is designated as the sole inventory source, a significant amount of telecommunications services acquired by DCA in support of the DoD (quantity and dollars) will not be inventoried, managed or controlled. The WWOLS is an inventory of only telecommunications services designated as DCS services by DCA (usually circuits). The telecommunications circuits, equipment and services not designated as DCS which DCA acquires are not on the WWOLS data base but they are visible and accountable on the DECCO (CSIF) data base. All DoD telecommunications services need to be inventoried against a data base that includes information contained both in the WWOLS and the DECCO (CSIF) data bases. This will ensure that all telecommunications services, both DCS and non-DCS, acquired by DCA and their associated costs are on a single data base.

PLANNED ACTIONS: ASD(C3I) will task DCA to develop a single data base that incorporates the features of the WWOLS and DECCO (CSIF) data bases and designate this data base as the official inventory for both DCS and non-DCS telecommunications services (September 1989). DCA will provide the ASD(C3I) a plan that includes a strategy for developing and/or combining the data bases (December 1989).

- RECOMMENDATION 1.D: Require that all DoD Components establish and accurately maintain, at the user, communications command, or communications management levels, perpetual inventories of telecommunications circuits leased and owned by the DCS.

ASD(C3I) POSITION: **Concur.** Threaded throughout the audit report, reference and inference is made to the inaccuracy of data bases or information sources. This is a correct observation and in fact is becoming more volatile with the proliferation of even more data bases within the DCA operational community. Recognizing this problem, the Army sponsored a meeting of the Joint Telecommunications Automation Working Group (JTAWG) in November 1988. This group has now matured into a permanent body chaired by HQ DCA (Y100) and is represented by all of the Telecommunications Certification Officers (TCOs). The purpose of the JTAWG is to provide a TCO/DCA forum to: (1) promote the interoperability of telecommunications information management systems, (2) foster innovative and flexible automation solutions to changes in the telecommunications environment, (3) influence policies and procedures to improve data standardization and integrity, and (4) strive for a common understanding of information systems and future architectures of the member community. Many of the issues and discrepancies in the draft audit report are presently being addressed by the JTAWG. This recommendation should be expanded to include non-DCS telecommunication circuits.

PLANNED ACTION: ASD(C3I) will task the JTAWG to assess the issues involved with maintaining perpetual inventories for DCS and non-DCS telecommunications requirements and provide a proposed strategy to this office by January 1990.

- RECOMMENDATION 1.E: Require that DoD Component inventories of DCS telecommunications circuits be verified by physical count at least once every two years, or annually if possible, and reconciled to the WWOLS data base.

ASD(C3I) POSITION: **Partially Concur.** Recommend both DCS and non-DCS telecommunications circuits be verified and reconciled to the DoD designated data base. Because of resource constraints, we believe that a physical inventory of sample locations (vice 100%) could satisfy the R&R requirement. Additionally, any discrepancies between the Components' data base and the designated DoD data base will be physically inventoried.

PLANNED ACTION: ASD(C3I) will task the DoD Components to incorporate these procedures into their operating instructions and their R&R program (January 1990).

- RECOMMENDATION 1.F: Establish an incentive program that would permit DoD Components to retain, under strict guidelines, a portion of savings achieved by eliminating circuits that are no longer required or are not cost effective.

ASD(C3I) POSITION: **Partially concur.** An incentive program should be at the discretion of the DoD Component. If it elects

to have one, the guidelines should be incorporated into their R&R policy. Some DoD Components, such as the Army, have charge back systems where the customers pay for services received. Under a program like this, if a service is downgraded or discontinued, the supported Major Command automatically retains the dollars saved to reprogram as they desire for either new requirements, unfinanced requirements or to meet some higher priority requirement.

PLANNED ACTIONS: None. Leave at the discretion of the DoD Component.

- RECOMMENDATION 1.G: Report the absence of review and revalidation policy as a material internal control weakness to the Secretary of Defense in accordance with DoD Directive 5010.38, "Internal Management Control Program."

ASD(C3I) POSITION: **Partially concur.** DoD policy for R&R has been drafted by the DoD Commercial Telecommunications Committee (DCTC) and has been informally coordinated on by the DoD Components (note: the existing DoD draft policy will have to be modified to include issues surfaced in this audit report and staffed again). Although the DoD policy has not been formalized in a directive at this time, there was an awareness on the DoD Components part (because of discussions and active participation in developing a DoD R&R directive in the DCTC) of the need for R&R procedures within their Components. The Army, Air Force and Navy recognizing this need have developed R&R procedures which are in concert with the DoD draft guidance. The weakness seems to be in the effective management of the Military Departments' R&R programs not in the lack of R&R policy and/or guidance.

PLANNED ACTIONS: ASD(C3I) will formalize DoD guidance and develop and staff R&R directive (November 1989). ASD(C3I) will review the DoD Components R&R procedures (when submitted--February 1990) to ensure that an adequate management structure is proposed that would enhance the effectiveness of their programs.

- RECOMMENDATION 2.A: Reduce the DoD communications budget for FY 1989 by 21.3 million (taking into account reductions already made) for telecommunications circuits leased through the CSIF.

ASD(C3I) POSITION: **Partially concur.** Agree with reducing the DoD communications budgets for telecommunications circuits leased through the CSIF that were unjustified, no longer needed, or were uneconomically leased (the difference between the economical and the uneconomical solution) on the DoD IG cutoff date of October 17, 1987, for the audit sample. After an analysis of the information provided to this office by the Army and in consideration of the audit ground rules, this office recommends changing the Army Tables in Appendices C and E as shown below. The recommended FY 1989 communications

budget adjustments which were already imposed should be changed to reflect this information.

Appendix C

UNJUSTIFIED CIRCUITS IN DOD BY INSTALLATION

Installation	No Req't	Not Eff	Could Not Identify	Unjustified Circuits
Anniston AD	0	0	0	0
Ft Stewart	0 (1)	0 (2)	0	0
Ft Ben Harrison	2 (3)	4	0	6
Ft Monmouth	21 (1,3)	0 (2)	0	21
Atlanta	9 (3)	0	0	9
Natick	0	0	0	0
Total	32	4	0	36

Notes: (1) Circuit requirements were subsequently determined to be justified by the Army.
(2) Circuits were recognized by the Army as not cost effective and were in the process of being reengineered prior to the audit cutoff date.
(3) Circuits were already disconnected or discontinued but were not reflected in the WWOLS. These were WWOLS data base errors.

APPENDIX E

ANNUAL COST OF UNJUSTIFIED CIRCUITS IN DOD BY INSTALLATION

Installation	Circuits with no requirement	Circuits not cost effective	Unjustified circuit costs
Anniston	$ 0	$ 0	$ 0
Ft Stewart	0	0	0
Ft Ben Harrison	20,000	5,756	25,756
Ft Monmouth	18,000	0	18,000
Atlanta	90,000	0	90,000
Natick	0	0	0
Total	$ 128,000	$ 5,756	$ 133,756

- RECOMMENDATION 2.B: Reduce the DoD communications budget for the FY 1989-FY 1993 Five Year Defense Plan (FYDP) by $117.1 million (taking into consideration account reductions already made) for telecommunications circuits leased through the CSIF.

ASD(C3I) POSITION: **Partially concur.** These communications budget adjustments which were already imposed over the FYDP should be changed to reflect the information in the Army Tables at Appendices C and E above.

- RECOMMENDATION 2.C: Use a portion of the identified savings to fund the incentive program, discussed in recommendation 1.F above, to revitalize and expand DoD Components' review and revalidation of telecommunications circuits.

  ASD(C3I) POSITION: **Partially concur.** It would be difficult to retain a portion of the savings for an incentive program when these proposed savings have already been cut from the Services' FY 1989-FY 1993 POMs. It should be noted that the DoD IG Audit team was aware at the time the draft report was released that the money was already cut from the budget. As discussed above and because of the different funding methodologies for telecommunications requirements among the DoD Components, it should be left up to the individual components should they elect to set up an incentive program and how to fund it.

  GENERAL COMMENT: This office is very concerned on the DoD IG decision to brief this audit report to organizations outside of the DoD IG office one year prior to the release of the draft report. This resulted in malicious and, based on our analysis, some unjustified cuts to the DoD Components communications budgets in FY 1989 and over the FYDP (FY 1989-FY 1993). This also served to alienate the DoD Components and may inhibit cooperation on future audits. The DoD IG's inflexibility to adjust figures that were not totally accurate further exacerbates the situation. This office strongly recommends that on future audits the DoD Components have a chance to "officially" comment on the draft report prior to its release with recommendations to other organizations.

COMPTROLLER OF THE DEPARTMENT OF DEFENSE

WASHINGTON, DC 20301-1100

AUG 18 1989

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDITING, DOD IG

SUBJECT: Draft Audit Report on Requirements Validation for Telecommunications Services (Project No. 7IC-052)

This is in response to your request for Comptroller comments on the subject report.

I agree with the report recommendations that the DoD communications budgets be adjusted to reflect elimination of unjustified special purpose circuits and related costs. The Amended FY 1990/FY 1991 Biennial budget already reflects savings of $17.0 million in FY 1989, $15.0 million in FY 1990, and $16.6 million in FY 1991 for the elimination of these unjustified circuits.

Given the lateness in the year, I do not believe it is feasible to effect the further reduction of $4.3 million for FY 1989 recommended in the report. However, the budget review staff will evaluate the Service/Agency submissions of this program again during the upcoming review of the FY 1991 Revised Budget to assure that the FY 1990-1994 estimates reflect reduced requirements from the elimination of unjustified special purpose circuits. As a related matter, you may wish to update your estimate of the FY 1990-1993 savings for the report by application of more current inflation indices. Application of December 1988 indices would result in a change in your FY 1990-1993 estimate from $117.9 million to $117.3 million.

I do not concur in the report recommendation to use a portion of the savings as an incentive to revitalize and expand the DoD components' review and revalidation of telecommunications circuits. Component managers are responsible for assuring that our more limited resources are used effectively now and should not need an additional incentive to do the job expected of them.

Donald B. Shycoff
Principal Deputy Comptroller

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Office of the Secretary of Defense

Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence), Washington, DC
Comptroller of the Department of Defense, Washington, DC

Department of the Army

Office of the Director of Information Systems for Command, Control, Communications and Computers, Washington, DC
Headquarters, U.S. Army Forces Command, Fort McPherson, GA
Headquarters, U.S. Army Materiel Command, Washington, DC
Headquarters, U.S. Army Training and Doctrine Command, Fort Monroe, VA
Headquarters, U.S. Army Corps of Engineers, Washington, DC
- U.S. Army Corps of Engineers, South Atlantic Division, Atlanta, GA
- U.S. Army Corps of Engineers, Waterways Experimental Station, Vicksburg, MS

Headquarters, U.S. Army Information Systems Command (USAISC), Fort Huachuca, AZ
- Headquarters, 7th Signal Command, Fort Ritchie, MD
- USAISC - Pentagon, Washington, DC
- USAISC - Intelligence and Security Command, Arlington Hall Station, VA
- USAISC - Fort Bragg, NC
- USAISC - Sustaining Base Network Activity (Provisional), Fort Belvoir, VA
- U.S. Army Commercial Communications Office, Fort Huachuca, AZ

Headquarters, U.S. Army Inspector General Agency, Washington, DC
Headquarters, U.S. Army Military Traffic Management Command, Falls Church, VA
Headquarters, Army and Air Force Exchange System, Dallas, TX
Headquarters, U.S. Army Communications and Electronics Command, Fort Monmouth, NJ
U.S. Army National Guard Bureau - Information Management Agency, Falls Church, VA
Anniston Army Depot, Anniston, AL
Fort Benjamin Harrison, IN
Fort Gillem, GA
Fort McPherson, GA
Fort Monmouth, NJ
Fort Stewart, GA
Tobyhanna Army Depot, Tobyhanna, PA
U.S. Army Materiel Technology Laboratory, Pine Bluff, AR
U.S. Army Natick Research and Development Center, Natick, MA
Defense Metropolitan Area Telephone System, Hanscom Air Force Base, MA

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Office of the Director of Space Command and Control, Washington, DC
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Headquarters, Naval Air Systems Command, Washington, DC
Naval Telecommunications Command, Washington, DC
    Navy Commercial Communications Office, Washington, DC
Naval Air Station, Brunswick, ME
Naval Air Station, Key West, FL
Naval Air Station, South Weymouth, MA
Naval Communications Area Master Station Atlantic, Norfolk, VA
Naval Communications Unit, Key West, FL
Naval Radio Station, Sugar Grove, WV
Pacific Missile Test Center, Point Mugu, CA

Department of the Air Force

Office of the Assistant Chief of Staff, Systems for Command, Control, Communications and Computers, Washington, DC
Headquarters, Electronic Security Command, Kelly Air Force Base, TX
Headquarters, Systems Command, Andrews Air Force Base, MD
Headquarters, Tactical Air Command, Langley Air Force Base, VA
Headquarters, First Air Force, Langley Air Force Base, VA
Headquarters, Air Force Communications Command, Scott Air Force Base, IL
    Air Force Telecommunications Certification Office, Scott Air Force Base, IL
Headquarters, Northeast Air Defense Sector, North American Air Defense Command, Griffiss Air Force Base, NY
Headquarters, Southeast Air Defense Sector, North American Air Defense Command, Tyndall Air Force Base, FL
Buckley Air National Guard Base, CO
Cape Canaveral Air Force Station, FL
Homestead Air Force Base, FL
Los Angeles Air Force Station, CA
March Air Force Base, CA
Niagara Falls International Airport, NY (914th Tactical Airlift Group and 1998th Communications Group)

Marine Corps

Office of the Director, Command, Control, Communications and Control Division, Washington, DC
Marine Corps Base, Camp Lejeune, NC
Marine Corps Air Station, Beaufort, SC
Marine Corps Air Station, Cherry Point, NC
Station Communications-Electronics Office, Marine Corps Air Bases, Eastern Area, Cherry Point, NC

ACTIVITIES VISITED OR CONTACTED (Continued)

Defense Agencies

Defense Communications Agency, Washington, DC
- Resource Management Directorate
  - Office of the Deputy Director
  - Communications Services Industrial Fund Division
- Defense Communications System Organization
  - Office of the Director
  - Defense Communications System (DCS) Telecommunications Networks Directorate
    - Systems Management Division
    - DCS Data Systems and Program Manager, Defense Data Network
    - Computer Resources Information Service Branch
- National Communications System/Defense Communications Agency Operations Center
  - Allocation and Engineering Directorate, Scott Air Force Base, IL
- Defense Commercial Communications Office, Scott Air Force Base, IL
- Defense Communications Engineering Center, Reston, VA
- Joint Tactical Command, Control and Communications Agency, Fort Monmouth, NJ

Defense Logistics Agency, Washington, DC
- Office of Telecommunications and Information Systems
- Defense Depot, Memphis, TN
- Defense General Supply Center, Richmond, VA
- Defense Personnel Support Center, Philadelphia, PA
- Defense Systems Automation Center, Columbus, OH

Non-DoD Activities

State of Georgia, Atlanta, GA
- Office of The Adjutant General, Georgia Army National Guard
- State Government Communications Division

Non-Government Activities

American Telephone and Telegraph Company (AT&T Federal Systems), Washington, DC
Bell of Pennsylvania Telephone Company, Philadelphia, PA
New England Telephone and Telegraph Company, Portland, ME
Southern Bell Telephone and Telegraph Company, Atlanta, GA

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Senate Committee on Armed Services
Senate Subcommittee on Communications, Committee on Commerce, Science, and Transportation
Senate Committee on Governmental Affairs
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House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Ranking Minority Member, Committee on Appropriations
House Committee on Armed Services
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House Committee on Government Operations
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