SELECTED ACQUISITION REPORTS

(SAR)

EXECUTIVE SUMMARIES

as of September 30, 1994

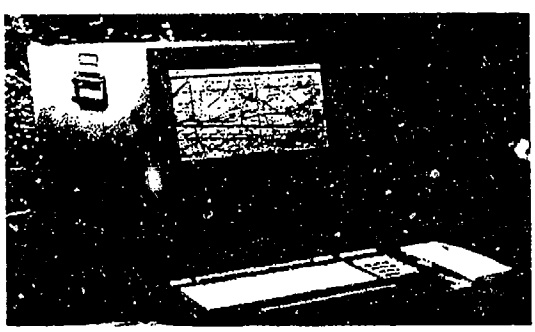
Foreword

This edition of the Selected Acquisition Report (SAR) Executive Summaries contains extracts from the quarterly SARs submitted for the period ending September 30, 1994. The purpose of the Executive Summaries is to provide a condensed alternative to the SARs, which consist of approximately 20-40 pages each. The content of the summaries focuses primarily on changes since the previous SAR submission; explanations of those changes may be found in the SARs themselves.

Comments and requests for copies should be directed to the Office of the Under Secretary of Defense (Acquisition & Technology), API/PM, Room 3E1025, Pentagon, Washington, DC 20301-3000, or call commercial (703) 695-5166, DSN 225-5166.

TABLE OF CONTENTS
SELECTED ACQUISITION REPORTS (SARs)
EXECUTIVE SUMMARIES

As Of September 30, 1994



EXECUTIVE SUMMARY
SELECTED ACQUISITION REPORT

PROGRAM: AFATDS

AS OF DATE: September 30, 1994

1. (U) **DoD Component(s).** Army

2. (U) **Program Description.**

The Advanced Field Artillery Tactical Data System (AFATDS) is a single, integrated battlefield management and decision support system. It will function at Battery through Corps level as one of the five battlefield automation systems of the Army Tactical Command and Control System (ATCCS). AFATDS utilizes evolving commercial computer technology of the ATCCS Common Hardware/Software (CHS) procurement.

Based on the organizational structure to be supported, AFATDS hardware items will be comprised of the following: Fire Support Control Terminals, Fire Support Terminals, Power Converter Groups, Tactical Communications Interface Module, Mass Storage Expansion Unit, Electronic Printers, Tactical Display Devices, Local Area Network, and installation kits tailored to the Force Structure and available vehicles. This will all be ATCCS Common Hardware.

AFATDS is designed to overcome the size, vulnerability, high sustainment cost, limited functionality, central processing and training limitations of Tactical Fire Direction System (TACFIRE). AFATDS is the Fire Support node of the ATCCS providing advanced software automation assistance to the Fire Support elements. AFATDS will provide 27 Fire Support functions, grouped in five Fire Support operational needs (Fire Support Execution, Fire Support Planning, Movement Control, Field Artillery Mission Support and Field Artillery Fire Direction Operations).

Responsiveness, survivability, and continuity of Fire Support Operations will be enhanced via dispersed processing centers, intelligent remote (work stations) terminals, a distributed data base management system and distributed operations for Fire Support Officers at the Infantry and Armor battalion/brigade levels. AFATDS will interface/interoperate via standard communications media with all functional control elements of existing and future Army Fire Support Systems, other ATCCS Battlefield Functional Area (BFA) Systems, other services employing Fire Support Joint Interoperability Tactical Command and Control Systems message standards and Allied Forces using NATO Fire Support Standards.

Fire Support Ada Convers on (FSAC) and Initial Fire Support Automated System (IFSAS) are associated programs that are included in the AFATDS program baseline.

FSAC will provide an accelerated fielding of ATCCS Common Hardware (CH) until the AFATDS software becomes available. FSAC will convert the existing Battery Computer System (BCS) technical fire control software to Ada and replace the existing BCS hardware with the Lightweight Computer

2. Program Description (Continued).
Unit (LCU). These LCUs will ultimately be utilized as the host for the AFATDS software for those applications requiring the LCU under the AFATDS program.

IFSAS will replace the Variable Format Message Entry Device (VFMED) and Battalion TACFIRE and provide the National Guard with an initial automated capability. IFSAS will replace the TACFIRE equipment with the LCU based AN/GYK-37(V)1 hardware with Lightweight TACFIRE (LTACFIRE) software ported to the LCU. Like FSAC, IFSAS reflects an accelerated fielding of the ATCCS CHS until AFATDS software becomes available. As such, it is part of the AFATDS baseline.

3. Program Highlights.
a. (U) Since Last Report.
This September Exception SAR is being submitted due to schedule slips of 6 months or more.

The AFATDS Force Development Test and Experimentation (FDTE) was conducted from 7 - 26 Feb 94, and was successful in meeting its intended purposes. The FDTE enabled the Project Manager (PM) to completely check out the AFATDS software with the Common Hardware/Software within the context of the Standard Integrated Command Post System (SICPS) using tactical communications and doctrine. The results obtained in the FDTE could not have been obtained by continued testing in a laboratory environment. The main point learned from the FDTE was that the present system (hardware and software) would not support the performance requirements prescribed by the AFATDS user. The PM ordered Reduced Instruction Set Computers (RISC) for use during the Initial Operational Test and Evaluation (IOTE) to enable AFATDS to meet Version 1 performance requirements. The software functionality for IOTE was completed in Jun 94. Current efforts are concentrated on continued error identification and correction. The final software is scheduled to be delivered in Dec 94 to begin Software System Acceptance Testing.

A General Officer Conference call was held on 11 Mar 94 to discuss the IOTE schedule. Based on the PM's analysis of the software development contractor's ability to correct the deficiencies demonstrated at FDTE, the correction of known software faults and the additional functionality required for IOTE, it was recommended that the AFATDS IOTE be delayed from July 94 to July 95.

AFATDS successfully participated in a number of other tests conducted over the summer of 1994, using revised software and RISC hardware. AFATDS participated in the EPLRS Pilot Test conducted in July 94 and the Enhanced Position Location Reporting System (EPLRS) IOTE successfully completed in Aug 94. In Aug, AFATDS also participated in the ATCCS III Integrated Interoperability Demonstration (IID) at Fort Hood, Texas. During the IID, AFATDS successfully demonstrated the horizontal exchange of messages with the other four battlefield functional systems; Maneuver Control System (Version 12 prototype), Forward Area Air Defense Command and Control System Force Operations, All Source Analysis System Collateral Workstation

3a. Since Last Report (Continued).
(ASAS-CWS), and the Combat Service Support Control System. The highlight of the exercise was the rapid exchange of the Target Intelligence Data Message between AFATDS and the ASAS-CWS demonstrating AFATDS' ability to support deep battle operations. Concurrent with the IID, the 1st Cavalry Division DIVARTY conducted an AFATDS Early User Experiment (EUE). AFATDS demonstrated that it could meet mission processing requirements and actually ran 175 missions in an hour which is beyond the Version 1 requirement of 120 missions per hour. Also, the Fire Support Automated Test System (FSATS) demonstrated its ability to successfully capture and reduce VMF message formats during the EUE.

In order to ensure that the AFATDS software development contractor concentrated all of its efforts on the completion of Version 1, a Stop Work Order for AFATDS Version 2 was issued by the Procuring Contracting Officer on 11 Mar 94. The Stop Work Order was extended in Oct 94 for an additional 180 days pending delivery of the Version 1 software.

The PM formed a Senior Review Committee (SRC) of known experts in the field of software development to assess the contractor's schedule and technical issues. The Committee consisted of experts from MITRE, Intermetrics, Rational and SRI. The Committee met with Magnavox Electronic Systems Corporation (MESC) during Spring/Summer 1994. The Committee found that the Version 1 software architecture was sound and would meet Version 1 requirements and could be used for Version 2. The Committee found that the quality of code written was good and they were satisfied with the speed and quality of the porting to the RISC computers.

Due to the delay in the operational testing of AFATDS Version 1, previous delays in Version 2 and the projected delays on Version 2 caused by the Stop Work Order, the PM submitted a notification to the Assistant Secretary of the Army for Research, Development and Acquisition of a schedule breach of the AFATDS Program Baseline. In addition, as a result of the change to a HP 735 RISC hardware baseline, loss of quantity discounts and increased quantities of hardware, a procurement cost breach was also reported. RDTE costs have breached the baseline threshold due to growth in the Version 1 contract cost and additional management costs resulting from the extended development schedule. A potential Nunn-McCurdy breach in the Program Acquisition Unit Cost was also briefed. An Enhanced Program Stability Panel was convened in May to review the AFATDS program in response to the cost and schedule breaches. The Panel believed that the corrective actions being taken by the PM and PEO were the correct ones. All action items from the Panel were completed by July 94.

The FSAC and IFSAS programs continued procurement and fielding of hardware.

AFATDS is expected to satisfy the mission requirements.

b. (U) Since As-of-Date.

In Oct 94, the SRC met with MESC and reviewed the progress of the Version 1 software. The Commitee was satisfied with the progress to date, and was optimistic that MESC would be able to deliver the software in Dec 94 as scheduled.

The Version 2 Stop Work was extended until Dec 94 to allow for the continued concentration on Version 1 by MESC.

4. (U) Threshold Breaches.
There are schedule breaches of 6 months or more to the approved Acquisition Program Baseline (APB), 4 Oct 92. The cost impact of the breaches and/or the program restructure will be included in the next SAR. There are no Nunn-McCurdy unit cost breaches.

5. (U) Schedule. The current estimate for the following milestones has changed since the last report:

	Development Estimate	Previous Estimate DEC 93	Current Estimate
First Unit Equipped (FUE) V1	SEP 93	JUN 94	AUG 95
Preliminary Design Review V2 (Start)	NOV 93	JUN 94	N/A
IOTE:			
Begin	JAN 94	JUL 94	JUL 95
Complete	FEB 94	SEP 94	AUG 95
ASARC -- Milestone III	APR 94	DEC 94	NOV 95
C3I Committee Review	N/A	DEC 94	NOV 95
CDR V2 (Start)	JUN 94	JAN 95	N/A
Version 3 SW Development -- Begin	NOV 94	MAY 95	JUL 97
System Software Test V2	JAN 95	SEP 95	N/A
Initial Operational Capability (V1)	JAN 95	DEC 95	JUL 96
FDTE V2	MAR 95	JAN 96	N/A
FUE V2	MAY 95	JUN 96	N/A
FOTE V2:			
Begin	MAY 95	APR 96	N/A
Complete	JUL 95	JUN 96	N/A
Fielding Total Force - Start (V1)	N/A	DEC 95	JUL 96
System Design Review V2.0	N/A	*	JAN 95
System Design Review V2.1	N/A	*	JAN 96
System Software Test V2.0	N/A	*	FEB 97
System Software Test V2.1	N/A	*	FEB 98
Operational Test V2.0	N/A	*	AUG 97
Operational Test V2.1	N/A	*	AUG 98

* Milestone added since last submission.

6. (U) Performance Characteristics. The current estimate for the following performance characteristics has changed since the last report: None.

7. (U) **Cost (Then-Year Dollars in Millions).**

	RDT&E	PROC	MILCON/O&M	TOTAL
Development Estimate:	422.3	629.8	0.0	1052.1
Previous Changes	-2.9	-99.5	0.0	-102.4
Previous Estimate	419.4	530.3	0.0	949.7
Current Changes (0%):	0.0	0.0	0.0	0.0
Economic	-	-	-	-
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Current Estimate	419.4	530.3	0.0	949.7
Prior Years (FY81-93)	(255.4)	(71.8)	-	(327.2)
Budget Year (FY94)	(45.9)	(53.1)	-	(99.0)
Budget Year (FY95)	(48.7)	(51.7)	-	(100.4)
Bal-to-Cmplt (FY96-04)	(69.4)	(353.7)	-	(423.1)

8. (U) **Contract Information (Then-Year Dollars in Millions).**

Contract Name	Contractor Name	Current Contract Target Price	PM's Est Price at Completion
AFATDS V1	Magnavox Government	79.7	120.0
AFATDS V2	Magnavox Ele. Sys. Co	47.4	47.8

EXECUTIVE SUMMARY
SELECTED ACQUISITION REPORT

PROGRAM: FMTV

AS OF DATE: September 30, 1994

LIGHT VARIANT (2.5 Ton 4x4)

MEDIUM VARIANT (5 Ton 6x6)

1. (U) **DoD Component(s).** Army

2. (U) **Program Description.**
The Family of Medium Tactical Vehicles (FMTV) Non-Developmental Item (NDI) program consists of a 2 1/2 ton Light Medium Tactical Vehicle (LMTV), all wheel drive 4x4 in van and cargo body styles and a 5 ton Medium Tactical Vehicle (MTV), all wheel drive 6x6 in fourteen (14) body styles (cargo, cargo w/Materiel Handling Equipment (MHE), long wheel base (lwb) cargo, lwb cargo w/MHE, tractor, dump, wrecker, expansible van and fuel tanker). Low Velocity Air Drop (LVAD) and Low Altitude Parachute Extraction Systems (LAPES) capable versions of both basic cargo and dump models are being built to support air mobile units. All models except the van will be C-130 and C-141 aircraft transportable. Commonality of commercial components within the family is the FMTV's central theme which minimizes logistics support and operational cost. The program's Joint Service Operational Requirement (JSOR) document also requires complementary 2 1/2 ton and 5 ton tactical trailers incorporating off-road performance capability and cargo bed size common with the LMTV and MTV cargo trucks. The trucks incorporate a Caterpillar diesel engine; an Allison automatic transmission with integral transfer case; Rockwell all-wheel drive axles; Eaton Central Tire Inflation System (CTIS) and Michelin aggressive off-road tubeless radial tires. The modified commercial Cab Over Engine (COE) tilt type three man cab is ergonometrically designed with three point safety belt harness. Tactical off-road mobility is enhanced by using radial tires, CTIS, high ground clearance chassis with modified suspension and individually damped hub reduction axles to minimize personnel and cargo shock loads, allowing cross country terrain traversing at higher speeds. The integration of all subsystems into an FMTV provides performance exceeding current medium truck fleet capabilities at twice to three times the endurance and reliability levels. The FMTV will perform line haul, local haul, unit mobility, unit resupply and other required missions in combat, combat support and combat service support units. The FMTV will replace existing and aging M44 Series 2 1/2 ton trucks, M39 and M809 Series 5 ton trucks. FMTV will also provide a follow-on to the current M939/A2 Series 5 ton truck.

3. **Program Highlights.**
a. (U) Since Last Report.
This September Exception SAR is submitted due to schedule slips of 6 months or more. On 30 September 1994, the PM, FMTV identified that the schedule had breached the APB thresholds for IPT and IOT&E testing. The testing was temporarily terminated due to the soldiers being deployed to other Army missions. The Test Integration Working Group convened in October 1994 and determined the future structure of IOT&E. A new test plan has been established, and revised FMTV Program Baseline will be submitted as soon as additional contract call up dates are established. The ASARC IIIB is now

3a. Since Last Report (Continued).
delayed until August 1995.

The FMTV system is expected to satisfy mission requirements.

b. (U) Since As-of-Date.
The schedule breach will have some cost impact, due to the change of testing schedule. The costs associated with testing are being determined at this time, and will be identified in detail in the Dec 94 SAR.

4. (U) Threshold Breaches.
There are schedule breaches of six months or more to the approved Acquisition Program Baseline (APB) dated 12 May 1993. The cost impact of these breaches and/or other potential restructuring are being reviewed and will be included in future SARs. There are no Nunn-McCurdy unit cost breaches.

5. (U) Schedule. The current estimate for the following milestones has changed since the last report:

	Development Estimate	Previous Estimate DEC 93	Current Estimate
Initial Production Test (IPT) Complete	OCT 92	JUL 94	JUN 95
IOT&E Complete	N/A	SEP 94	MAY 95
ASARC IIIB	N/A	NOV 94	AUG 95
Call Up 3rd Year of MYP Increment 2	N/A	SEP 94	TBD
First Unit Equipped (FUE)/Initial Operational Capability (IOC)-FMTV	DEC 92	DEC 94	JAN 96
Call up 4th Year of MYP	N/A	NOV 94	TBD
Call Up 5th Year of MYP	N/A	NOV 95	TBD

6. (U) Performance Characteristics. The current estimate for the following performance characteristics has changed since the last report: None.

7. (U) Cost (Then-Year Dollars in Millions).

	RDT&E	PROC	MILCON/O&M	TOTAL
Development Estimate:	59.9	8508.7	0.0	8568.6
Previous Changes	+178.8	+7127.9	0.0	+7306.7
Previous Estimate	238.7	15636.6	0.0	15875.3
Current Changes (0%):	0.0	0.0	0.0	0.0
Economic	-	-	-	-
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Current Estimate	238.7	15636.6	0.0	15875.3
Prior Years (FY88-93)	(78.2)	(514.1)	-	(592.3)
Budget Year (FY94)	(3.7)	(21.8)	-	(25.5)
Budget Year (FY95)	(6.6)	(382.7)	-	(389.3)
Bal-to-Cmplt (FY96-21)	(150.2)	(14718.0)	-	(14868.2)

8. (U) Contract Information (Then-Year Dollars in Millions).

Contract Name	Contractor Name	Current Contract Target Price	PM's Est Price at Completion
FMTV	Stewart & Stevenson Serv.	1196.2	1196.2

EXECUTIVE SUMMARY
SELECTED ACQUISITION REPORT

PROGRAM: Javelin (AAWS-M)

AS OF DATE: September 30, 1994

1. (U) **DoD Component(s).** Army

2. (U) **Program Description.**
The Javelin (AAWS-M) is a manportable antitank weapon system designed to provide high lethality against advanced armor and is envisioned as a simple-to-operate, easily and economically maintained, rugged and reliable infantry system for the U.S. Army and U.S. Marine Corps (USMC). The Javelin is comprised of two major components: a reusable Command and Launch Unit (CLU) and a missile sealed in a disposable launcher container. The CLU incorporates an integrated day/night sight and provides target engagement capability in adverse weather. The CLU may be used in stand alone mode for battlefield surveillance and target detection. For operation of the system, the round must be mated with the CLU. The CLU will provide a go/no-go status of the CLU and round. The missile, with a warhead designed against both conventional and reactive armor, may be used at the gunner's discretion in top attack or direct fire mode. Top attack is the normal mode of operation and direct fire mode is for engaging targets under cover. The Javelin will replace the DRAGON.

3. **Program Highlights.**
a. (U) Since Last Report.
This Sep 94 Selected Acquisition Report (SAR) is being submitted because of schedule slips of 6 months or more.

A fixed price incentive fee, Low Rate Initial Production (LRIP) I contract was awarded 23 Jun 94 to TI/Martin Javelin Joint Venture in the amount of $204.1 M. Implementation of the Enhanced Producibility Program (EPP) I continues.

As a result of the 20 Jun 94 Defense Acquisition Board (DAB) review, the Army was directed to submit a Cost Reduction Plan (CRP) to OSD by 1 Sep 94. On 31 Aug 94 the Cost Reduction Plan (CRP) was approved by the Army Acquisition Executive (AAE) and forwarded to OSD. The CRP will be executed with the currently programmed funds and will significantly reduce the cost of the Javelin.

On 27 Sep 94 both the Joint Appropriation and Authorization Conferences increased the JAVELIN Research, Development, Test and Evaluation (RDT&E) funding by $3.4M and the FY 95 Procurement funding by $82.9M. This report does not include this Congressional increase.

A new Acquisition Program Baseline (APB) was submitted as part of the documentation for the Low Rate Initial Production (LRIP) decision review process in Jun 94. This APB is currently under review by OSD. This APB shows an additional cost breach primarily due to the significant reduction of USMC quantities and the shifting of procurement quantities to years

3a. Since Last Report (Continued).
beyond the Future Year Defense Plan period. In March 94 an Enhanced Producibility Program (EPP) I was initiated to investigate/implement production processes, engineering changes, etc. which would improve the producibility of the Javelin system. The cost impacts of the EPP I and CRP should reduce the cost below the cost breach threshold. The cost implications associated with the program restructure and related schedule changes will be included in future SARs.

Javelin (AAWS-M) is expected to satisfy mission requirements.

b. (U) Since As-of-Date -- None.

4. (U) Threshold Breaches.
There are procurement cost and average unit procurement cost breaches and schedule breaches of 6 months or more to the approved APB dated 30 Mar 92. A Program Deviation Report (PDR) and a revised Acquisition Program Baseline (APB) were submitted to the USD(A&T) for approval on 19 Apr 93. There are no Nunn-McCurdy unit cost breaches.

5. (U) Schedule. The current estimate for the following milestones has changed since the last report:

	Development Estimate	Previous Estimate DEC 93	Current Estimate
LRIP II Contract Award	JUN 93	JAN 95	MAR 95
First LRIP Delivery	SEP 93	JUL 95	OCT 95
Prod Qual Test			
Start	SEP 93	AUG 95	OCT 95
Complete	FEB 94	JAN 96	APR 96
Live Fire Test			
Start	FEB 94	DEC 95	JUN 96
Complete	MAY 94	APR 96	DEC 96
First Unit Equipped	FEB 94	APR 96	JUN 96
Milestone IIIE (DAB)	JUN 94	JAN 96	APR 97
Full Rate Production Contract Award	JUN 94	JAN 96	MAY 97
First Full Rate Production Delivery	JUN 95	JUL 97	OCT 98

6. (U) Performance Characteristics. The current estimate for the following performance characteristics has changed since the last report: None.

7. (U) Cost (Then-Year Dollars in Millions).

	RDT&E	PROC	MILCON/O&M	TOTAL
Development Estimate:	547.8	3388.7	0.0	3936.5
Previous Changes	+196.4	+963.7	0.0	+1160.1
Previous Estimate	744.2	4352.4	0.0	5096.6
Current Changes (0%):	0.0	0.0	0.0	0.0
Economic	-	-	-	-
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Current Estimate	744.2	4352.4	0.0	5096.6
Prior Years (FY86-93)	(665.5)	(18.3)	-	(683.8)
Budget Year (FY94)	(47.4)	(207.3)	-	(254.7)
Budget Year (FY95)	(31.3)	(131.1)	-	(162.4)
Bal-to-Cmplt (FY96-04)	-	(3995.7)	-	(3995.7)

8. (U) Contract Information (Then-Year Dollars in Millions).

Contract Name	Contractor Name	Current Contract Target Price	PM's Est Price at Completion
FSD AAWS-M	TI/Martin Javelin	459.7	467.0
LRIP I	TI/Martin JAVELIN	204.1	204.1

EXECUTIVE SUMMARY
SELECTED ACQUISITION REPORT

PROGRAM: F/A-18 C/D

AS OF DATE: September 30, 1994

1. (U) **DoD Component(s).** Navy

2. (U) **Program Description.**

The F/A-18 A/B/C/D Naval Strike Fighter is a twin engine, mid-wing, multi-mission tactical aircraft. The F/A-18A and C are single seat aircraft. The F/A-18B and D are dual seat. The F/A-18B is used primarily for training, but the F/A-18D replaces the USMC A-6E, OA-4, TA-4, and RF-4 aircraft in Attack, TAC, FAC, and Reconnaissance squadrons. All F/A-18 A/B/C/D's are missionized for traditional fighter and attack roles through selected use of external equipment to accomplish specific missions. Any aircraft can be quickly configured to perform either fighter or attack missions, or both, offering the operational commander more flexibility in employing his tactical aircraft in a changing scenario. The fighter missions are primarily fighter escort and fleet air defense; the attack missions are interdiction, close air support, and suppression of enemy air defenses.

Sixty two-seat USMC F/A-18 D's (Lot 13 to Lot 21) will have the provisions to accept the Advanced Tactical Air Reconnaissance System (ATARS) with the installation of a sensor pallet in place of the gun system. The ATARS suites will be delivered in 1997, with each Marine All Weather Attack squadron (six total) receiving four ATARS suites. The Radar Upgrade (RUG), redesignated the APG-73 program began deliveries in 1994.

3. **Program Highlights.**

a. (U) **Since Last Report.**

This quarterly exception SAR is being submitted to report a schedule delay of more than 6 months for Radar Upgrade (RUG) Milestone III - Full Rate Production.

Operational assessment of the AN/APG-73 Radar Upgrade was completed in February 1994. The radar was found to be potentially operationally effective and potentially operationally suitable. F/A-18 C/D aircraft delivered beginning in June came equipped with this radar. Modifications to the LAU-115A, designed to eliminate deformation or failure of the forward missile launch lug/LAU-115A launcher interface due to high lateral load transients were tested successfully. The modifications are being made to fleet LAU-115s enabling resumption of flight operations with the wing-carried SPARROW.

The Sierracin Advanced Birdstrike windscreens successfully completed field carrier landing practice, gunfire effects, P-static checks, and optical evaluations enabling approval of ECP-507. The ARC-210 radio background noise problem identified during F/A-18 production acceptance flights in St. Louis was solved and corrected. This enabled fleet production release of Hornets equipped with ARC-210 radios. The engine afterburner flameholder

3a. Since Last Report (Continued).
was redesigned by the contractor, improving structural durability. Navy flight testing showed that the new design did not degrade light-off capability and improved durability by 66%. Advanced Tactical Air Reconnaissance System (ATARS) contract for Preliminary Operational Capability (POC) was signed 28 June 1994. POC is scheduled for October 1996; IOC is scheduled for October 1998.

Foreign military sales production continues for Finland, Switzerland, and Malaysia. Norway, Austria, Saudia Arabia, Qatar, and the United Arab Emirates have shown interest in acquiring the F/A-18.

The F/A-18 C/D is expected to meet all mission requirements.

b. (U) Since As-of-Date -- None.

4. (U) **Threshold Breaches.**
There is a ten month schedule breach to the Acquisition Program Baseline dated 7 December 1993. There are no Nunn-McCurdy unit cost breaches.

5. (U) **Schedule.** The current estimate for the following milestones has changed since the last report:

	Development Estimate	Previous Estimate DEC 93	Current Estimate
RADAR UPGRADE (RUG)			
LRIP III Program Review	N/A	JUN 94	NOV 94
Milestone III (FRP)	N/A	AUG 95	JUN 96

6. (U) **Performance Characteristics.** The current estimate for the following performance characteristics has changed since the last report: None.

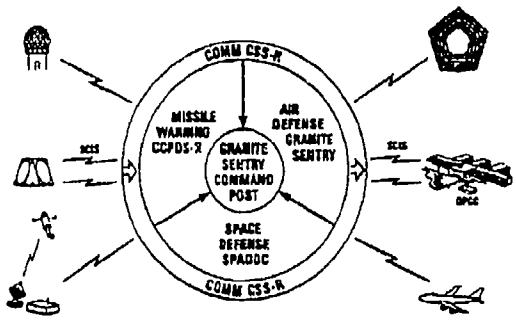
7. (U) Cost (Then-Year Dollars in Millions).

	RDT&E	PROC	MILCON/O&M	TOTAL
Development Estimate:	1834.4	11012.6	28.3	12875.3
Previous Changes	+1348.1	+24686.8	+11.1	+26046.0
Previous Estimate	3182.5	35699.4	39.4	38921.3
Current Changes (0%):	0.0	0.0	0.0	0.0
Economic	-	-	-	-
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Current Estimate	3182.5	35699.4	39.4	38921.3
Prior Years (FY75-93)	(2795.0)	(30173.0)	(39.4)	(33007.4)
Budget Year (FY94)	(86.7)	(1736.2)	-	(1822.9)
Budget Year (FY95)	(122.8)	(1167.4)	-	(1290.2)
Bal-to-Cmplt (FY96-99)	(178.0)	(2622.8)	-	(2800.8)

8. (U) Contract Information (Then-Year Dollars in Millions).

Contract Name	Contractor Name	Current Contract Target Price	PM's Est Price at Completion
FY88-95 PROD ENGINES	GENERAL ELECTRIC COMPANY	1672.9	1681.8
FY 93 PROD AIRFRAME	MCDONNELL DOUGLAS	1069.7	1109.2
FY 94 PROD AIRFRAME	MCDONNELL DOUGLAS	1057.9	1057.9

EXECUTIVE SUMMARY
SELECTED ACQUISITION REPORT



PROGRAM: CMU

AS OF DATE: September 30, 1994

1. (U) **DoD Component(s).** USAF

2. (U) **Program Description.**

The CMU program develops system capabilities to ensure fully capable, timely and reliable day-to-day processing of all tactical warning mission data for atmospheric, ballistic missile and space threats. These capabilities must endure natural or man-made disturbances, jamming, sabotage and other effects to ensure the availability of Integrated Tactical Warning and Attack Assessment (ITW/AA) information in peacetime and through a conflict until physically destroyed. The capacity of the CMU "system of systems" and their interfaces is sufficient to handle both single event, and small and large scale raids. It also provides credible warning data to all U.S. forces and the National Command Authorities (NCA). Transmission of missile warning sensor messages to the Cheyenne Mountain AFB (CMAFB) and the Alternate Processing and Correlation Center (APCC), and forward fixed users is processed by the Survivable Communications Integration System (SCIS) equipment. Warning messages from air and intelligence sources are transmitted to the CMAFB correlation center directly. Space warning data is provided to CMAFB through Space Defense Operation Center (SPADOC) and Alternate SPADOC at Dahlgren Naval Space Surveillance Center. Messages are routed through the Communications System Segment Replacement (CSSR) and passed to the mission centers. These mission centers (SPADOC for CMAFB only), Air Defense Operations Center (ADOC), and the Missile Warning Center (MWC)) use the Command Center Processing and Display System Replacement (CCPDS-R) and Granite Sentry to process the information and generate displays critical to decision makers.

3. **Program Highlights.**

a. (U) Since Last Report.

Due to the 36 month schedule slip in FOC, submission of a quarterly SAR is required.

Integrated Weapon System Management (IWSM) Final Operational Capability (FOC) occurred 1 Mar 94.

IOC for the CCPDS-R Missile Warning (Common Subsystem) occurred 8 Sep 94.

Due to the breach in the CCPDS-R schedule, the Program Office (PO) reviewed the entire Cheyenne Mountain Upgrade (CMU) schedule and declared that, based on experience in the overall test program, the CMU Program would breach its Dec 95 Final Operational Capability (FOC) by approximately 36 months. A PDR was submitted 31 March 1994. The Program Office (PO) briefed the OSD/C3I Systems Committee on 12 Aug 94 and the committee concurred with the CMU Re-Plan.

3a. Since Last Report (Continued).
This system will satisfy mission requirements.

b. (U) Since As-of-Date -- None.

4. (U) Threshold Breaches.
There are no breaches to the SAE approved Acquisition Program Baseline (APB) dated 28 Sep 94. There is no Nunn-McCurdy unit cost breach.

5. (U) Schedule. The current estimate for the following milestones has changed since the last report:

	Development Estimate	Previous Estimate DEC 93	Current Estimate
SCIS Installation/Checkout Complete	MAR 92	JUN 95	N/A
CCPDS-R Missile Warning (Common Subsystem) IOC	SEP 93	JUN 94	SEP 94
CSSR Installation Complete (APCC)	N/A	SEP 94	FEB 94
CCPDS-R (SAC Force Management) IOC	DEC 94	DEC 94	N/A
Granite Sentry Completion	N/A	JUN 95	N/A
SPADOC 4C IOC	SEP 95	SEP 95	N/A
APCC (Air Warning/CCP) IOC	N/A	DEC 95	N/A
Systems of Systems IOT&E	DEC 95	DEC 95	N/A
CMU FOC	N/A	DEC 95	N/A
SCIS IOC	N/A	NOV 95	N/A
CMU Phase I Delivery	N/A	*	NOV 95
CMU Phase II Delivery	N/A	*	APR 96
Missile Warning IOT&E	N/A	*	JUN 96
CMU Phase III Delivery	N/A	*	APR 97
Air Warning OA	N/A	*	JUN 97
CMU Phase IV Delivery	N/A	*	APR 98
Space Warning OA	N/A	*	JUN 98
Integrated Mission IOT&E	N/A	*	MAR 99

* Milestone added since last submission.

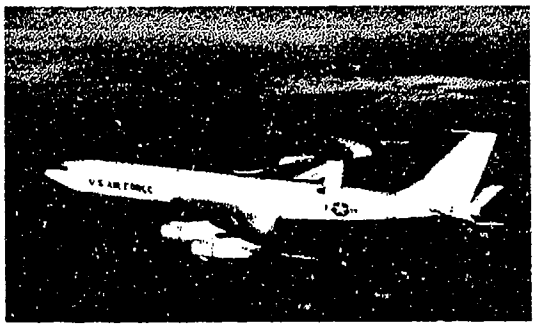
6. (U) Performance Characteristics. The current estimate for the following performance characteristics has changed since the last report: None.

7. (U) Cost (Then-Year Dollars in Millions).

	RDT&E	PROC	MILCON/O&M	TOTAL
Development Estimate:	1246.5	334.5	0.0	1581.0
Previous Changes	+35.5	+35.5	0.0	+71.0
Previous Estimate	1282.0	370.0	0.0	1652.0
Current Changes (0%):	0.0	0.0	0.0	0.0
Economic	-	-	-	-
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Current Estimate	1282.0	370.0	0.0	1652.0
Prior Years (FY78-93)	(1038.8)	(306.7)	-	(1345.5)
Budget Year (FY94)	(122.7)	(17.0)	-	(139.7)
Budget Year (FY95)	(86.8)	(6.7)	-	(93.5)
Bal-to-Cmplt (FY96-99)	(33.7)	(39.6)	-	(73.3)

8. (U) Contract Information (Then-Year Dollars in Millions).

Contract Name	Contractor Name	Current Contract Target Price	PM's Est Price at Completion
SCIS	E - Systems	97.8	105.4
CCPDS-R	TRW INC.	181.9	181.9
SPADOC-4C	Loral Aerospace Corp	59.3	53.8
CSSR Subset AOC #2	GTE Government Syst Corp	21.4	21.4
Granite Sentry	Martin-Marietta Corp.	29.2	30.0



EXECUTIVE SUMMARY
SELECTED ACQUISITION REPORT

PROGRAM: E-3 AWACS RSIP

AS OF DATE: September 30, 1994

1. (U) **DoD Component(s).** USAF

2. (U) **Program Description.**
The purpose of the Radar System Improvement Program (RSIP) modification is to provide the Air Combat Command (ACC) with new and improved capabilities for the E-3 Airborne Warning and Control System (AWACS) radar. The AWACS RSIP will provide improvements in radar sensitivity/electronic counter-countermeasures (ECCM) performance, radar performance monitoring and control, and reliability/ maintainability (R&M) to maintain system effectiveness against the projected operational environment of the 1990's and into the next century.

RSIP is made up of three phases: 1) System Definition/Risk Reduction (Pre-Engineering and Manufacturing Development), 2) Engineering and Manufacturing Development (EMD), and 3) Production Modification. This program will result in hardware and software changes to the AWACS.

The modifications are primarily to the AWACS Surveillance Radar Functional Group (SRFG) which include:

(1) Replacement of the existing Radar Data Correlator (RDC) and Digital Doppler Processor (DDP) with the Surveillance Radar Computer (SRC).

(2) Modify the existing Radar Control Maintenance Panel (RCMP) with dual Cathode Ray Tube (CRT) displays and a new keyboard and cursor control.

(3) Minor redesigns of the receiver, the Stable Local Oscillator (STALO), the Synchronizer, and the antenna phase control electronics, and replacement of the analog to digital converter.

(4) Replacement of the existing Surveillance Radar Computer Program (SRCP) with a new SRCP.

3. **Program Highlights.**
a. (U) Since Last Report.
The PMD 60 Dated 11 May 94 changed the definition of IOC from 4 aircraft to 5 aircraft. Changing the IOC and the RAA dates from Feb 99 to Dec 99 to allow for the delivery and installation of the 5th kit, this requirement caused a submission of a September SAR.

On 14 January 1994, the NATO Radar System Improvement Program (RSIP) Boeing Phase I contract was definitized (Boeing Phase I is for a NATO Group A kit and development of NATO Airborne Operational Computer Program (AOCP) software).

On 09 August 1994, the E-3 AWACS RSIP Acquisition Program Baseline (APB) #4 change request was approved and signed.

The Boeing NATO Phase II effort was definitized on 30 August 1994. Westinghouse NATO Phase II effort definitized in September 1994.

b. (U) **Since As-of-Date.**
--None.

4. (U) **Threshold Breaches.**
There is a schedule breach to the AFAE approved Acquisition Program Baseline (APB) dated June 28, 1993. A revised APB was approved August 9, 1994. There is no Nunn-McCurdy unit cost breach.

5. (U) **Schedule.** The current estimate for the following milestones has changed since the last report:

	Development Estimate	Previous Estimate DEC 93	Current Estimate
Flight Test DT&E Complete	SEP 93	JAN 95	MAR 95
IOC (5 aircraft)	SEP 96	FEB 99	DEC 99
Required Assets Available	N/A	FEB 99	DEC 99

6. (U) **Performance Characteristics.** The current estimate for the following performance characteristics has changed since the last report: None.

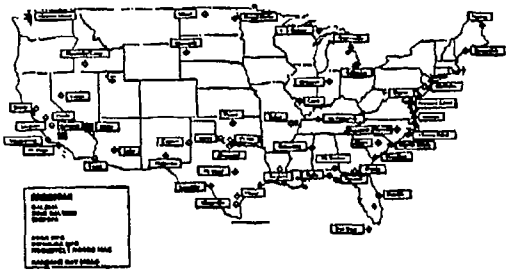
7. (U) **Cost (Then-Year Dollars in Millions).**

	RDT&E	PROC	MILCON/O&M	TOTAL
Development Estimate:	396.7	293.2	0.0	689.9
Previous Changes	+28.8	+174.7	0.0	+203.5
Previous Estimate	425.5	467.9	0.0	893.4
Current Changes (0%):	0.0	0.0	0.0	0.0
Economic	-	-	-	-
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Current Estimate	425.5	467.9	0.0	893.4
Prior Years (FY89-93)	(312.8)	-	-	(312.8)
Budget Year (FY94)	(37.6)	-	-	(37.6)
Budget Year (FY95)	(42.1)	-	-	(42.1)
Bal-to-Cmplt (FY96-04)	(33.0)	(467.9)	-	(500.9)

8. (U) **Contract Information (Then-Year Dollars in Millions).**

Contract Name	Contractor Name	Current Contract Target Price	PM's Est Price at Completion
AWACS RSIP (Group B Kit)	Westinghouse Electric Cor	280.6	328.2
AWACS RSIP (Group A Kit)	The Boeing Company	99.0	87.4

EXECUTIVE SUMMARY
SELECTED ACQUISITION REPORT



PROGRAM: NAS

AS OF DATE: September 30, 1994

1. (U) **DoD Component(s).** USAF

2. (U) **Program Description.**

The DoD National Airspace System (NAS) program will modernize the DoD radar approach control facilities in parallel with the Federal Aviation Administration (FAA). DoD will acquire, to the maximum extent practical, systems on contract or systems to be on contract with the FAA to reduce development costs and prevent duplication. If the DoD does not modernize the DoD Air Traffic Control (ATC) system, the resulting reduced interoperability between current DoD and FAA facilities will negatively impact DoD flight operations. The DoD NAS program provides systems and facilities compatible/interoperable with the FAA modernization, prevents DoD flight delays and cancellations, continues DoD's access into Special Use Airspace, provides transparent services to military and civil aircraft, replaces aging DoD ATC systems, and increases flight safety. DoD will upgrade voice, data, and sensor systems as well as facility configurations and operations concepts to provide continued quantity and quality of ATC services to the aviation community. The NAS program also includes the Military Airspace Management System (MAMS) which will schedule and manage special use airspace. MAMS is an automated Special Use Airspace (SUA) scheduling and utilization reporting tool which will enable DoD to more efficiently manage SUA. DoD military ATC and fighting/flying readiness will be maintained.

3. **Program Highlights.**
a. (U) Since Last Report.

The Milestone II Review experienced a six month or greater schedule delay requiring a quarterly SAR submittal. This and subsequent milestone changes are reflected in the AFAE approved APB of 27 May 1994. Limited reporting of only the Development program is permitted for Pre-Milestone II programs in accordance with Title 10, Section 2432, United States Code.

The NAS program is expected to satisfy all mission requirements.

b. (U) Since As-of-Date -- None.

4. (U) **Threshold Breaches.**

There are no breaches to the AFAE approved APB dated 27 May 1994. Nunn-McCurdy unit cost reporting is not required for Pre-Milestone II programs, IAW Title 10, USC, Section 2433.

5. (U) **Schedule**. The current estimate for the following milestones has changed since the last report:

	Planning Estimate	Previous Estimate DEC 93	Current Estimate
DOD ATCALS IN THE NAS			
Milestone II	JAN 94	APR 94	MAY 95
AUTOMATION (DAAS)			
Development Contract Award	MAR 94	MAR 94	N/A
DT&E			
Start	JAN 95	JAN 95	JAN 96
Complete	MAR 96	MAR 96	MAR 97
IOT&E			
Start	MAR 96	MAR 96	MAR 97
Complete	SEP 96	SEP 96	OCT 97
VOICE (VCSS)			
QOT&E			
Start	N/A	*	OCT 96
Complete	N/A	*	APR 97
RADAR (DASR)			
QOT&E			
Start	N/A	*	FEB 98
Complete	N/A	*	AUG 98
Milestone III	MAR 97	MAR 97	MAR 98
Production Award/Exercise (VCSS/DAAS)	N/A	*	APR 98
Program Review (DASR FPA)	N/A	*	NOV 98
Production Award/Exercise	APR 97	APR 97	NOV 98
First Delivery	DEC 98	DEC 98	APR 99
IOC (First DOD Site Activation)	OCT 99	OCT 99	APR 00
FOC	APR 05	APR 05	APR 06
MAMS			
Development Contract Award	JUL 93	MAY 94	JUN 94
DT&E			
Start	OCT 95	AUG 96	SEP 96
Complete	MAR 96	JAN 97	FEB 97
IOT&E			
Start	APR 96	MAR 97	APR 97
Complete	JUL 96	JUN 97	JUL 97
IOC (First Delivery)	JUL 96	JUN 97	JUL 97

* Milestone added since last submission.

6. (U) **Performance Characteristics**. The current estimate for the following performance characteristics has changed since the last report:

	Planning Estimate	Previous Estimate DEC 93	Current Estimate
DOD ATCALS IN THE NAS			
Automation Data/ Voice Recording	Synch-ronized Playback	Synch-ronized Playback	N/A
Inter/Intrafacility Data Transfer			
a. Auto Transfer of Position Track Data	N/A	*	IAW ICD
b. Electronic Interfacility Transfer of Flight Plans	N/A	*	IAW ICD
Automation Radar Presentation	Mosaic & Selec-tive Radar Display	Mosaic & Selec-tive Radar Display	N/A
Aircraft Tracked Medium (LCF)	N/A	*	900
Automation Compatibility Data Processing	FAA AAS & Digital Radars	FAA AAS & Digital Radars	N/A
Radar Compatibility	Digital & Analog Auto-mation Systems	Digital & Analog Auto-mation Systems	N/A
Radar Subclutter Visibility (dB)	N/A	*	55
Voice Compatibility/ Interoperability	FAA Systems	FAA Systems	Digital Voice Systems
Voice Switch Lighting Environments	Radar Rooms & Control Towers	Radar Rooms & Control Towers	N/A
Voice System Interface Capability	Digital & Analog	Digital & Analog	N/A
Voice Recording	All Voice Inter-faces	All Voice Inter-faces	N/A

6. Performance Characteristics (Continued).

	Planning Estimate	Previous Estimate DEC 93	Current Estimate
MAMS			
Conflict Identification	Auto-mated	Auto-mated	100% of con-flicts identi-fied; 85% of con-flicts identi-fied <cr= 10 (sec)
Interface with FAA	Elec-tronic Data Transfer	Elec-tronic Data Transfer	Trans-mittal Time for 85% of messages between schedul-er and FAA <or= 5 (min)
Reporting	Auto-mated	Auto-mated	Process-ing Time of Util-ization Data Requests <or= 1 (min); Total Manual and Automat-ic Report Genera-tion <or= 10 (min)

* Characteristic added since last submission.

7. (U) Cost (Then-Year Dollars in Millions).

	RDT&E	PROC	MILCON/O&M	TOTAL
Planning Estimate:	122.6	0.0	0.0	122.6
Previous Changes	-2.4	0.0	0.0	-2.4
Previous Estimate	120.2	0.0	0.0	120.2
Current Changes (0%):	-0.3	0.0	0.0	-1.2
Economic	-	-	-	-
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	(-0.3)	-	-	(-0.3)
Other	-	-	-	-
Support	-	-	-	-
Current Estimate	119.9	0.0	0.0	119.9
Prior Years (FY90-93)	(31.8)	-	-	(31.8)
Budget Year (FY94)	(14.4)	-	-	(14.4)
Budget Year (FY95)	(30.9)	-	-	(30.9)
Bal-to-Cmplt (FY96-02)	(42.8)	-	-	(42.8)

8. (U) Contract Information (Then-Year Dollars in Millions) -- None.