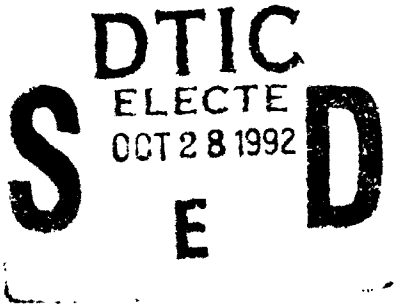

GAO

United States
General Accounting Office
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National Security and
International Affairs Division

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September 30, 1992

The Honorable Daniel K. Inouye
Chairman, Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable John P. Murtha
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

As you requested, we examined the Department of Defense's (DOD) fiscal year 1993 budget request and prior years' appropriations for selected command, control, and communications programs. Our objectives were to identify potential reductions to the fiscal year 1993 budget request and potential rescissions to prior year appropriations. We briefed your staffs in May, June, and July 1992 on the results of our work. Two additional reports—one, a classified report addressing additional potential reductions involving intelligence and electronics programs; the other addressing communication satellites—are being provided separately.

Our review showed that schedule delays, program requirements and changes, and uncertainties have affected program funding requirements for fiscal year 1993 as well as fiscal year 1992 appropriations. As shown in table 1, we identified $987.3 million in potential reductions and rescissions. These totaled $217.3 million in Army programs, $504.5 million in Navy programs, $116.6 million in Air Force programs, and $148.9 million in Defense Agencies' programs. (See apps. I through V for detailed information on potential reductions and the potential rescissions.)

Table 1: Potential Reductions and Rescissions to Command, Control, and Communications Programs

Dollars in millions

Account	Potential	
	Fiscal year 1993 reduction	Fiscal year 1992 rescission
Research, Development, Test, and Evaluation, Army	$17.0	0
Other Procurement, Army	154.3	0
Aircraft Procurement, Army	46.0	0
Other Procurement, Navy	43.0	0
Aircraft Procurement, Navy	62.4	$198.3
Shipbuilding and Conversion, Navy	19.5	148.5
Military Construction, Navy	26.5	0
Operation and Maintenance, Navy	6.3	0
Other Procurement, Air Force	53.8	0
Aircraft Procurement, Air Force	62.8	0
Procurement, Defense Agencies	148.9	0
Total	**$640.5**	**$346.8**

We focused on program cost, schedule, and performance issues and examined expenditure documents to determine if requests were adequately justified and whether unobligated funds from prior appropriations should be retained. We also evaluated budgetary implications of program changes made as a result of threat changes identified by DOD. Appendix VI provides information on our scope and methodology.

As requested by your offices, we did not obtain written agency comments on a draft of this report. However, we did discuss the information in this report with program officials and incorporated their comments where appropriate.

Unless you publicly announce its contents earlier, we plan no further distribution of this report until 10 days from its issue date. At that time, we will send copies of this report to the Chairmen and Ranking Minority Members of the Senate and House Committees on Armed Services and on Appropriations as well as other interested congressional committees; the Secretaries of Defense, the Army, the Navy, and the Air Force; the Director, Office of Management and Budget; and other interested parties.

This report was prepared under the direction of Louis J. Rodrigues, Director, Command, Control, Communications, and Intelligence Issues, who may be reached on (202) 275-4841 if you or your staffs have any questions. Major contributors to this report are listed in appendix VII.

Frank C. Conahan
Assistant Comptroller General

Contents

Tables

Abbreviations

ADDS	Army Data Distribution System
ASAS	All Source Analysis System
ASPJ	Airborne Self-Protection Jammer
ATARS	Advanced Tactical Air Reconnaissance System
DOD	Department of Defense
EPLRS	Enhanced Position Location Reporting System
JPL	Jet Propulsion Laboratory
JSTARS	Joint Surveillance Target Attack Radar System
JTIDS	Joint Tactical Information Distribution System
MCE	modular control equipment
MCS	Maneuver Control System
MSE	Mobile Subscriber Equipment
SINCGARS	Single Channel Ground and Airborne Radio System
SURTASS	Surveillance Towed Array Sensor System
T-AGOS	Auxiliary General Ocean Surveillance
TENCAP	Tactical Exploitation of National Capabilities Program
UAV	unmanned aerial vehicle

Summary of Potential Reductions and Rescissions in Department of Defense Budget for Command, Control, and Communications Programs

Dollars in millions

Account/program	Budget line	Fiscal year 1993	Fiscal year 1992
Research, Development, Test, and Evaluation, Army			
All Source Analysis System	101	$17.0	0
Other Procurement, Army			
Army Data Distribution System	34	3.0	0
Mobile Subscriber Equipment	35	5.1	0
Single Channel Ground and Airborne Radio System	36	64.2	0
All Source Analysis System	61	39.7	0
Maneuver Control System	87	42.3	0
Aircraft Procurement, Army			
Aircraft survivability equipment	31	46.0	0
Other Procurement, Navy			
Link 16 hardware	83	43.0	0
Aircraft Procurement, Navy			
Airborne Self-Protection Jammer	5	0	$26.2
	6	55.0	172.1
Advanced Tactical Air Reconnaissance System	7	2.2	0
	58	5.2	0
Shipbuilding and Conversion, Navy			
T-AGOS Ships	14	0	148.5
Oceanographic Ship Conversion	16	19.5	0
Military Construction, Navy			
Pier Construction		26.5	0
Operation and Maintenance, Navy			
Fixed Distributed System		6.3	0
Other Procurement, Air Force			
Tactical Air Control System Improvements	106	53.3	0
Weather observation/forecast	107	0.5	0
Aircraft Procurement, Air Force			
Joint Surveillance Target Attack Radar System	17	12.6	0
Advanced Tactical Air Reconnaissance System	55	0.4	0
	59	49.8	0
Procurement, Defense Agencies			
Remotely Piloted Vehicles	4	148.9	0
Total		**$640.5**	**$346.8**

Potential Reductions in Army Command, Control, and Communications Programs

We identified $217.3 million in potential reductions to Army command, control, and communications programs. The following sections provide, by appropriation, a brief description and the results of our analysis for each program where we identified a potential reduction.

Appropriation

Research, Development, Test, and Evaluation, Army

All Source Analysis System

The All Source Analysis System (ASAS) is an Army program to automate the correlation and analysis of high-volume, time-sensitive intelligence data. ASAS is currently structured to develop and field an intelligence fusion system in several phases or blocks. ASAS Block I was developed by the Jet Propulsion Laboratory (JPL) to provide initial, limited capabilities. In 1991, the JPL Block I program was merged with a modern computer system being developed by the Army Intelligence School, called HAWKEYE/WARRIOR, in what is now called ASAS Block I Hybrid.

The Army plans to field 12 ASAS Block I Hybrid units, including a training unit, and award a development contract for ASAS Block II in fiscal year 1993. Block II is to upgrade ASAS to a new computer architecture and provide enhanced capabilities. Development of ASAS Block III is scheduled to begin in 1998.

Results of Analysis

The Army's Research, Development, Test, and Evaluation budget request for ASAS can be reduced $17 million by eliminating further development and fielding of the JPL-developed ASAS equipment. Developing and fielding the JPL equipment will contribute little to the development of Block II and fielding this older, interim equipment would not provide significant capabilities over those available in HAWKEYE/WARRIOR and other available systems. Eliminating the JPL equipment from ASAS Block I fielding could also save considerable money. We discuss an additional reduction in the Other Procurement, Army, section of this appendix.

Eliminating the JPL equipment from the ASAS Block I Hybrid provides a modern architectural baseline in HAWKEYE/WARRIOR. This baseline can be upgraded to stay current with evolving technology during development of ASAS Block II and can provide relevant lessons learned for that development. The Army has rejected the JPL equipment for Block II because it is not compatible with the modern HAWKEYE/WARRIOR like open systems architectures planned for Block II. Thus, the JPL equipment

would only be used by priority forces as an interim capability until Block II is fielded.

Army officials also told us the JPL equipment is not as user friendly as the HAWKEYE/WARRIOR. They said the lengthy and difficult training demonstrated in preparing for ASAS initial operational testing is of concern and is the most pervasive problem remaining in the JPL equipment. They also noted that the JPL equipment is difficult to use and not as flexible as the HAWKEYE/WARRIOR.

In addition, capabilities similar to those provided by the JPL equipment are available with intelligence systems already fielded with HAWKEYE/WARRIOR. Army assessments have concluded that the Tactical Exploitation of National Capabilities Program (TENCAP) provides timely, quality products that constituted a majority of the intelligence in the Grenada, Panama, and Desert Storm conflicts. The Army said the intelligence products used in these conflicts were only available from TENCAP and were obtained with a relatively small investment in data links and terminals. In addition, Third Corps has identified TENCAP and the Army Forces Commands' Automated Intelligence Support System (a fielded, computer-based intelligence analysis support system that was used in Desert Storm) as the cornerstone of its future automated intelligence architecture.

Army officials informed us of another issue. They said the Army Chief of Staff directed that fielding ASAS equipment should not add to current airlift requirements. However, an Army official said that deploying JPL equipment will require an additional five to six C-141 flights for each unit. Another official estimated that airlifting HAWKEYE/WARRIOR instead of the JPL equipment would save two and possibly three C-141 flights for each unit deployed. In contingency operations, where a brigade may be the largest unit deployed, several corps officials said that the amount of airlift needed for the JPL equipment could cause it to be left behind. According to these officials, combat weapons have traditionally been given priority over intelligence assets.

Eliminating the JPL equipment from ASAS Block I fielding could save considerable money. One internal Army estimate said fielding only HAWKEYE/WARRIOR equipment in Block I could save about $96 million, or close to half the cost associated with fielding and maintaining the ASAS Block I with JPL equipment through fiscal year 2000.

Table II.1: ASAS Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
101	$50.754	$114.675	$63.768
Potential reduction	17.000	0	0

Appropriation

Other Procurement, Army

Army Data Distribution System

The Army Data Distribution System (ADDS) is comprised of two communications systems—the Enhanced Position Location Reporting System (EPLRS) and the Joint Tactical Information Distribution System (JTIDS). EPLRS is an Army-led program intended to satisfy the low- and medium-rate data communication needs of a division. JTIDS is an Air Force-led program that is being developed for high-rate data users.

Results of Analysis

The ADDS fiscal year 1993 budget request can be reduced by $3 million in anticipation of a cost reduction resulting from a reduced EPLRS testing program. The Army's $27.3 million request includes $15.8 million to finance technical testing in support of the EPLRS full-rate production decision for about 10,000 units. In May 1992, the Army decided to revise its technical and operational test plans because there is no program funding for acquiring more EPLRS units than the 1,301 units already under contract. At the time of our review, the program office had not completed its test plan revision or estimated the resulting cost reductions. However, the EPLRS product manager informed us that the cost reductions would be enough to pay for three additional net control stations at an estimated total cost of $3 million. However, the three stations would only be needed if the Army procures more than the 1,301 units on contract.

Table II.2: ADDS Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
34	$27.297	$44.199	$8.885
Potential reduction	3.000	0	0

Single Channel Ground and Airborne Radio System

The Single Channel Ground and Airborne Radio System (SINCGARS) is the Army's new generation of very high frequency combat radios that will be used by infantry, armored, artillery, and airborne forces. SINCGARS radios are jam-resistant and are smaller, lighter, and more reliable than the Vietnam-era radios they are replacing. By fiscal year 1998, the Army expects to spend $3.1 billion to field 141,500 ground radios and 8,500 airborne radios to first-to-fight forces. Because one contractor cannot produce the number of radios that the services believe are needed by 1998, the Army implemented a dual-source acquisition strategy.

Results of Analysis

The Army's $223.2 million fiscal year 1993 request can be reduced by $64.2 million because the second source contract award has slipped a year. The $92.8 million appropriated for a fiscal year 1992 second source contract award will be available for a fiscal year 1993 award; thus, $64.2 million from the fiscal year 1993 request is not needed.

In February 1992, the Army suspended the initial operational test of the second source radio due to performance failures. The Army planned to restart the test in May 1992; however, all essential corrections could not be incorporated and verified in time to permit a successful completion of the very compressed and success-oriented test schedule. Consequently, the Army's Operational Test and Evaluation Command delayed the operational test to fiscal year 1993. As a result, the $64.2 million fiscal year 1993 second source procurement request is premature because the fiscal year 1992 production contract option cannot be awarded as planned in June 1992 without a successful initial operational test.

Table II.3: SINCGARS Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
36	$223.510	$287.576	$262.863
Potential reduction	64.200	0	0

Firefly Data Transfer Device

The Firefly data transfer device is an upgrade to the Army's communications security key management, which is a component of the mobile subscriber equipment (MSE). The Firefly will increase communications security effectiveness by automating the key management process.

MSE is a tactical area communications system intended to provide voice, facsimile, and secure data communications for mobile and stationary users throughout a corps area. The Army awarded a firm, fixed-price contract for the MSE system in December 1985.

Results of Analysis

According to the fiscal year 1993 budget request to the Congress, the Army planned to procure the Firefly in fiscal year 1993 for $5.1 million. However, the Army has since decided to delay procurement of the transfer device until fiscal year 1995. Consequently, the Army's fiscal year 1993 budget request for MSE can be reduced $5.1 million.

Table II.4: MSE Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
35	$58.528	$72.538	$28.757
Potential reduction	5.100	0	0

ASAS

We described ASAS, as well as the basis for budget reductions, under the Research, Development, Test, and Evaluation, Army, section of this appendix. For the same reasons, the Other Procurement, Army, budget request of $54.3 million for ASAS can be reduced $39.7 million by eliminating development and fielding of the JPL-developed equipment. The remaining $14.6 million is needed to field HAWKEYE/WARRIOR.

Table II.5: ASAS Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
61	$54.319	$58.485	$33.383
Potential reduction	39.700	0	0

Maneuver Control System

The Maneuver Control System (MCS) is an automated corps-to-battalion system to help maneuver commanders and their battle staffs control combat forces. It is being developed (1) to enable the command staff to collect, store, process, display, and disseminate critical battlefield information and (2) to produce and communicate battle plans, orders, and

enemy and friendly situation reports. The Army plans further MCS development and production that it now estimates will cost $1.1 billion. For fiscal year 1993, the Army has requested $42.3 million to acquire MCS equipment.

Results of Analysis

The Army's fiscal year 1993 budget request of $42.3 million to initiate procurement of the MCS can be deleted because the Office of the Secretary of Defense has deferred the production decision until fiscal year 1994 due to program schedule delays.

The MCS program office originally had scheduled an initial operational test and evaluation for September 1992 to support a full-scale production decision in January 1993. During this test, both the transportable computer and the lightweight computer were to be evaluated. However, due to program difficulties, the program office has delayed the initial operational test and evaluation until May or June 1993. The Office of the Secretary of Defense is now planning to review the program for a production decision in October 1993.

Table II.6: MCS Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
87	$42.253	$8.042	$6.000
Potential reduction	42.253	0	0

Appropriation

Aircraft Procurement, Army

AN/AVR-2 Laser Warning System

The AN/AVR-2 Laser Warning System is designed to detect laser-guided weapons and alert the pilot with audio and visual warnings of the type, locations, and priority of threats.

The Army has 940 systems under contract (630 for Army, 254 for Marine Corps, and 56 for Navy), at an estimated cost of about $135 million. As of June 1, 1992, 82 of the 940 systems under contract had been delivered. The Army's $46.1 million fiscal year 1993 request is to award a contract in February 1993 for an additional 480 Army systems. This will bring the total quantity on contract to 1,420 systems, of which 1,110 are for the Army.

While the other services require no further systems, the Army needs the 480 included in its fiscal year 1993 request and another 362 for a total quantity of 1,472.

Even though over half of the total quantity is already under contract, the system did not meet all requirements in a 1985 operational test. Full-rate production was authorized in February 1992; however, no follow-on operational tests have been conducted as required by Department of Defense (DOD) policy.

Results of Analysis

The fiscal year 1993 budget request for Aircraft Survivability Equipment includes $46.1 million for the AN/AVR-2 Laser Warning System. The request can be reduced by $45.992 million ($124,000 is needed for program management) by deferring the planned contract award from fiscal year 1993 to fiscal year 1994. Considering the undelivered quantities currently on contract and the production lead time, the next production contract award can be delayed until October 1993 without causing a break in production. Deferring the contract award until October 1993 would also give the Army the opportunity to conduct a follow-on operational test to verify that system performance is adequate.

During June 1992, the Army was negotiating engineering change proposals to add new capabilities that will increase unit cost. To minimize the number of less capable systems that would have been produced, the contractor proposed a reduced production rate of 20 systems per month until July 1993, and then 30 per month through December 1994, which would complete the delivery of the 940 systems on contract. Since production lead time is 15 months, the follow-on contract could be awarded in October 1993 without disrupting production.

However, the Army plans to reduce the quantity on contract to pay for the added features. According to a program official, a reduction of about 60 to 80 systems (about 3-months' production) would be needed to fund the required features. The program manager is concerned that since the quantity will be reduced, the deferral of the planned award until fiscal year 1994 would cause a break in production. However, if the quantity on contract is reduced, a production break could still be avoided by sustaining the contractor's proposed lower production rate for the few months required to compensate for the reduction.

More importantly, deferring the contract award until October 1993 would permit a follow-on operational test to be conducted to minimize program risk on the remaining quantity requirements.

Table II.7: Aircraft Survivability Equipment Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
31	$75.154	$49.134	$105.858
Potential reduction	45.992	0	0

Potential Reductions and Rescissions in Navy Command, Control, and Communications Programs

We identified $504.5 million in potential reductions and rescissions in Navy command, control, and communications programs. The following sections provide, by appropriation, a brief description and the results of our analysis for each program where we identified a potential reduction, rescission, or both.

Appropriation

Other Procurement, Navy

Link 16 Hardware

The Navy's budget request includes $42.984 million to buy Link 16 hardware. When installed, Link 16 will provide secure and jam-resistant data and voice communications among and between selected Navy aircraft and ships and Marine Corps ground units. Link 16 hardware includes the JTIDS terminals and command and control processors.

Results of Analysis

The Navy's fiscal year 1993 budget request for $42.984 million can be denied because operational test results show that JTIDS is not yet ready for production and fleet introduction. As a result, the contract planned to be awarded in September or October 1992 with fiscal year 1992 funds can be deferred until the problems identified in the test are corrected. The fiscal year 1992 funds can then be used to award the production contract, if warranted, in fiscal year 1993. As an option, the Congress could rescind fiscal year 1992 funds and direct the Navy not to obligate fiscal year 1993 funds until further tests show JTIDS is ready for production.

The Navy's July 1992 JTIDS operational test report states that (1) the scope of the test was limited; (2) previously identified operational effectiveness and suitability issues were only partially resolved (40 previously identified, 9 resolved); and (3) the number of significant deficiencies, such as unreliable system software, poor availability, and problems with built-in test equipment, were alarming. Test results also show that the system cannot be ready for additional production and fleet introduction until the deficiencies are corrected.

Table III.1: Link 16 Hardware Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
83	$42.984	$40.841	$32.970
Potential reduction	42.984	0	0

Appropriation

Aircraft Procurement, Navy

Airborne Self-Protection Jammer

The Airborne-Self-Protection Jammer (ASPJ) is a jammer intended to protect the Navy's F/A-18 and F-14 aircraft by deceiving enemy radars. DOD authorized initial production of 100 jammers in fiscal year 1989. However, because of performance problems identified during ASPJ's initial operational testing, the Congress subsequently required the Director, Operational Test and Evaluation, to certify that ASPJ meets all operational requirements before exceeding minimal essential production rates. Although the jammer failed to achieve stated requirements in reliability growth testing, DOD authorized production of additional ASPJ systems in July 1991, stating that this was necessary to prevent a production break.

For fiscal year 1992, the Navy has allocated $172.1 million and $26.2 million from the F/A-18 and F-14 budget line items, respectively, for 69 ASPJ units. Obligation of these funds is pending while the results of recently completed operational tests are considered by DOD. The Navy plans to procure 28 additional ASPJ systems for $55 million in fiscal year 1993.

Results of Analysis

The Navy's fiscal year 1993 Aircraft Procurement budget request for ASPJ was based on anticipated approval of a September 1992 full-rate production decision by the Defense Acquisition Board. Since the full-rate production decision will not occur in fiscal year 1992 as planned, and a decision date has not yet been rescheduled, the Navy's fiscal year 1993 request of $55 million should be denied.

After ASPJ performed poorly during recent operational testing, the Navy deferred its request for authorization to procure additional ASPJ systems. In this regard, the Commander of the Navy's Operational Test and Evaluation Force reported in August 1992 that ASPJ was not operationally suitable and declined to recommend fleet introduction of the system unless a number of

deficiencies were corrected and verified by an additional phase of operational testing.

In view of the system's continued failure to meet performance requirements, the Congress may also wish to consider rescinding fiscal year 1992 funds of $198.3 million and deny any further funding request until the system has demonstrated satisfactory performance.

Table III.2: F-14 and F/A-18 Requests and Potential Reductions and Rescission for ASPJ

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
5 (F-14)	$143.100	$172.500	$1,079.100
6 (F/A-18)	1,658.300	2,022.100	1,618.400
Potential reductions and rescissions			
5 (F-14)	0	26.200	0
6 (F/A-18)	55.000	172.100	0

Advanced Tactical Air Reconnaissance System

The Advanced Tactical Air Reconnaissance System (ATARS) program is designed to replace obsolete wet-film photographic reconnaissance systems that DOD officials stated were not adequate during Operation Desert Shield/Desert Storm. Aircraft equipped with ATARS sensor suites will provide near-real time collection of battlefield information for tactical use as bomb damage assessment. ATARS is a joint Air Force and Navy program. The Air Force is the executive service for the development of the ATARS program. However, the Navy will procure the initial production lot of sensor suites for use on Marine Corps F/A-18 aircraft.

Results of Analysis

The Navy's fiscal year 1993 budget request for F/A-18 aircraft and spares can be reduced by $7.414 million because the low-rate initial production decision for ATARS procurement has slipped from April 1993 until August 1994, a 16-month delay. The production decision was delayed because the contractor has been unable to successfully test and deliver a system that meets specifications—a prerequisite to beginning government development testing.

Similar situations occurred in fiscal years 1991 and 1992. For fiscal years 1991 and 1992, the Congress appropriated $45.5 million and $70.001 million for ATARS in the F/A-18 budget line, but the Navy used the

funds for other purposes when the production decision was also delayed. We discuss corresponding reductions to the Air Force portion of the program under the Aircraft Procurement, Air Force, section in appendix IV.

Table III.3: F/A-18 and Spares Requests and Potential Reductions

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
6 (F/A-18)	$1,658.300	$2,022.100	$1,618.400
58 (Spares)	1,208.800	945.700	835.500
Potential reductions			
6 (F/A-18)	2.200	0	0
58 (Spares)	5.214	0	0

Appropriation

Shipbuilding and Conversion, Navy

Auxiliary General Ocean Surveillance Ships With the Surveillance Towed Array Sensor System

The Navy has 18 Auxiliary General Ocean Surveillance (T-AGOS) ships equipped with the Surveillance Towed Array Sensor System (SURTASS) for detecting and tracking submarines. These single hull ships tow acoustic sensors and relay the acoustic data collected via satellite to shore facilities for processing. They are being retired from the Navy's surveillance mission.

To replace them, the Navy procured four small twin hull ships with sensor systems and plans to procure five larger twin hull T-AGOS ships with new advanced sensors. The first larger ship was funded in fiscal year 1990. The Navy plans to use fiscal year 1992 funds to award an option to buy the second large ship. The last three large ships are to be procured with fiscal years 1994 through 1997 funding.

The Navy planned to use the larger ships with advanced sensors tailored for deep waters to detect and track Soviet submarines primarily in the North Atlantic. With the change in the threat, the Navy now plans to use the larger twin hull ships for the shallow water regional threats such as the Persian Gulf threat.

Results of Analysis

The Navy's fiscal year 1992 appropriation of $148.509 million to buy one additional large T-AGOS ship can be rescinded because (1) the deep water Soviet threat it was designed for has declined dramatically and (2) the T-AGOS ship and advanced sensors have not been determined to be the best solution for shallow water regional threats.

The regional war threat against which the system will be used —diesel submarines in shallow water—has not been well defined and the requirements for the regional threats are not documented or approved. Further, the shallow water capability of the acoustic sensors has not been demonstrated, and several DOD organizations are currently exploring alternative solutions to the shallow water threat. If needed, (1) the 18 single hull T-AGOS ships that recently completed fielding and are being retired, (2) the four small twin hull T-AGOS ships to be delivered, and (3) the one large twin hull T-AGOS ship on order can be used until DOD determines its regional threat requirements and the most cost-effective system to meet those requirements.

Table III.4: T-AGOS Ships Request and Potential Rescission

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
14	0	$148.500	0
Pctential rescission	0	$148.500	0

Oceanographic Ship Conversion Program

Eighteen single hull T-AGOS ships and their shipboard surveillance systems were acquired by the Navy with fiscal years 1979 through 1987 appropriations. These ships are being retired from the Navy's surveillance ship inventory.

The Office of the Secretary of Defense has proposed that one T-AGOS ship be considered for conversion to a single mission oceanographic ship for use by Navy laboratories, contractors, and academic institutions. The fiscal year 1993 budget request includes $19.5 million to convert a T-AGOS ship for the proposed oceanographic operations.

Results of Analysis

The fiscal year 1993 budget request for $19.5 million can be deleted. Navy requirements are for multi-mission oceanographic ships capable of general purpose oceanographic survey operations in coastal and deep oceans. Accordingly, the Assistant Secretary of the Navy (Financial Management) requested the Office of the Secretary of Defense to withdraw the proposal for single-mission conversion stating that "the oceanographic mission and characteristics requirement cannot be supported by using a modified T-AGOS ship." In addition, the Navy already has oceanographic ships that can perform the single-mission function and Navy officials told us that they have no funds available to operate the converted ship.

Table III.5: Oceanographic Ship Conversion Program Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
16	$19.500	0	0
Potential reduction	19.500	0	0

Appropriation

Military Construction, Navy

Pier Construction

For fiscal year 1993, the Navy is requesting $26.5 million in military construction funds to build piers at Ford Island, Hawaii, to handle the new larger SURTASS ships the Navy is currently buying.

Results of Analysis

The Navy's fiscal year 1993 budget request of $26.5 million can be deleted. The planned construction was canceled because the new large ships are too large for the channels at this location.

Table III.6: Pier Construction Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
Pier construction	$26.500	$2.700	$22.500
Potential reduction	26.500	0	0

Appropriation

Operation and Maintenance, Navy

Fixed Distributed System

Included in the Navy's operation and maintenance budget request for fleet operation support is $6.252 million to survey shore sites for the Fixed Distributed System. The system is a new generation undersea surveillance system consisting of underwater and shore segments.

In January 1992, the Secretary of Defense, in response to the reduced threat of the former Soviet Union and the lessened need to produce the system, directed the Navy to forego procurement of the fixed distributed system and to proceed only with research, development, test, and evaluation. The program was reduced from seven systems (six production and one research and development) to one research and development system.

Results of Analysis

The Navy's fiscal year 1993 budget request for operation and maintenance funds can be reduced by $6.252 million because the Navy terminated production of the fixed distributed system and therefore no longer needs to survey shore sites for the system. A program office official told us that the Navy does not need the $6.252 million in its fiscal year 1993 budget request because the shore sites will not be surveyed.

Table III.7: Operation and Maintenance Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget request	**1993**	**1992**	**1991**
Operation and maintenance, Navy	$20,728.600	$21,051.609	$23,268 447
Potential reduction	6.252	0	0

Potential Reductions in Air Force Command, Control, and Communications Programs

We identified $116.6 million in potential reductions to Air Force command, control, and communications programs. The following sections provide, by appropriation, a brief description and the results of our analysis for each program where we identified a potential reduction.

Appropriation

Other Procurement, Air Force

Tactical Air Control System Improvements

Included in the Air Force's $118.8 million fiscal year 1993 request for tactical air control system improvements is $77.2 million for modular control equipment (MCE), which will replace large, obsolete tactical air control operations centers with smaller, modular, more capable, and mobile centers. Included in the request is $53.3 million for a preplanned product improvement to further upgrade MCE. The product improvements include integration of the joint tactical information distribution system into MCE.

Results of Analysis

The Air Force's fiscal year 1993 request can be reduced by $53.3 million because the MCE contract award for product improvement has slipped from June 1993 to September 1993 and could slip into the first quarter of fiscal year 1994 without significant effects on the program.

Since the $53 million reduction would leave about $23.9 million MCE for nonrecurring start-up costs, interim contract support, and other activities, deferring the contract's award to the first quarter of fiscal year 1994 would have little or no detrimental effect on the program. Program officials expressed concern that delaying contract award until fiscal year 1994 would create some added risk that the current target date (fourth quarter of fiscal year 1996) for fielding MCE product improvements might not be met. We found no basis to determine that a delay of one quarter would have a significant impact on the program, given that the contract award is already scheduled for the last month of fiscal year 1993. Program officials agree that integration of the joint tactical information distribution system might be delayed anyway until fiscal year 1994 because of poor test results.

Table IV.1: Tactical Air Control System Improvements Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
106	$118.8	$66.3	$161.8
Potential reduction	53.3	0	0

Weather Observation/Forecast

The primary objective of the Weather Observation/Forecast program is to acquire meteorological and space environmental equipment for the Air Force Air Weather Service, which supports worldwide missions of the Air Force and the Army.

The fiscal year 1993 budget request includes $15.27 million for an automated weather distribution system. The system provides an overall modernization of the Air Weather Service's equipment from the 1940s and 1950s at 170 Air Force and Army sites worldwide. It will permit more rapid preparation of forecasts of severe weather situations and alert base operations and control personnel when weather conditions change.

Results of Analysis

The Air Force's fiscal year 1993 budget request can be reduced an estimated $0.498 million because the two Army bases scheduled to receive the new weather equipment in fiscal year 1993—Fort Ord, California, and Fort Devens, Massachusetts—are to be closed.

The estimated cost for the equipment and its installation is $0.498 million. Program office officials agree that this equipment is no longer required.

Table IV.2: Weather Observation/Forecast Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
107	$62.947	0	0
Potential reduction	0.498	0	0

Appropriation

Aircraft Procurement, Air Force

Joint Surveillance Target Attack Radar System

The Joint Surveillance Target Attack Radar System (JSTARS) is designed to detect and track moving and stationary enemy armor, vehicles, and troops over a wide area. It also provides targeting information to attack aircraft pilots, artillery batteries, and standoff missile units. JSTARS is comprised of airborne and ground segments. It is a joint Army and Air Force program with the Air Force as the lead service. The Air Force requested $50.700 million in fiscal year 1993 for its part of the program.

Results of Analysis

The Air Force fiscal year 1993 budget request can be reduced $12.6 million because the airframes recently acquired as platforms for the airborne segment can be used before procuring additional airframes.

An earlier program decision to use new Boeing 707 airframes was changed when Boeing decided to close the 707 production line. At that time, the Air Force had contracted for one new 707 airplane designated the YE-8B. Boeing's decision resulted in a revised acquisition strategy to acquire used 707 airframes from the commercial market and refurbish them to support JSTARS.

In accordance with the revised acquisition strategy, the Air Force recently exchanged the new 707 (YE-8B), which it had on contract, for five used 707 airframes and $600,000 in cash. These five airframes could be used to meet program requirements through fiscal year 1995. However, the Air Force plans to store these airframes for use later in the program and continue buying additional used commercial airframes. The fiscal year 1993 budget request of $50.7 million includes $12.6 million to acquire another used commercial 707 airframe.

Table IV.3: JSTARS Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
17	$50.700	0	0
Potential reduction	12.600	0	0

ATARS

The ATARS program is described under the Aircraft Procurement, Navy, section of appendix III. The Air Force's fiscal year 1993 budget request of $50.2 million to initiate procurement of ATARS support equipment for depot-level maintenance and production tooling can be deleted because it is premature. As previously discussed, ATARS testing has been delayed and the decision to begin initial production has correspondingly slipped 16 months, from April 1993 until late August 1994. Depot-level maintenance equipment does not need to be procured before the system it is to support. The procurement of production tooling could also be deferred 16 months.

Since testing of ATARS has not begun and procurement has slipped from fiscal year 1992 to fiscal year 1994, the purchase of support equipment and tooling can be delayed.

Table IV.4: ATARS Request and Potential Reductions

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
55	$0.400	0	0
59	49.800	$10.100	0
Potential reductions			
55	0.400	0	0
59	49.800	0	0

Potential Reductions in Defense Agencies Command, Control, and Communications Programs

We identified $148.9 million in potential reductions to the Defense Agencies' fiscal year 1993 request for command, control, and communications programs. The following section provides a brief description and the results of our analysis for the program where we identified a potential reduction.

Appropriation

Defense Agencies, Procurement

Remotely Piloted Vehicles

Procurement funds requested in the fiscal year 1993 budget include $148.9 million for the short-range unmanned aerial vehicle (UAV) system. The UAV is to perform reconnaissance, surveillance, target acquisition, and other military missions for the Army and the Marine Corps. The system includes a ground station for controlling the UAV's flight and processing information collected by the UAV, a launch and recovery system, trucks and other support equipment, and multiple air vehicles, each equipped with a payload such as a camera.

DOD plans to award a production option in late September 1992 and exercise a follow-on production option in September 1993.

Results of Analysis

The fiscal year 1993 budget request of $148.9 million can be deleted because further testing is needed before additional systems are procured. Under the current contract provisions, DOD may procure up to 40 percent of the total program quantity before the system completes an operational test.

Limited testing completed on the system has not adequately addressed several critical performance capabilities such as launch and recovery, susceptibility to electromagnetic interference, survivability, and flight endurance. For example, DOD design policy requires that a system's susceptibility to electromagnetic interference be tested in a realistic operational environment. However, officials conducting tests of the short-range UAV took precautions to ensure that the environment was free of electromagnetic interference. During Desert Storm, electromagnetic interference caused by emissions from microwave towers and other systems resulted in temporary loss of control of air vehicles and prevented imagery from being transmitted to the ground control station. At least two air vehicle losses and damage to others were attributed to electromagnetic

interference. Furthermore, the system was tested only in a desert environment and not in other environments where it would be deployed.

Table V.1: Remotely Piloted Vehicles Request and Potential Reduction

Dollars in millions

	Fiscal year		
Budget line	**1993**	**1992**	**1991**
4	$148.900	$157.800	$41.400
Potential reduction	148.900	0	0

Scope and Methodology

We selected for detailed review DOD command, control, and communications programs that we identified from our ongoing assignments as well as the survey phase of this assignment as having cost, schedule, performance, or programmatic issues. To assess the status of these programs, we met with program officials and reviewed program documentation such as budget requests and justifications, monthly program status reports, correspondence, and test reports. We discussed the facts contained in this report with representatives of service headquarters, the Secretary of Defense, and the DOD Inspector General.

Our work on Army programs was performed at the U.S. Army Communications-Electronics Command, Fort Monmouth, New Jersey; U.S. Army Aviation Systems Command, St. Louis, Missouri; and the ASAS' program office, McLean, Virginia. Our work on Navy programs was performed at the Naval Aviation Systems Command, Naval Sea Systems Command, and the Naval Space and Weapons System Command, Crystal City, Virginia. Our work on Air Force programs was performed at the Electronics Systems Center, Hanscom Air Force Base, Massachusetts; the Air Systems Center, Wright-Paterson Air Force Base, Ohio; and the Naval Air Systems Command, Crystal City, Virginia.

We performed our work on DOD's UAV program primarily at the Office of the Secretary of Defense, Washington, D.C.; the Navy's Program Executive Office for Cruise Missiles and UAVs at the Naval Air Systems Command, Crystal City, Virginia; the Army Missile Command, Redstone Arsenal, Alabama; the Army Operational Test and Evaluation Command, Fort Huachuca, Arizona; and the DOD's Director of Operational Test and Evaluation, Washington, D.C.

We performed our review from October 1991 to September 1992 in accordance with generally accepted government auditing standards.

Major Contributors to This Report

National Security and International Affairs Division, Washington, D.C.	Howard R. Manning, Assistant Director Raymond W. Allen, Evaluator Kent L. Fixman, Evaluator Robert R. Hadley, Evaluator Elizabeth G. Mead, Evaluator Charles A. Ward, Evaluator
New York Regional Office	George A. Pagnillo, Evaluator-in-Charge Donald F. Lopes, Evaluator Philip F. Merryman, Evaluator Christina A. Porche, Evaluator
Boston Regional Office	Eaton C. Clapp, Evaluator Thomas H. Coder, Evaluator Paul Williams, Evaluator
Cincinnati Regional Office	John M. Murphy, Issue Area Manager Terrell L. Bishop, Evaluator Michael Aiken, Evaluator