



B-163
094727

REPORT TO THE CONGRESS

Status Of Selected Major Weapon Systems

Department Of Defense

**BY THE COMPTROLLER GENERAL
OF THE UNITED STATES**

PSAD-75-53

~~708977~~ 094727 FEB. 5, 1975



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-163058

To the President of the Senate
and the Speaker of the House of Representatives

This is our fourth semiannual report to the Congress on the status of selected major weapon systems being acquired by the Department of Defense. All cost, schedule, and performance data in this report was extracted from the selected acquisition report released by the Department. We have not audited or verified the data.

Systems are periodically added to and deleted from the selected acquisition report on the basis of recommendations from the services or the Office of the Secretary of Defense and/or interest expressed by the Congress or GAO. This report details the net cost changes reported on 49 major weapon systems between December 31, 1973, and June 30, 1974. It also lists systems which have reported schedule slippages of 12 months or more in the planned delivery dates as of June 30, 1974, and those which, in our opinion, have experienced significant changes in planned performance.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of Defense; and the Secretaries of the Army, Navy, and Air Force.

James B. Stacks
Comptroller General
of the United States

C o n t e n t s

	<u>Page</u>
STATUS OF SELECTED MAJOR WEAPON SYSTEMS	1
Current estimate changes from December 31, 1973, to June 30, 1974	2
APPENDIX	
I Cost data comparison from December 31, 1973, to June 30, 1974	4
II Program cost data appearing on June 30, 1974, SAR	14
III Quantity and unit cost changes	18
IV Performance and schedule changes	22

ABBREVIATIONS

DOD	Department of Defense
SAR	selected acquisition report

STATUS OF SELECTED MAJOR WEAPON SYSTEMS

In 1969 the Congress asked us to report periodically on the progress and status of various system acquisitions. We issued reports annually from 1970 through 1972. Since then we have issued reports semiannually. This report includes information reported by the Department of Defense (DOD) on changes to the estimated costs of 49 major weapon systems on the selected acquisition report (SAR) during the 6 months ended June 30, 1974. There was a net increase of \$17,107.8 million in estimated costs for these systems.

In addition, the report includes information on 22 systems, that were 12 months or more behind the planned schedule for delivery of the first increment and performance data on 13 systems which, in our opinion, significant improvements and/or reductions in planned performance have occurred. We have not audited or verified the cost, schedule, and performance information in the SAR.

Appendix I provides details on the cost changes that occurred between December 31, 1973, and June 30, 1974. Appendix II shows the cost data appearing on the June 30, 1974, SAR. Appendix III shows the planning and development estimates for program quantities and unit costs and changes for the 6 months ended June 30, 1974. Appendix IV lists systems which have reported schedule slippages of 12 months or more in the planned delivery dates and systems which, in our opinion, significant improvements or reductions in planned performance had occurred as of June 30, 1974.

CURRENT ESTIMATE CHANGES FROM
DECEMBER 31, 1973, TO JUNE 30, 1974

An analysis of cost changes on 49 weapon systems on SAR during the 6 months ended June 30, 1974, showed a net increase in total cost of about \$17.1 billion.

Of the total cost increase, \$16.5 billion was attributed to higher inflation indexes in preparing the estimates. DOD policy states that the best estimate of the acquisition cost of weapon systems, including a realistic provision for experienced and projected inflation, is to be shown in the SAR. The provision for inflation in weapon system cost estimates is to be based on Service-developed indexes representing the condition pertinent to a particular program. However, in the absence of such individual program indexes, the escalation indexes published by the Office of the Assistant Secretary of Defense (Comptroller), for more general application may be used.

For the December 1973 and March 1974 SARs, the Office of the Assistant Secretary (Comptroller) published escalation indexes which provided for a 4.5 percent increase for procurement costs for fiscal year 1975 and 3.1 percent for fiscal year 1976 and each year thereafter. These rates changed for the June 1974 SARs when the Office of the Assistant Secretary (Comptroller) published revised indexes which provided the following escalation indexes for application to procurement costs.

<u>Fiscal year</u>	<u>Index</u>	<u>Percentage</u>
1974	100.0	Base year
1975	111.0	11.0
1976	119.9	8.0
1977	128.3	7.0
1978	134.7	5.0
1979	140.6	4.4
1980	146.7	4.3
All subsequent years		3.7

Similar escalation indexes were developed for application to research and development costs.

Cost change analyses for the 6 months ended June 30, 1974, are shown in the following table.

<u>Type of change</u>	<u>Army</u>	<u>Navy</u>	<u>Air Force</u>	<u>Change during period</u>
	(millions)			
Total quantity increase--net	<u>\$ 18.3</u>	<u>\$ 2.7</u>	<u>\$ -</u>	<u>\$ 21.0</u>
Other changes:				
Engineering	66.9	110.1	31.5	208.5
Support	-40.8	-7.1	2.5	-45.4
Schedule	297.3	-32.0	31.4	296.7
Economic	3,675.2	7,028.3	5,786.2	16,489.7
Estimating	-41.2	49.2	-4.5	3.5
Sundry	<u>-111.4</u>	<u>255.6</u>	<u>-10.4</u>	<u>133.8</u>
Total-other changes	<u>3,846.0</u>	<u>7,404.1</u>	<u>5,836.7</u>	<u>17,086.8</u>
Total	<u>\$3,864.3</u>	<u>\$7,406.8</u>	<u>\$5,836.7</u>	<u>\$17,107.8</u>
Number of systems (total 49)	14	24	11	49

APPENDIX I

COST DATA COMPARISON FROM
DECEMBER 31, 1973, TO JUNE 30, 1974

Number of systems (note a)	Planning estimate	Development estimate	Cost change (note b)		Current estimate
			Quantity decrease (-) (millions)	Other	
Army (14)	\$19,170.8	\$ 20,225.2	\$-1,266.8	\$ 4,371.4	\$ 23,329.8
Navy (24) (note c)	44,437.6	52,569.4	- 161.5	7,728.2	60,136.1
Air Force (11)	29,028.4	34,687.0	-2,634.1	13,303.9	47,356.8
Total at 12-31-73 (49)	<u>\$92,636.8</u>	<u>\$109,481.6</u>	<u>\$-4,062.4</u>	<u>\$25,403.5</u>	<u>\$130,822.7</u>
Army (14)	\$19,170.8	\$ 20,225.2	\$-1,691.8	\$ 8,660.7	\$ 27,194.1
Navy (24) (note c)	44,437.6	52,569.4	- 118.5	15,092.0	67,542.9
Air Force (11)	29,028.4	36,703.5	-2,648.1	19,138.1	53,193.5
Total at 6-30-74 (49)	<u>\$92,636.8</u>	<u>\$109,498.1</u>	<u>\$-4,458.4</u>	<u>\$42,890.8</u>	<u>\$147,930.5</u>
Difference for 49 systems	<u>-</u>	<u>\$ 16.5</u>	<u>\$- 396.0</u>	<u>\$17,487.3</u>	<u>\$ 17,107.8</u>

^aThe total number of systems on SAR at December 31, 1973, was 53 and the total number of systems on SAR at June 30, 1974, was 49. Three Navy systems--EA-6B, HARRIER and BQQ-5--were deleted from SAR as of December 31, 1973. One Army system--M60A2--was deleted from SAR as of March 31, 1974. The M60A2 SAR reported no cost change between December 1973 and March 1974.

^bThese cost changes represent total change for each system from the time a development estimate is established--generally the time a development contract is awarded for a system--through the current estimate, or the date of SAR--in this case June 30, 1974.

^cThe estimates for the Navy systems include costs of the Air Force portion of the SPARROW F and SIDEWINDER AIM-9L missile programs. For example, the Navy's current estimate at December 31, 1973, includes Air Force costs of \$514.7 million for the SPARROW F and \$197.4 million for the SIDEWINDER. The current estimate at June 30, 1974, includes Air Force costs of \$510.4 million for the SPARROW F and \$241.2 million for the SIDEWINDER.

APPENDIX I

Following is a summary by military service of cost changes during the 6 months ended June 30, 1974, for 49 major weapon systems as reported on the SAR.

ARMY NET INCREASE OF \$3,864.3 MILLION:

IMPROVED HAWK MISSILE:

Increase of \$21.9 million:

Net result of (1) \$0.6 million increase for Government support for modifications validation test program, (2) \$0.2 million decrease for prior years adjustment to ground support equipment, and (3) \$21.5 million increase due to applying higher inflation provisions.

LANCE MISSILE:

Increase of \$20.7 million:

Result of (1) \$16.2 million due to applying higher inflation provisions, (2) \$0.7 million for procuring safe and arm cover lock for safety purposes, and (3) \$3.8 million for test and handling equipment, and adjusting repair parts of prior year funds to actual receipts.

TOW MISSILE:

Increase of \$26.4 million:

Net result of (1) \$42.8 million increase due to applying higher inflation provisions, and (2) \$16.4 million decrease due to revising and refining estimates.

DRAGON MISSILE:

Increase of \$38.5 million:

Net result of (1) \$70.9 million increase due to applying higher inflation provisions, (2) \$0.9 million increase for beginning development of night sight, and (3) \$33.3 million decrease due to contract negotiation, new contract proposals and refining estimates.

APPENDIX I

SAFEGUARD BALLISTIC MISSILE DEFENSE SYSTEM:

Decrease of \$41 million:

Net result of (1) \$67 million quantity increase, (2) \$6 million increase due to revising and refining estimates, and (3) \$114 million decrease attributed to revising the previously estimated cost for lost effort; i.e., costs incurred for effort required for the larger deployment planned before the ABM Treaty and subsequent congressional action but which is not useful to the current one site deployment.

SAM-D SURFACE TO AIR MISSILE SYSTEM:

Increase of \$1,489.3 million:

Net result of (1) \$1,229.9 million increase due to applying higher inflation provisions, (2) \$47 million quantity decrease, (3) \$58.7 million net increase for study of a cost reduction program and SAM-D II changes and deleting non-nuclear warhead and nuclear interface, (4) \$293.6 million increase for schedule stretchout, (5) \$1.3 million decrease for refining estimates, and (6) \$44.6 million decrease for costs associated with common equipment.

TACFIRE (TACTICAL FIRE DIRECTION SYSTEM):

Increase of \$11.3 million:

Net result of (1) \$11 million increase due to applying higher inflation provisions, (2) \$2 million increase in engineering changes and added depot maintenance effort, and (3) \$1.7 million quantity decrease.

UTTAS HELICOPTER:

Increase of \$727.2 million:

Result of revised provision for inflation.

HLH HELICOPTER:

Increase of \$2.3 million:

Result of revised provision for inflation.

MICV VEHICLE:

Increase of \$63.3 million:

Net result of (1) \$61 million increase for applying higher inflation provisions, (2) \$3 million increase in contract cost overrun, (3) \$0.3 million decrease for reducing in-house cost, and (4) \$0.4 million decrease identified with contract performance incentives.

STINGER MISSILE:

Increase of \$112.4 million:

Result of (1) \$100.4 million due to applying higher inflation provisions, (2) \$7.7 million for adding a Design-to-Cost program, and (3) \$4.3 million for test target costs.

AAH HELICOPTER:

Increase of \$517.1 million:

Result of revised provision for inflation.

XM-1 TANK:

Increase of \$874.9 million:

Result of revised provision for inflation.

NAVY NET INCREASE OF \$7,406.8 MILLION:

MARK-48 TORPEDO:

Increase of \$96.9 million:

Net result of (1) \$100.9 million increase due to applying higher inflation provisions, (2) \$0.2 million increase in support costs, and (3) \$4.2 million decrease due to refining estimates.

APPENDIX I

F-14A AIRCRAFT:

Decrease of \$45.9 million:

Net result of (1) \$50.1 million increase due to applying higher inflation provisions, (2) \$3.6 million decrease in support costs, and (3) \$92.4 million decrease primarily due to cost savings to Navy resulting from Iran's buying aircraft, adjusting estimates to actual costs, and reducing procurement funds for fiscal year 1972 and prior years.

SSN-688 SUBMARINE:

Increase of \$840.6 million:

Result of (1) \$840.4 million due to applying higher inflation provisions and (2) \$0.2 million for military construction costs.

DLGN-38 CLASS SHIP:

Increase of \$225 million:

Result of (1) \$200 million due to applying higher inflation provisions, (2) \$9.2 million increase based on improved estimating experience, and (3) \$15.8 million due to revised shipbuilder cost.

SPARROW F MISSILE:

Decrease of \$19.8 million: (Navy \$15.5 million, Air Force \$4.3 million)

Net result of (1) \$111.2 million increase due to applying higher inflation provisions, (2) \$131.2 million decrease attributed to program repricing based on fiscal year 73 and fiscal year 74 negotiated contracts, stabilizing missile configuration, and reevaluating manufacturing support, (3) \$0.1 million unpredictable decrease, and (4) \$0.3 million increase attributed to contract performance incentives.

APPENDIX I

POSEIDON MISSILE:

Increase of \$9.1 million:

Net result of (1) \$12.8 million increase for modification program and (2) \$3.7 million net decrease for revising and refining estimates.

CONDOR MISSILE:

Increase of \$16.5 million:

Result of (1) \$5 million due to applying higher inflation provisions, (2) \$8.2 million due to a break in production, and (3) \$3.3 million engineering change for active radar seeker.

CVAN-68 CLASS AIRCRAFT CARRIER:

Increase of \$211.9 million:

Result of applying higher inflation provisions.

A-7E AIRCRAFT:

Increase of \$22.9 million:

Net result of (1) \$17.7 million increase due to applying higher inflation provisions, (2) \$5.6 million increase for TRAM development and reliability testing, (3) \$0.4 million increase for refining estimates, and (4) \$0.8 million decrease for adjusting prior contracts.

PHOENIX MISSILE:

Increase of \$35.2 million:

Net result of (1) \$37.9 million increase due to applying higher inflation provisions and (2) \$2.7 million decrease for refining estimates.

S-3A AIRCRAFT:

Increase of \$48 million:

Result of (1) \$36 million due to applying higher inflation provisions and (2) \$12 million due to S-3A line shutdown costs.

APPENDIX I

E-2C AIRCRAFT:

Increase of \$1.7 million:

Net result of (1) \$6 million increase due to applying higher inflation provisions and (2) \$4.3 million decrease for refining estimates.

LHA SHIP:

Increase of \$34.6 million:

Result of (1) \$14.9 million due to applying higher inflation provisions, (2) \$0.5 million for support costs, (3) \$9.2 million attributed to post delivery, project support and Government furnished equipment, and (4) \$10 million attributed to contract changes.

VAST (VERSATILE AVIONICS SHOP TEST SYSTEM):

Increase of \$0.9 million:

Result of applying higher inflation provisions.

P-3C AIRCRAFT:

Decrease of \$24.8 million:

Net result of (1) \$24.7 million increase due to applying higher inflation provisions, (2) \$0.1 million increase for adjusting prior year costs, and (3) \$49.6 million quantity reduction.

DD-963 SHIP:

Increase of \$521.1 million:

Result of (1) \$277.7 million due to applying higher inflation provisions, (2) \$1.7 million in outfitting costs, (3) \$23.3 million for contract performance incentives, and (4) \$218.4 million for contract cost overrun.

HARPOON MISSILE:

Increase of \$147.1 million:

Result of applying higher inflation provisions.

APPENDIX I

PHM SHIP:

Increase of \$351 million:

Result of (1) \$249.3 million due to applying higher inflation provisions, (2) \$85.3 million attributed to labor learning curve change, increased man-hours and material, and refining estimates, and (3) \$16.4 million for contract cost overrun.

TRIDENT UNDERSEA STRATEGIC MISSILE SYSTEM:

Increase of \$3,015.3 million:

Result of (1) \$2,892.5 million due to applying higher inflation provisions and (2) \$122.8 million for refining estimates.

PF SHIP:

Increase of \$1,791.8 million:

Result of (1) \$1,661.6 million due to applying higher inflation provisions, (2) \$76.9 million attributed to design changes, (3) \$11.8 million support change, and (4) \$41.5 million for revised estimates.

SIDEWINDER AIM-9L MISSILE:

Increase of \$68.7 million: (Navy \$24.9 million, Air Force \$43.8 million)

Net result of (1) \$56.5 million increase due to applying higher inflation provisions, (2) \$2.5 million increase for redesigning guidance control section, (3) \$0.1 million increase for support costs, (4) \$13.5 million increase for stretchout of development program and revised production schedule, (5) \$0.3 million increase due to work stoppage at contractor plant, and (6) \$4.2 million decrease due to revised procurement support costs.

PHALANX ANTI-SHIP-MISSILE DEFENSE SYSTEM:

Increase of \$62.8 million:

Net result of (1) \$63.8 million increase due to applying higher inflation provisions and (2) \$1 million decrease for refining estimates.

APPENDIX I

CH-53E HELICOPTER:

Decrease of \$3.8 million:

Net result of (1) \$22.2 million increase due to applying higher inflation provisions, (2) \$7.5 million increase for support changes, and (3) \$33.5 million decrease due to repricing airframe and changes, engines and accessories, electronics, and Government-furnished equipment.

AIR FORCE NET INCREASE OF \$5,836.7 MILLION:

AWACS (AIRBORNE WARNING AND CONTROL SYSTEM):

Increase of \$178.8 million:

Result of applying higher inflation provisions.

F-5E AIRCRAFT:

Decrease of \$0.2 million:

Result of renegotiating engine contract.

MAVERICK MISSILE:

Increase of \$0.6 million:

Net result of (1) \$15.4 million increase due to applying higher inflation provisions, (2) \$10.4 million decrease in contractor overtarget estimate, and (3) \$4.4 million decrease for refining engineering change estimate.

F-111 AIRCRAFT:

Decrease of \$8.1 million:

Result of the deletion of the second "F" Simulator.

SRAM MISSILE:

Decrease of \$0.6 million:

Revised estimate of military construction costs based on actual expenditures in prior years.

APPENDIX I

B-1 AIRCRAFT:

Increase of \$3,632.6 million:

Result of applying higher inflation provisions.

F-15 AIRCRAFT:

Increase of \$1,667.1 million:

Result of (1) \$1,620 million due to applying higher inflation provisions, (2) \$31.5 million for closeout of system test and development, and (3) \$15.6 million due to a revised spares program and adjustments of other support items.

A-10 AIRCRAFT:

Increase of \$212.6 million:

Result of applying higher inflation provisions.

MINUTEMAN III MISSILE:

Increase of \$114.8 million:

Net result of (1) \$115.8 million increase due to applying higher inflation provisions and (2) \$1 million decrease for refining estimates.

A-7D AIRCRAFT:

Decrease of \$3.3 million:

Net result of (1) \$5 million decrease attributed to deleting 5th simulator and (2) \$1.7 million increase primarily for the airframe structural integrity program and an increase in requirements for aerospace ground equipment.

AABNCP (ADVANCED AIRBORNE COMMAND POST):

Increase of \$42.4 million:

Result of (1) \$11 million due to applying higher inflation provisions and (2) \$31.4 million attributed to additional system engineering/technical direction effort, contractor holding cost, and delay in procuring production systems in conformance with congressional direction.

APPENDIX II

PROGRAM COST DATA APPEARING ON JUNE 30, 1974, SAR

<u>System</u>	<u>Planning estimate</u>	<u>Development estimate</u>	<u>Cost change</u>		<u>Current estimate</u>
			<u>Quantity decrease(-)</u>	<u>Other</u>	
(millions)					
Army (14):					
IMPROVED HAWK	\$ 335.5	\$ 588.2	\$- 105.1	\$ 369.3	\$ 852.4
LANCE	586.7	652.9	145.8	147.0	945.7
TOW	410.4	727.3	- 107.5	359.5	979.3
DRAGON	382.2	404.2	4.9	271.3	680.4
SAFEGUARD (notes a and b)	4,185.0	4,185.0	-1,198.0	2,375.0	5,362.0
SAM-D	4,916.8	5,240.5	- 480.7	1,629.2	6,389.0
SCOUT (note b)	244.6	244.6	-	17.7	262.3
TACFIRE	123.6	160.5	32.3	98.5	291.3
UTTAS (note b)	2,307.3	2,307.3	- 22.0	1,117.5	3,402.8
HLH (note b)	189.9	189.9	38.5	25.9	254.3
MICV	209.4	245.4	-	99.5	344.9
STINGER (note b)	473.8	473.8	-	162.5	636.3
AAH (note b)	1,800.2	1,800.2	-	718.0	2,518.2
XMI TANK (note b)	3,005.4	3,005.4	-	1,269.8	4,275.2
Total	<u>\$19,170.8</u>	<u>\$20,225.2</u>	<u>\$-1,691.8</u>	<u>\$ 8,660.7</u>	<u>\$27,194.1</u>
System deleted as of					
March 31, 1974 (1):					
M60A2	\$ 162.1	\$ 205.6	\$- 45.3	\$ 246.5	\$ 406.8

APPENDIX II

PROGRAM COST DATA APPEARING ON JUNE 30, 1974, SAR

<u>System</u>	<u>Planning estimate</u>	<u>Development estimate</u>	<u>Cost change</u>		<u>Current estimate</u>
			<u>Quantity decrease(-)</u>	<u>Other</u>	
			(millions)		
Navy (24):					
MARK-48	720.5	1,753.8	- 470.0	273.4	1,557.2
F-14A (notes b & c)	6,166.0	6,166.0	-1,005.7	1,146.7	6,307.0
SSN-688	1,658.0	5,747.5	777.0	1,338.1	7,862.6
AEGIS	388.0	427.6	-	121.7	549.3
DLGN-38 (note d)	769.2	820.4	515.3	256.1	1,591.8
SPARROW F (note e)	151.5	707.7	- 164.0	766.5	1,310.2
POSEIDON (note b)	4,568.7	4,568.7	- 206.1	428.1	4,790.7
CONDOR	356.3	441.0	- 216.5	188.0	412.5
CVAN-68 CLASS	1,919.5	2,036.2	-	521.6	2,557.8
A-7E (note b)	1,465.6	1,465.6	314.8	810.1	2,590.5
PHOENIX	370.8	536.4	44.3	573.6	1,154.3
S-3A	1,763.8	2,891.1	- 118.2	515.8	3,288.7
E-2C (note b)	586.2	586.2	100.3	298.3	984.8
LHA (note b)	1,380.3	1,380.3	- 436.9	236.5	1,179.9
VAST	241.1	312.0	- 158.5	295.4	448.9
P-3C (note b)	1,294.2	1,294.2	973.6	456.2	2,724.0
DD-963	1,784.4	2,581.2	-	1,017.4	3,598.6
HARPOON (note b)	1,071.4	1,071.4	- 93.9	201.4	1,178.9
PHM (note b)	726.2	726.2	-	381.3	1,107.5
TRIDENT (note b)	12,431.1	12,431.1	-	3,015.3	15,446.4
PF (note b)	3,244.5	3,244.5	-	2,030.1	5,274.6
SIDEWINDER AIM-9L (notes b and e)	233.4	233.4	26.0	114.2	373.6
PHALANX (note b)	568.5	568.5	-	134.5	703.0
CH-53E (note b)	578.4	578.4	-	- 28.3	550.1
Total	<u>\$44,437.6</u>	<u>\$52,569.4</u>	<u>\$- 118.5</u>	<u>\$15,092.0</u>	<u>\$67,542.9</u>

Systems deleted as of
December 31, 1973 (3):

EA-6B	\$ 689.7	\$ 817.7	\$ 296.0	\$ 537.4	\$ 1,651.1
HARRIER	503.6	503.6	2.5	- 5.7	500.4
BQQ-5	610.4	610.4	69.5	132.1	812.0

APPENDIX II

PROGRAM COST DATA APPEARING ON JUNE 30, 1974, SAR

<u>System</u>	<u>Planning estimate</u>	<u>Development estimate</u>	<u>Cost change</u>		<u>Current estimate</u>
			<u>Quantity decrease(-) (millions)</u>	<u>Other</u>	
Air Force (11):					
AWACS	\$2,656.7	\$2,661.6	\$- 172.3	\$ 166.1	\$2,655.4
F-5E	698.6	315.5	102.3	4.7	422.5
MAVERICK	257.9	383.4	57.3	132.5	573.2
F-111	4,686.6	5,505.5	- 2,598.0	4,210.3	7,117.8
SRAM	167.1	236.6	96.8	821.8	1,155.2
B-1	8,954.5	11,218.8	- 27.9	7,441.7	18,632.6
F-15	6,039.1	7,355.2	-	3,586.1	10,941.3
A-10 (note f)	1,025.5	2,489.7	-	243.8	2,733.5
MINUTEMAN III	2,695.5	4,673.8	62.4	2,224.9	6,961.1
A-7D (note b)	1,379.1	1,379.1	- 168.7	271.9	1,482.3
AABNCP (note g)	<u>467.8</u>	<u>484.3</u>	<u>-</u>	<u>34.3</u>	<u>518.6</u>
Total	<u><u>\$29,028.4</u></u>	<u><u>\$36,703.5</u></u>	<u><u>\$- 2,648.1</u></u>	<u><u>\$19,138.1</u></u>	<u><u>\$53,193.5</u></u>

APPENDIX II

^aThe original planning estimate of \$4,185 million was for two sites. The current estimate of \$5,362 million covers one site in accordance with the Treaty on Limitation of Anti-Ballistic Missile Systems ratified by the Senate on Oct. 3, 1972.

^bFor those programs with only a development or a planning estimate available, we have made both estimates the same to prevent distortion between the totals of the column.

^cThe requirement for the Dec. 31, 1972, and Mar. 31, 1973, SAR was waived pending the restructuring of the program. Beginning June 30, 1973, the F-14 SAR became the F-14A SAR because present Navy plans do not call for procuring the F-14B version of the aircraft. The development estimate on the June 30, 1973, SAR was revised and decreased \$243 million to delete estimated costs related to the F-14B aircraft. On the Sept. 30, 1973, SAR, the \$243 million was reinserted at the request of the Congress.

^dBefore issuing the present contract, the Navy's long-range program included 23 ships of this class for a planning estimate of \$3,980 million in fiscal year 1970 dollars. The present program is for five ships.

^eEstimates include Air Force costs for research, development, and procurement.

^fThe A-10 was formerly known as the A-X aircraft. The planning estimate of \$1,025.5 million represents the total program cost estimate as cited in the development concept paper. This planning estimate is stated in constant 1970 dollars, based on a 600-aircraft program, and considers a turboprop configuration.

^gThe Mar. 31, 1974, SAR for the AABNCP included a development estimate for the first time.

QUANTITY AND UNIT COST CHANGES

Cost growth in major weapon systems results from such things as unanticipated development difficulties, faulty planning, poor management, poor estimating, or underestimating. However, not all cost growth can reasonably be prevented. For instance, unusual periods of inflation may result in cost growth. Changes in technology may make it possible to incorporate modifications that result in an overall increase in the system's effectiveness. Such cost growth cannot always be anticipated, particularly when a weapon system is in development and production over long periods.

Cost growth has been a significant reason for reducing the number of units of a weapon system to be acquired by the services. Continued cost growth and the need to stay within budgetary limitations will undoubtedly result in significant reductions in the number of units to be acquired for many of the new systems under development.

The schedules on the following pages show the planning and development estimates for quantities and unit costs originally planned for the weapon system programs. The schedules also show the current estimate for quantities and unit costs at June 30, 1974, and the quantity changes and unit cost changes during the 6 months ended June 30, 1974.

QUANTITY CHANGES AND UNIT COST CHANGES

DURING THE 6 MONTHS ENDED JUNE 30, 1974

System	Planning and development estimates		Current estimate June 30, 1974	
	Quantity	Unit cost (millions)	Quantity	Unit cost (millions)
Army (14):				
IMPROVED HAWK	(a)	\$ (b) 5.71	(a)	\$ 9.27
LANCE	(a)	(a)	(a)	(a)
TOW	233,081	.00312	129,455	.007564
DRAGON	247,360	.001634	87,200	.007803
SAFEGUARD	2	(c)2,092.5	1	(c)5,362.0
SAM-D	(a)	(a)	(a)	(a)
SCOOT	1,155	.212	1,155	.227
TACFIRE	149	(d)1.077	(a)	(a)
UTTAS	1,123	2.05	1,117	3.05
HLH (PROTOTYPE)	(e)	(e)	(e)	(e)
MICV	1,205	.204	1,205	.286
STINGER	(a)	(a)	(a)	(a)
AAH	481	3.7	481	5.24
XMI TANK	3,323	.904	3,323	1.287
Navy (24):				
MARK-48	4,194	.418	(a)	(a)
F-14A	469	12.629	334	17.774
SSN-688	32	179.609	36	218.406
AEGIS	(f)	(f)	(f)	(f)
DLGN-38	3	254.9	5	318.36
SPARROW F	(j)15,685	.045	(j)12,204	.107
POSEIDON	31	(g)147.377	31	(g)154.539
CONDOR	3,348	.132	538	.767
CVAN-68 CLASS	3	(h)678.7	3	(h)852.6
A-7E	595	2.463	646	4.010
PHOENIX	2,384	.225	2,532	.456
S-3A	199	14.5	187	17.587
E-2C	30	19.5	36	27.356
LHA	9	153.366	5	235.98
VAST	207	1.507	89	5.044
P-3C	104	12.444	214	12.729
DD-963	30	86.040	30	119.953
HARPOON	4,262	.251	2,922	.403
PHM	30	24.2	30	36.917
TRIDENT	10	(i)1,243.11	10	(i)1,544.64
PF	50	64.890	50	105.492
SIDEWINDER (AIM-9L)	(j)9,288	.025	(j)10,333	.036
PHALANX	370	1.536	367	1.916
CH-53E	74	7.8	74	7.4
Air Force (11):				
AWACS	42	63.4	34	78.1
F-5E	87	3.63	154	2.74
MAVERICK	17,205	.022	22,186	.026
F-111	1,388	3.97	478	14.89
SRAM	700	.338	1,500	.770
B-1	246	45.6	244	76.4
F-15	749	9.82	749	14.61
A-10	743	3.35	743	3.68
MINUTEMAN III	760	6.15	750	9.28
A-7D	517	2.67	435	3.41
AABNCP	7	69.2	7	74.1

APPENDIX III

Change during period	
Quantity change decrease (-)	Unit cost change decrease (-) (millions)

0	\$.24
(a)	(a)
0	.000203
0	.000442
0	-41.0
(a)	(a)
0	0
(a)	(a)
0	.65
(e)	(e)
0	.052
(a)	(a)
0	1.04
0	.264
(a)	(a)
0	- .137
0	23.35
(f)	(f)
0	44.96
0	- .002
0	.294
0	.031
0	70.63
0	.035
0	.014
0	.287
0	.056
0	6.92
0	.01
6	.235
0	17.37
0	.05
0	11.717
0	301.53
0	35.836
0	.007
0	.172
0	- .1
0	5.3
0	- .01
0	0.0
0	- .02
0	- .001
0	14.9
0	2.228
0	.29
0	.15
0	- .01
0	6.07

^aClassified.

^bPer battery.

^cPer site.

^dPer set.

^eNone listed.

^fNo procurement costs or quantities provided.

^gPer system (missile unit cost and quantities are classified).

^hEstimated program cost divided by three ships.

ⁱEstimated program cost divided by 10 hulls.

^jIncludes Air Force quantities.

APPENDIX IV

PERFORMANCE AND SCHEDULE CHANGES

The justification for selecting a particular major weapon system to fulfill a need includes analyzing many existing and alternative capabilities and establishing a priority of need. It is important that clear performance goals for a system be defined early in the development process.

Overly ambitious performance requirements, combined with low initial cost predictions and optimistic risk estimates, lead almost inevitably to schedule slippages, performance degradations, and cost increases. Attempts to keep total program costs from rising lead to reductions in planned quantities which, in turn, increase unit cost. The following schedule lists weapon systems which have reported schedule slippages of 12 months or more in the planned delivery dates and systems in which, in our opinion, significant improvements and/or reductions in planned performance characteristics were anticipated as of June 30, 1974.

Because specific data on the performance of a weapon system and its date for delivery or initial operational capability are generally classified, this unclassified report does not provide that detail. In individual weapon system staff studies issued to the Congress early each calendar year, we have reported details of performance and schedule changes. Also, the Department of Defense tracks performance and schedule changes and reports them quarterly on SARs.

MAJOR WEAPON SYSTEMS WITH SCHEDULE SLIPPAGES OF
12 MONTHS OR MORE AND PERFORMANCE CHARACTERISTIC
CHANGES AS OF JUNE 30, 1974

System	Schedule slippage		Performance characteristic changes			
	Previously reported	Additional slippage reported during 6 months	Previously reported		During 6 months	
			Improvement	Reduction	Improvement	Reduction
Army:						
MICV						d X
IMPROVED HAWK	X			X		
LANCE (note a)	X		X	X		
TOW	X					
DRAGON (note a)	X		X	X		
SAM-D	X			X		c X
SCOUT				X		
TACFIRE	X					
Navy:						
SSN-688	X	4 months				
AEGIS	X					
DLGN-38	X	2 to 5 months				
SPARROW F	X					
CONDOR	X					
PHALANX		bX		X		
CVAN-68 CLASS	X	3 to 9 months				
P-3C				X		
LHA	X					
VAST	X					
SIDEWINDER AIM-9L	X				X	
DD-963					X	
PF					X	
Air Force:						
AWACS	X					
MAVERICK	X					
SRAM	X		X			
B-1	x				X	
A-7D	X					
AABNCP		bX				

APPENDIX IV

- ^a On these systems some aspects of performance have improved and some have been reduced. We did not attempt to assess the overall effect on performance capability.
- ^b As of June 30, 1974, the PHALANX and AABNCP systems, for the first time, have reported cumulative schedule slippages exceeding 12 months.
- ^c Changes in SAM-D performance characteristics are due to an effort to develop a lower cost system--the SAM-D II.
- ^d Change in MICV performance characteristics is due to cost tradeoffs and design changes required for the vehicle to meet reliability and durability requirements.

Copies of GAO reports are available to the general public at a cost of \$1.00 a copy. There is no charge for reports furnished to Members of Congress and congressional committee staff members; officials of Federal, State, local, and foreign governments; members of the press; college libraries, faculty members, and students; and non-profit organizations.

Requesters entitled to reports without charge should address their requests to:

U.S. General Accounting Office
Distribution Section, Room 4522
441 G Street, NW.
Washington, D.C. 20548

Requesters who are required to pay for reports should send their requests with checks or money orders to:

U.S. General Accounting Office
Distribution Section
P.O. Box 1020
Washington, D.C. 20013

Checks or money orders should be made payable to the U.S. General Accounting Office. Stamps or Superintendent of Documents coupons will not be accepted. Please do not send cash.

To expedite filling your order, use the report number in the lower left corner of the front cover.

AN EQUAL OPPORTUNITY EMPLOYER

**UNITED STATES
GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548**

**OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300**

**POSTAGE AND FEES PAID
U. S. GENERAL ACCOUNTING OFFICE**



THIRD CLASS

**Mr. T. E. Sullivan
Transportation
Room 5049**

5033