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Fact Sheet for Congressional Requesters

August 1986

BATTLEFIELD AUTOMATION

Status of the Army Command and Control System Program

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National Security and
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August 26, 1986

The Honorable Ted Stevens
Chairman, Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Bill Chappell, Jr.
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

As requested in your January 28, 1986, and February 5, 1986, letters and subsequent discussions with your Offices, we have reviewed the Army Command and Control System (ACCS) program. This letter summarizes the program and provides our observations to date. The appendixes contain the briefing we provided to your staff and more fully discuss the issues in this letter. We will continue our review of the common computer acquisition portion of ACCS and evaluate ACCS component systems, with emphasis on the air defense command and control program, in time for the Subcommittees' work on the fiscal year 1988 Defense budget.

Last year, the Army began to consolidate the acquisition of its major battlefield command and control systems. This effort, called ACCS, emphasizes the procurement of common hardware and software for the five systems being developed to help commanders in the mission areas of air defense, fire support, intelligence/electronic warfare, combat service support, and maneuver control. In addition to the computer systems, the ACCS program also encompasses the three major tactical communications systems that are expected to carry information to the corps and divisions.

Taken together, the ACCS component systems represent an investment of almost $20 billion over the next 10 years. About $12.6 billion is to acquire the communications systems, while more than $7 billion is to acquire the command and control systems. Included in the estimated cost of the command and control systems are funds that will be spent on common computer hardware and software. The ACCS program office currently estimates about $800 million will be needed initially to buy these common computer resources. As the Army identifies more opportunities for using common, nondevelopmental items, the ACCS program cost estimates will change.

By buying common items and fielding the equipment at the same time to tactical units, the Army expects to lower overall procurement costs, reduce maintenance problems, and improve the interoperability of command and control systems. The Army plans to begin fielding these systems during fiscal years 1990 to 1992 starting with III Corps at Fort Hood, Texas.

In implementing the ACCS program, the Army plans to have a program manager who will coordinate and control the acquisition of the eight major component systems as well as the common hardware and software intended for use in these systems. The Army also intends that the program manager be associated with the Army's Communications-Electronics Command, where most of the ACCS component systems are being managed.

While the concept and objectives of ACCS appear sound, the Army has had difficulty in moving the program forward. About a year into the program, the Army does not have an approved charter providing authority for the ACCS program manager to carry out the program's responsibilities. The major issue is the degree of funding and management control that the ACCS program manager will exercise over the program managers for component systems. Army officials state there have been delays in reaching agreement on ACCS management issues, but say their draft charter, to be approved soon, will resolve them.

Acquiring automated command and control systems has proved to be a difficult task in the past, and the consolidation of five major systems, together with communications programs, appears even more challenging. The acquisition timetables indicate very little margin for slippage in any one system if all systems are to be fielded at the same time. Since the Army plans to award a large computer contract within the next year, it is important that the management issues are resolved soon if the Army is to achieve the benefits of the ACCS program.

We have discussed a draft of this fact sheet with Army officials and included their comments where appropriate. Unless you publicly announce its contents earlier, we plan no further distribution until 10 days from its date. At that time we will send copies to interested parties and make copies available to others upon request.

If you have questions or if we can be of further assistance, please contact me at 275-4841.

Richard Davis
Associate Director

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ABBREVIATIONS

ACCS	Army Command and Control System
AFATDS	Advanced Field Artillery Tactical Data System
ASAS	All Source Analysis System
CSSCS	Combat Service Support Control System
DOD	Department of Defense
FAADC2I	Forward Area Air Defense Command, Control, and Intelligence
FATDS	Field Artillery Tactical Data System
MCS	Maneuver Control System
MSE	Mobile Subscriber Equipment
PJH	PLRS/JTIDS Hybrid
PLRS/JTIDS	Position Location Reporting System/Joint Tactical Information Distribution System Hybrid
SHORAD C2	Short Range Air Defense Command and Control
TACCS	Tactical Army Combat Service Support Computer System
TACFIRE	Tactical Fire Direction System

THE ACCS PROGRAM: BACKGROUND, COMPOSITION, AND MANAGEMENT

BACKGROUND

Since 1976, the Army has analyzed problems relating to its lack of battlefield automation, interoperability, and standards. ACCS is the Army's answer to these problems. As recently as December 1985, the Army underscored the need for a common hardware and software base and common system interfaces at all echelons. As a result, the ACCS program manager was directed to provide a common suite of nondevelopmental hardware and software.

The ACCS program is aimed at

-- reducing proliferation of unique hardware and software systems by acquiring common hardware and software;

-- effecting program integration, interoperability, and oversight;

-- synchronizing testing and fielding to the force; and

-- exercising control of technical and programmatic aspects.

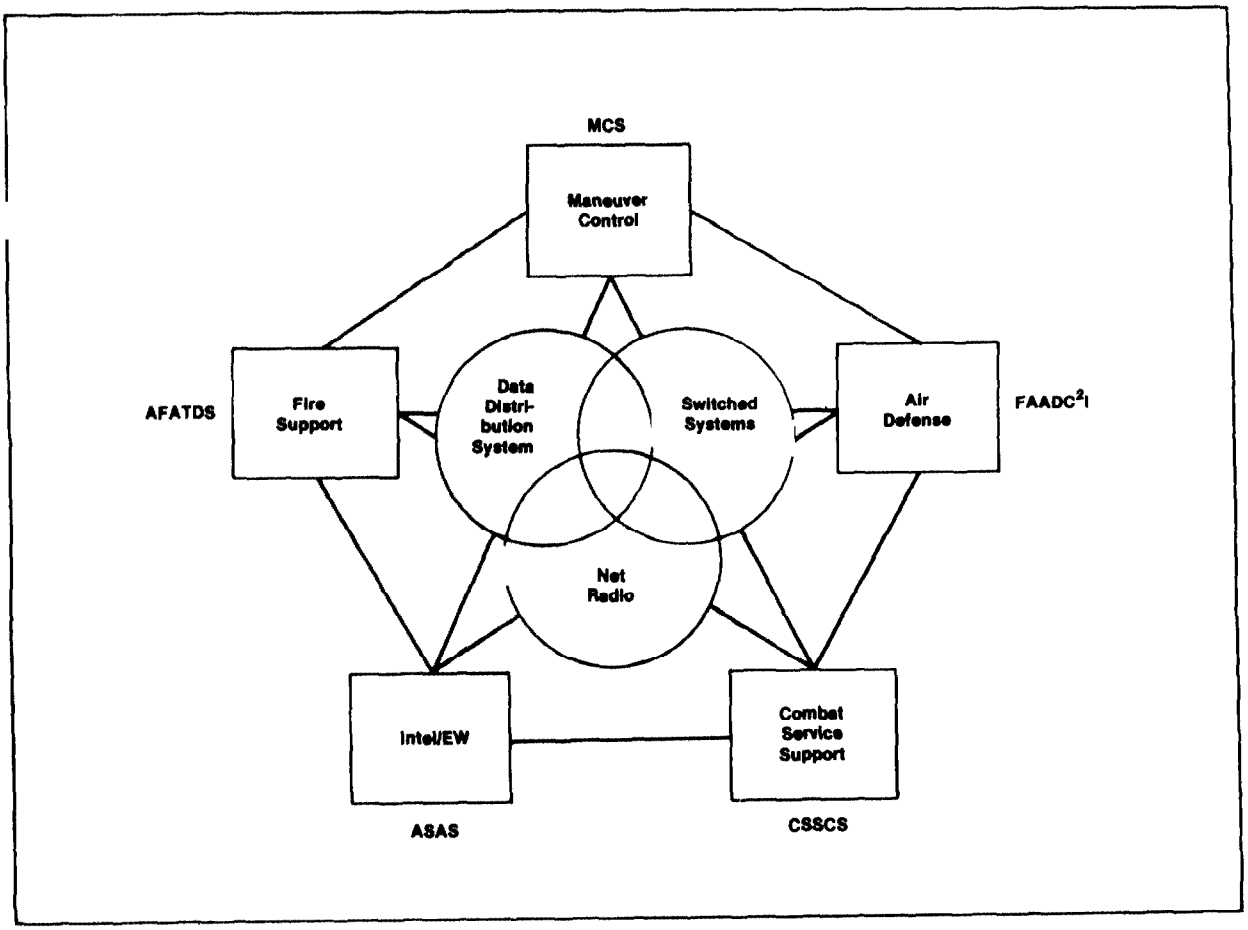
The ACCS approach is to acquire an inventory of common hardware and software building blocks. The individual program managers for the command and control systems, as system developers, will use these ACCS building blocks. The ACCS program manager will be responsible for providing centralized management to implement the entire ACCS for the corps and division operational area.

ACCS architecture

In developing its command and control system plan, the Army identified five battlefield functional areas that can be aided by automated systems. Figure I.1 shows the functions and the systems that will be acquired to help battlefield commanders. The projects are: Maneuver Control System (MCS) for maneuver control; Forward Area Air Defense Command, Control, and Intelligence System (FAADC2I) for air defense; Combat Service Support Control System (CSSCS) for combat service support; All Source Analysis System (ASAS) for tactical intelligence; and the Advanced Field Artillery Tactical Data System (AFATDS) for fire support.

APPENDIX I

Figure I.1: ACCS' Battlefield Functional Areas



Within each functional area, the Army also plans other subsystems, some manual and others automated, that will be integrated into the major command and control system. These subordinate systems provide data to and receive data from higher command levels. One subsystem already fielded, for example, is the Battery Computer System. This system supports the field artillery by performing calculations to aid gunners in aiming and firing their weapons. When AFATDS is fielded, the Battery Computer System will be integrated into the ACCS fire support command and control network.

Communications for the command and control systems will be provided by the Army's three major tactical communications systems that are in various stages of acquisition. The Position Location Reporting System (PLRS)/Joint Tactical Information Distribution System (JTIDS) Hybrid (PJH) will be the real-time data distribution system for the battlefield, Mobile Subscriber Equipment (MSE) will function as the area communications system, and the Single Channel Ground and Airborne Radio System (SINCGARS) will be the new Army combat net radio.

When the command and control architecture is put into place, the Army plans to have a fully integrated network of computers, radios, and other equipment to help battlefield commanders manage their resources more effectively.

ACCS estimated cost and proposed acquisition schedules

Figure I.2 shows the estimated costs for acquiring the major components of the ACCS. As the overall program progresses, funds from these component system programs will be allocated for the purchase of common hardware and software. ACCS program officials have estimated the initial cost of this procurement to be about $800 million.

Figure I.2: Estimated Cost of Major ACCS Components

		Fiscal year 1987 request (in millions)		Estimated acquisition cost[a] (in millions)	
Command and Control Systems[b]	Status	Development	Procurement	Development	Procurement
AIATDS	Concept evaluation phase scheduled for September 1986 to February 1987	$ 40.4	$ 0	$ 277.0	$ 1,857.4[c]
MCS	Baseline software is being developed, and Army will begin buying interim computers at end of fiscal year 1986	9 4	56 9	142 9	303 8
AbAS	Now being developed, with prototype production decision expected by December 1986	190.9	133.9	814.0	1,625.4
CSSCS/TACCS	CSSCS' cost and design not yet defined; Tactical Combat Service Support Computer System (TACCS) will give interim capability	4 6	42 9	Not available	180 9
FAADC2I	Full scale development contract award expected by September 1986	98.3	0	413.5	1,404.0[d]
Communications Systems					
MSE	Production contract signed in December 1985; three additional options to be exercised in 1987, 1988, and 1989	0	903.7	0	4,298 0
SINCGARS	Major problems with reliability of initial production radios make it difficult for Army to provide timetable	12 0	203 9	151 9	5,375.5
PJH	First article test scheduled for September 1986; production contract for enhanced PLRS and JTIDS to be awarded March 1987	42 1	75 5	232 8	2,530 6

[a] Dollar amounts include estimate of future years' inflation

[b] These systems and their current status are described in appendix II.

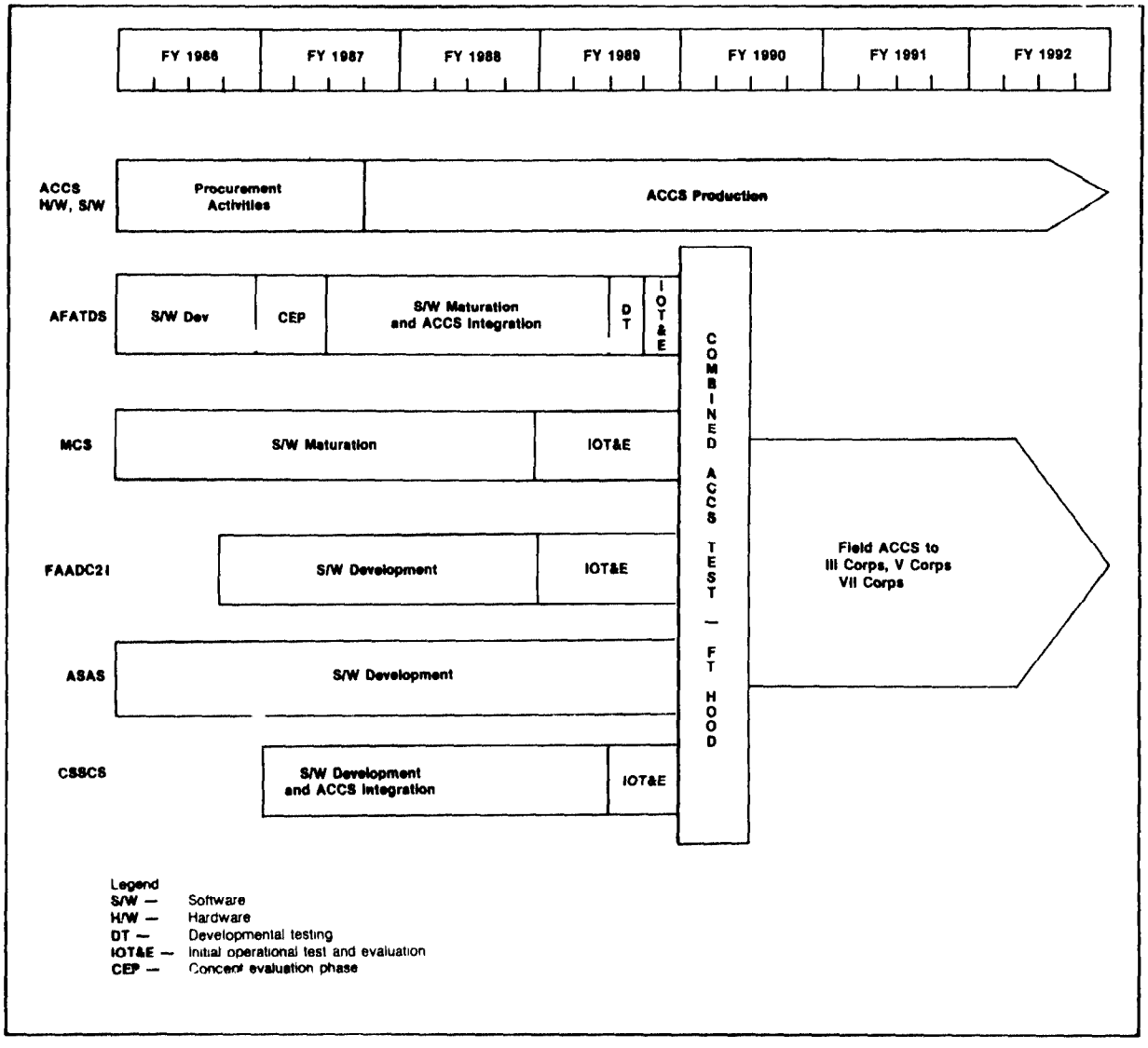
[c] This estimate was developed before the ACCS program was created and does not reflect the savings anticipated from purchase of ACCS common computer hardware and software, and the initiative to buy rugged commercial equipment rather than militarized items

[d] This estimate includes the cost of the sensor (intelligence) portion of the program as well as the command and control system

APPENDIX I

The time phased acquisition schedules for the major components comprising ACCS are shown in figure I.3.

Figure I.3: Proposed Acquisition Schedules for ACCS Components



OBJECTIVES, SCOPE, AND METHODOLOGY

The objectives of our review were to (1) examine the Army's plan to put in place a command, control, and communications network to satisfy the needs of battlefield commanders in the 1990s and beyond and (2) provide an understanding of the ACCS program which will eventually place a vast number of computers, terminals, radios, and other devices on the battlefield. During the review, we addressed the following issues.

-- Overall ACCS management structure and program plans.

-- Performance, schedule, and cost goals of ACCS component systems.

-- Risks involved in acquiring common computer hardware and software for ACCS component systems.

To obtain a current status on these issues, we reviewed documents and interviewed key officials at

-- the Office of the Secretary of Defense;

-- ACCS program and procurement offices at Fort Monmouth, New Jersey;

-- other program offices for ACCS component systems at Fort Monmouth, New Jersey; Huntsville, Alabama; and McLean, Virginia; and

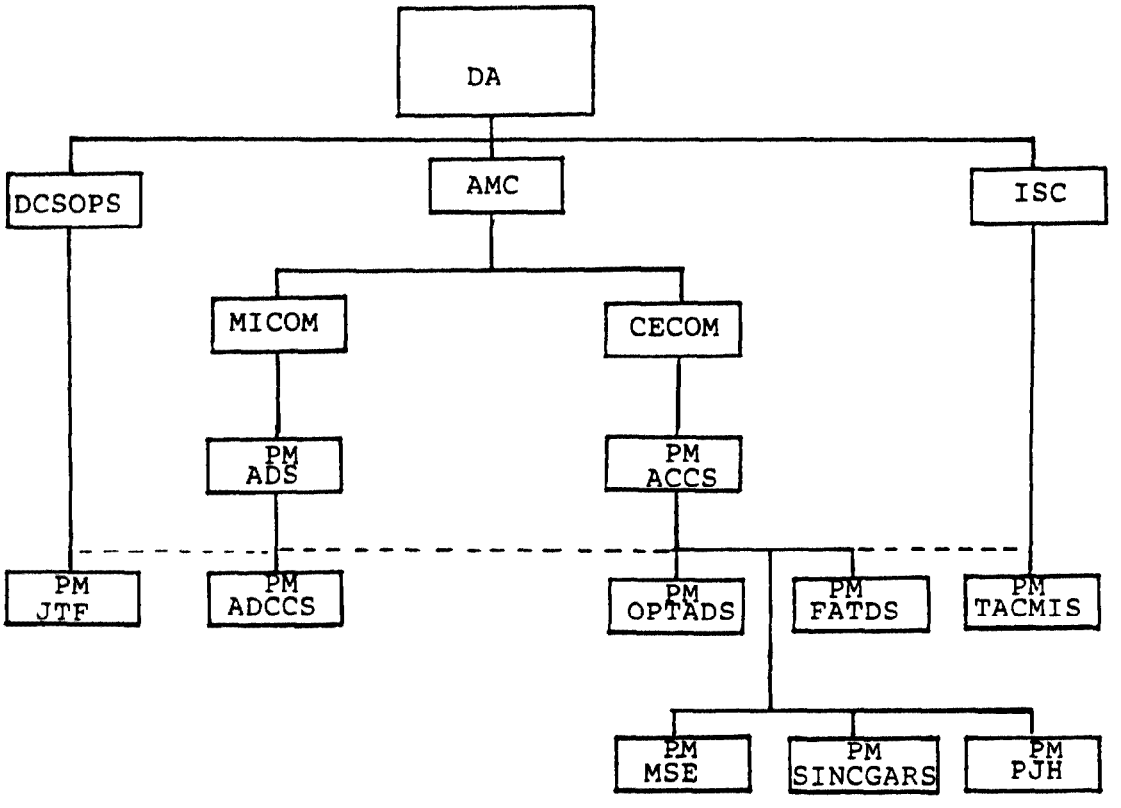
-- Army Training and Doctrine Command activities at Fort Gordon, Georgia, and Fort Leavenworth, Kansas.

Our review was performed in accordance with generally accepted government auditing standards from February 1986 through June 1986.

ACCS ORGANIZATION AND MANAGEMENT ISSUES

In implementing the ACCS program, the Army had initially planned to have a program manager who would coordinate and control the acquisition of the eight major component systems and the common hardware and software to be used in these systems. This program manager was to be located at the Army's Communications-Electronics Command at Fort Monmouth, New Jersey, which already has direct responsibility for acquiring the communications systems and two of the five command and control systems. Figure I.4 shows the proposed relationship of the ACCS program to other participating Army organizations.

Figure I.4: Proposed Relationship of ACCS Program to Army Organization



LEGEND:

DA - DEPARTMENT OF THE ARMY HEADQUARTERS
AMC - ARMY MATERIEL COMMAND
DCSOPS - DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS
ISC - INFORMATION SYSTEMS COMMAND
MICOM - MISSILE COMMAND
CECOM - COMMUNICATIONS-ELECTRONICS COMMAND
ADS - AIR DEFENSE SYSTEMS
ADCCS - AIR DEFENSE COMMAND AND CONTROL SYSTEM
OPTADS - OPERATIONS TACTICAL DATA SYSTEMS (MCS)
FATDS - FIELD ARTILLERY TACTICAL DATA SYSTEMS
TACMIS - TACTICAL MANAGEMENT INFORMATION SYSTEMS (CSSCS)
JTF - JOINT TACTICAL FUSION (ASAS)
PM - PROGRAM MANAGER

After more than a year of working on the program, the Army has not decided on ACCS' management and funding issues. Although a draft charter has been prepared, and several commands have agreed to its provisions, it has not received final approval from Army Headquarters. Questions have arisen about which programs should be included in ACCS, and the amount of authority the ACCS program manager should have over subordinate programs. The debate has also included questions about which communications programs should fall under the ACCS program, and to what degree several command and control system programs, such as the Joint Tactical Fusion Program, will participate in ACCS.

As currently drafted, the ACCS charter provides for the program manager to "coordinate, integrate, lead, and directly control" the managers of AFATDS, MCS, MSE, PJH, and SINCGARS. It also requires the ACCS program manager to "coordinate programmatic and financial matters, and will coordinate, integrate, lead and exercise architectural and technical control" over CSSCS, FAADC2I, and ASAS. The proposed charter provides for unresolved issues to be elevated to the Department of the Army for resolution.

While the Office of the Secretary of Defense remains supportive of the ACCS concept, it too has voiced concern about the struggles and delays the Army has had in putting the program together. In a February 1986 letter to the Under Secretary of the Army, the Assistant Secretary of Defense for Command and Control, Communications, and Intelligence indicated that the problems in consolidating power from various commands may result in a program manager who is severely limited in efforts to integrate programs of the command and control system developers. The Assistant Secretary stated that the program manager for ACCS "will require full funding control of the major command and control programs to be effective."

GENERAL OBSERVATIONS

While the concept and objectives of ACCS appear sound, the Army has had difficulty in moving the program forward. More than 1 year into the ACCS program, Army officials just recently reached tentative agreement on its management structure and the authority of the program manager. One of the major issues is the degree of funding and management authority that the ACCS program manager will have over program managers for component systems.

Acquiring automated command and control systems has proved to be a difficult task in the past, and the consolidation of five major system acquisitions, together with the communications systems, appears even more challenging. Review of the acquisition timetables indicates very little margin for slippage in any one system if all systems are to be fielded at the same time. Since the Army plans to award a large computer resources contract under the ACCS program within the next year, it is important that the ACCS charter be approved and funding issues resolved soon.

Army officials agree that delays have been experienced in reaching agreement on important ACCS management issues, but stated that the draft charter, to be approved soon, will resolve the issues and enable the program to move forward as scheduled.

OBSERVATIONS ON ACCS COMPONENTS AND SOFTWARE

AFATDS

In the early 1980s, the Army provided most divisions an automated tactical fire direction system (TACFIRE). The system uses computers, printers, and displays to assist commanders to plan, direct, and control artillery fire. Because it was large and heavy and becoming technically obsolete, the Army stopped buying it and began to develop the AFATDS.

The contract for the concept evaluation phase of AFATDS was awarded in May 1984. Although the cost of this 33-month contract has grown from $34 million to $46 million, the Army has started efforts to contain further cost growth by placing a $46 million cost ceiling on the work and reducing the scope of the contractor's efforts. Any additional contract costs for this phase will be borne by Magnavox, the contractor.

Testing of the first of four software packages produced by Magnavox indicates that some development problems are occurring. In a March 1986 report, an independent evaluator for the Army concluded that, even though the test was not complete, some problems identified will add risk to future development and testing efforts. The Army's own Product Assurance and Test Directorate also reported that there are some high risks in cost and schedule because the AFATDS contractor is pursuing an accelerated development timetable.

Concerns have been expressed in the Congress about deficiencies in fire support capabilities for light infantry divisions which do not have TACFIRE and are not scheduled to receive AFATDS until 1994. To provide some interim fire support capability to two light divisions (the 7th and 82nd infantry divisions), the Army plans to procure additional digital message dissemination devices, designed for lower echelon fire support elements, for use at higher echelons. While this would be a relatively low cost item and would provide needed digital data links, field artillery commanders of these two light divisions told us that it would not meet division and brigade fire planning and direction needs.

Another option is to buy the Light Field Artillery Tactical Data System which has been tested by the 9th Infantry Division (motorized). This system would more adequately meet the light division's interim needs; however, it was abandoned last year because the Army did not want to procure and support two fire support command and control systems. While this system is more

capable than the digital devices selected by the Army to satisfy interim needs, it is more costly.

The Army continues to view AFATDS as the only solution which meets its requirements of the 1990s and is consistent with the ACCS program.

Our observations on the Army's plan to improve its fire support command and control capabilities are contained in our briefing report, Army's Plans to Improve Its Fire Support Capabilities (GAO/NSIAD-86-115BR, May 1986).

MCS

MCS is planned as the Army's primary command and control system for maneuver commanders on the battlefield which consists of computers, printers, and displays. It will provide commanders with information on troop maneuvers and will also give them general battlefield conditions. MCS will be tied into the other ACCS component systems so that commanders will have access to a variety of information to aid decisionmaking.

Although several Army units have been using limited automation of command and control for tactical operations, combat force commanders have no Army-wide system.

Software for MCS is now being developed and tested for use with computers that the Army is planning to buy over the next 3 years. Although these computers were originally to be fully militarized, the Army has recently determined that some commercial, nondevelopmental equipment can be used.

During the fiscal year 1986 appropriations process, the Congress expressed concern about the high cost of the MCS computer equipment, especially since the equipment will most likely be replaced when the ACCS common hardware is purchased a few years later. To address this concern, the Army submitted a report in March 1986 about its plan to buy and distribute MCS computer equipment.

Our review of the Army's plan indicates it does not comply with congressional guidance for the MCS program because the plan

-- provides for equipping 17 active divisions with militarized computer equipment rather than the 11 agreed to;

-- calls for the completion of commercial nondevelopmental equipment acquisitions, with ruggedized features for military users, in fiscal year 1988 instead of fiscal year 1987; and

-- does not establish an aggressive test and evaluation program for MCS.

In addition, we found that the Army's plan contained overstated costs of more than $47 million for nondevelopmental computer equipment. The Army subsequently revised its estimates to correct this error.

Observations on the MCS plan are discussed in greater detail in our fact sheet, Army's Maneuver Control System Procurement and Distribution Plan (GAO/IMTEC-86-21FS, May 1986).

ASAS

ASAS is the command and control system being acquired to serve the tactical intelligence portion of the intelligence/electronic warfare mission area. It is part of a joint Army-Air Force effort managed by the Joint Tactical Fusion Program Office in McLean, Virginia. This office reports directly to Army Headquarters and is not part of the Army Communications-Electronics Command.

ASAS consists of five hardware modules with computers and displays, complemented by software programs, to receive, analyze, and distribute a variety of intelligence information from sensors and other systems to tactical commanders.

The system is being developed in an evolutionary manner, with Jet Propulsion Laboratory as the prime contractor. This evolutionary approach involves building a limited capability and taking it to the field for test and evaluation. As experience is gained, the system will be expanded and improved. The next major milestone for this development is December 1986, when a decision to produce several prototype systems will be made.

Although ASAS was originally intended to be as much a part of the ACCS program as the other four command and control systems, Army officials recently determined that it is not generally cost effective for ASAS to use common software from the ACCS program because of security requirements. They also concluded that ACCS hardware in some cases will not satisfy ASAS requirements. Nevertheless, Army officials indicated that the ASAS program will implement the ACCS interoperability standards and will participate in the ACCS testing at Fort Hood, Texas.

A question has also arisen about the ability of MSE to support ASAS. While MSE, the area communications system, will provide the required level of secure communications for some ASAS requirements, it is not designed for ASAS transmissions that go tc multiple addressees. Army officials are studying the issue and expect to identify options for resolving it.

Additional observations about ASAS and the Joint Tactical Fusion Program are contained in our report to the House Appropriations Committee, DOD's Joint Tactical Fusion Program (GAO/C-NSIAD-86-27, July 1986).

CSSCS

The proposed CSSCS is intended to be the Army's primary automated command and control system for commanders providing troop support services such as supply, maintenance, ammunition, transportation, medical, personnel, and equipment calibration.

The requirement for CSSCS has not been fully defined and approved, thus making it the only one of the five major Army command and control systems under ACCS that does not have an approved required operational capability document. According to Army officials, the requirements document has been drafted by the Army Logistics Management Center and, when approved, will be submitted to the Information Systems Command for acquisition.

In the meantime, the Army is buying the Tactical Army Combat Service Support Computer System (TACCS) to provide automated capability at division, brigade, and battalion levels. It consists of rugged, transportable, commercially available computer equipment and related software to perform a variety of administrative and logistics functions in the field. In addition to performing its primary functions, TACCS will provide limited command and control capabilities until the CSSCS is fielded.

In August 1984, a 1-year fixed price contract was awarded to Burroughs Corporation for a maximum of 450 TACCS units. The contract also contains an option for a 4-year, multiyear production contract and a series of five 1-year options. If everything is exercised, the contract will run for 10 years.

The Department of Defense (DOD) has approved $ 80.9 million for 9,046 microcomputers for TACCS from fiscal years 1984 to 1991, but Army officials indicated the number of Burroughs computers will be limited to about 5,000. This is because they anticipate buying ACCS common hardware and software for TACCS as soon as it becomes available.

In January 1986, the DOD Computer Resources Council reviewed the TACCS program to determine its readiness for full-scale production. The review focused on concerns raised by the Army Audit Agency and the Office of the Secretary of Defense about program management, testing, and system costs. The Council directed the Army to limit its TACCS purchases to 900 units until the concerns are addressed. The Army expects to answer the Council by August 1986 and obtain approval for full production.

FAADC2I

The FAADC2I is the latest name for the system required by the Army to control short range air defense weapons. The system, a requirement for several years, was previously known as the Short Range Air Defense Command and Control (SHORAD C2) system. This system is to provide digital automation for those command and control centers which coordinate weapons such as Stinger missiles. It is considered the connectivity of the entire forward area air defense systems.

The FAADC2I program is a product of the Secretary of Defense's January 1986 review of the Army's air defense program following cancellation of the Division Air Defense gun program, known also as the Sargeant York. The Army's acquisition plan for FAADC2I is predicated on revising the existing request for proposal to reflect that the winning contractor will develop software for the system and act as an integrator for this software with the common hardware to be acquired from the ACCS program. The revised request for proposal was issued only to the bidders of the existing request for proposal, TRW and Lockheed.

Current plans are to award a development contract for FAADC2I at the end of fiscal year 1986. Initial operational capability is planned for fiscal year 1989 for the 9th Infantry Division using commercial ACCS hardware and for fiscal year 1990 for the rest of the Army using the ruggedized ACCS hardware.

In addition to the FAADC2I acquisition plan, a key issue surfaced by the Army is whether the fielding plan for the PJH communications system supports the FAADC2I schedule. A battlefield communications review conducted last year revealed that sufficient quantities of the PJH Master Control Stations would not be available in time to support FAADC2I when it is fielded. PJH is considered the primary communications system to support the high data rate needs of FAADC2I. Although the Army is working on the problem, it has not yet identified a solution.

MSE

In December 1985, the Army awarded a contract to GTE Corporation for production of MSE. The system of switches, generators, trucks, radios, and automated control centers will provide automatic, secure, telephone service to mobile and stationary users on the battlefield. MSE is considered the primary area voice and data communications capability for the corps and division operational areas, and is one of the three major systems in the Army's communications architecture.

The MSE acquisition strategy requires procurement of a total communications system rather than component parts, and GTE's responsibility is to train military personnel and field the system throughout the entire Army.

In its fiscal year 1986 DOD budget deliberations, the Congress expressed concerns about the frequency management and power allocation capabilities of MSE. It directed the Army to report on the MSE frequency management and power allocation plans by May 1, 1986.

The response to the frequency management concern indicates the Army plans to determine what needs to be done to make sure that the system works well on the battlefield. It says that risks are low because the Army has had much frequency management experience over the years, and the contractor is responsible for providing a system with automated frequency management capability. In addition, the Army says it will conduct detailed analytical studies to examine potential interference in representative scenarios. This will be evaluated during the follow-on test and evaluation of MSE at Fort Hood, Texas.

In fiscal year 1986, the Army received an exemption for MSE from the Gramm-Rudman-Hollings budget reduction law on the basis that any reductions in MSE funds would jeopardize the firm fixed price provisions of the contract.

For fiscal year 1987, the Army again maintains that any reduction in the $903.7 million requested for MSE will undermine the program and cost the government more in the long run. The issues are:

-- The contract allows the Army to exercise any one of three production quantity ranges each year.

-- The fiscal year 1987 request would permit the Army to buy the minimum amount of MSE in the middle range.

-- A reduction would cause the Army to slip into the lowest quantity range, where the unit prices are about 15 percent higher.

-- In addition to the higher unit cost, the Army believes that a reduction will interfere with its plans to field the equipment in coherent unit sets.

SINCGARS

SINCGARS is a new family of very high frequency radios designed to provide the primary means of command and control for the lower Army echelons, down to the platoon level. The radios will be smaller and lighter than the current VRC-12 and PRC-77 equipment and will also be more capable of operating in an electronic countermeasure environment. They will provide both voice and data communications capability. SINCGARS is considered the major system in the combat net radio portion of the Army communications architecture.

A production contract for SINCGARS was awarded in 1983 to ITT Corporation. Total initial issue requirement for these radios is estimated at 198,167, while the authorized objective is 277,703. The Army had planned to develop a second source for these radios beginning in fiscal year 1988.

Most of the Army's plans for SINCGARS have been put on hold, due to reliability problems with initial production units. In fiscal year 1986, the Army notified the Congress that contractor delays made it impossible to complete the operational testing needed before awarding the third year contract. Of the $231 million requested for the third year of production, the Congress deferred $129 million.

Production problems have continued to plague the SINCGARS. The contractor has been able to achieve only a fraction of the 1,250 hours mean time between failure specified in the contract. Although improvements are being made, it is still uncertain whether the specified reliability can be met. While negotiations continue, the Army has cut off progress payments and has considered terminating the contract.

In April 1986, the Army advertised its intent to perform a market survey of nondevelopmental alternatives to SINCGARS that could be fielded expeditiously as an interim replacement.

The impact of SINCGARS problems on the rest of the ACCS program is not yet known. Although the radio was supposed to be fielded well ahead of the command and control systems that will

use it, the Army may have to plan to use existing radios for ACCS until SINCGARS or a replacement is available.

PJH

PJH is the digital data radio communications system that will provide real-time data distribution for ACCS components across the battlefield. It will provide near real-time, secure, jam-resistant communications for the five Army mission areas in the division and corps operational areas.

Although its name indicates a combination of systems, PJH is actually two separate communications systems that will have some degree of interoperability.

-- PLRS is a joint Army/Marine Corps system to provide current information on friendly troop locations. The Army is enhancing PLRS to have greater data communications capacity and will use this as its primary data distribution system.

-- JTIDS is an Air Force development to provide data communications between aircraft and ground command centers. The Army will use JTIDS terminals to interoperate with Air Force and allied activities, and to provide high capacity data communications for users such as in air defense.

The Army's current plan is to purchase 22,003 enhanced PLRS units, 1,030 JTIDS terminals, and 120 net control stations to operate the PJH network.

Initial production units of PLRS have not performed to specifications, and the program has consequently been delayed. Recent tests have shown that the mean time between failure has reached 900 hours. The specified requirement is 1,000 hours. Although Army officials expect to achieve the specification during First Article Testing in September 1986, it will not be in time to prevent a delay of 6 to 7 months to a year in achieving initial operational capability.

Last year during reviews of their communications needs, Army officials discovered a disconnect between the availability of the FAADC2I system and the PJH. The Army found that production of net control stations would not occur early enough to support the air defense command and control system. No decisions have been made, but the Army is trying to resolve this problem.

ACCS COMMON COMPUTER HARDWARE AND SOFTWARE

The Army plans to award a 5-year contract to buy common hardware and software. Included in this procurement will be over 15,000 computers through fiscal year 1992 in three sizes that the Army expects to buy ruggedized "off-the-shelf" instead of relying on the traditional research and development approach for full militarized equipment. The program managers for the command and control systems will order what they need from these common items and integrate it into functional systems. The ACCS program manager will, in turn, synchronize the acquisition, testing, and fielding of all component systems.

In March 1986, the Army Under Secretary directed the ACCS program manager to issue the request for proposal no later than June 1986 and to challenge all requirements for fully militarized equipment. The Under Secretary said it would not be possible to field state-of-the-art equipment in a timely manner if full military specifications are needed.

The program manager for ACCS is coordinating relevant management documents for the procurement of common hardware and software. The program management staff had planned to complete the procurement data package by June 1986, issue the request for proposal by August 1986, and award a contract by June 1987.

The ACCS contracting officer, who is responsible for preparing the request for proposal, does not believe that it can be issued until the acquisition plan is approved, the procurement data package prepared, and the source selection authority appointed. DOD Directive 4105.62 requires approval of the source selection plan before the request for proposal is issued. The program management staff confirmed that these key events have not taken place. They still intend, however, to issue the request for proposal in August 1986.

Originally, the ACCS program manager intended to establish a separate program office for the computer acquisition. Since then, this proposal was abandoned and authority for the acquisition was delegated to the program manager who is also responsible for developing AFATDS. The deputy program manager for ACCS told us there were insufficient resources to create another program office just for the computer procurement.

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