

AD-A152 648 DEPARTMENT OF THE ARMY JUSTIFICATION OF ESTIMATES FOR
FISCAL YEAR 1986 SU.. (U) DEPUTY CHIEF OF STAFF FOR
RESEARCH DEVELOPMENT AND ACQUISITIO.. FEB 85

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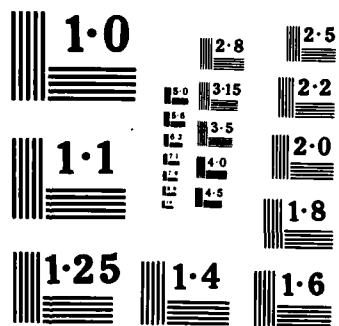
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DEPARTMENT OF THE ARMY
JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1986
SUBMITTED TO CONGRESS

FEBRUARY 1985



Part 3
MISSILES

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PROCUREMENT	PROGRAMS
AIRCRAFT	MISSILES
WEAPONS & TRACKED COMBAT VEHICLES	
AMMUNITION	OTHER

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UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) (in 6 parts) Department of the Army Justification of Estimates for Fiscal Year 1986, submitted to Congress February 1985, Procurement Programs, Aircraft, Missiles, Weapons & Tracked Cbt Veh., Ammunition, Other Procurement & Constr Programs		5. TYPE OF REPORT & PERIOD COVERED Army Procurement Budget Justification, FY 1986
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11. CONTROLLING OFFICE NAME AND ADDRESS HQDA, Office of the Deputy Chief of Staff for Research, Development, and Acquisition (DAMA-AO) Washington, DC 20310		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE February 1985
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17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Army Procurement Programs Budget Justification Books covering Aircraft, Missiles, Weapons and Tracked Combat Vehicles, Ammunition, Other Procurement, Army Appropriations programs and Construction programs submitted by the Army to Congress February 1985 for Fiscal Year 1986.		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) In justification of programs requested, this document, in separate volume for each of the five Procurement Appropriations, and one separate volume for Construction Programs, provides backup data for the Army Budget submission for FY 1986. Included are Summaries of Requirements, Program and Financing Statements and Selected Data Sheets. (These volumes are unclassified).		

JUSTIFICATION OF ESTIMATES FOR FISCAL YEARS 1986, 1987

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Section 1 - Budget Appendix Extract.....2-1

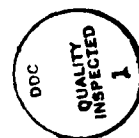
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2-1 February 1985

Accession For



MISSILE PROCUREMENT, ARMY

Section 1

Budget Appendix Extract

Language

Program and Financing Schedule

Object Classification Schedule

2-1 February 1985

APPROPRIATION LANGUAGE

for construction, procurement, production, modification, and modernization of missiles, equipment, including ordnance, ground handling equipment, spare parts, and accessories therefore; specialized equipment and training devices; expansion of public and private plants, including the land necessary therefore, without regard to section 4774, title 10, United States Code, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title and procurement and installation of equipment, appliances, and machine tools in public and private plants, reserve plants and Government and contractor owned equipment layaway; and other expenses necessary for the foregoing purposes; as follows: (For the CHAPARRAL program, \$32,000,000; for Other Missile Support, \$9,300,000; for the PATRIOT program, \$976,400,000; for the STINGER program, \$209,600,000; for the LASER HELLFIRE program, \$25,000,000; for the TOW program, \$201,700,000; for the PERSHING II program, \$370,000,000; for the MLRS program, \$541,400,000; for modification of missiles, \$208,800,000; for spares and repair parts, \$270,300,000; for support equipment and facilities, \$122,500,000; in all: \$3,167,000,000;) \$3,386,700,000 to remain available for obligation until September 30, (1987) 1988.

1/
2/

(10 U.S.C. 2353, 2361, 3012, 1531-32; Department of Defense Appropriation Act, 1983; additional authorizing legislation to be proposed)

EXPLANATION OF LANGUAGE CHANGES

- 1/ To change the amount of the appropriation for FY 1986.
- 2/ To change the obligation expiration date for the FY 1986 program.

2-2 February 1985

Missile Procurement, Army				01 Feb 85	
Program and Financing (in Thousands of dollars)				FISCAL YEAR 1985	
Identification code	21-2032-0-1-051	Budget Plan (amounts for PROCUREMENT actions programmed)		Obligations	
		1984 actual	1985 est.	1984 actual	1985 est.
Program by activities:					
Direct program:					
00 0101	Other missiles			107,363	
00 0201	Modification of missiles			33,547	
00 0301	Spare and repair parts			33,370	
00 0401	Support equipment and facilities			11,661	
00 9101	Total direct program			185,941	
01 0101	Reimbursable program			22,732	
10 0001	Total			208,673	
Financing:					
Offsetting collections from:					
11 0001	Federal funds(-)			8,862	
13 0001	Trust funds(-)			7,561	
17 0001	Recovery of prior year obligations(-):			-31,998	
Unobligated balance available, start of year:					
21 4002	For completion of prior year budget plans			-217,237	
21 4007	Reprogramming from/to prior year budget plan				
25 0001	Unobligated balance lapsing	-24,140		24,140	
39 0001	Budget authority				

2-3 February 1985

Missile Procurement, Army
Program and Financing (in thousands of dollars)

04 Feb 85

FISCAL YEAR 1983

Identification code	21-2032-0-1-031	Budget Plan (amounts for PROCUREMENT actions programmed)		Obligations	
		1984 actual	1985 est.	1984 actual	1985 est.
Program by activities:					
Direct program:					
00.0101	Other missiles			149,089	120,159
00.0201	Modification of missiles			23,795	15,107
00.0301	Spare and repair parts			36,016	29,571
00.0401	Support equipment and facilities			11,830	6,191
00.9101	Total direct program			222,730	171,028
01.0101	Reimbursable program			60,478	73,522
10.0001	Total			283,208	244,550
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)			14,993	
13.0001	Trust funds(-)			-506	
14.0001	Non-Federal sources(-)			-1	
17.0001	Recovery of prior year obligations(-):			-25,948	
21.4002	Unobligated balance available, start of year:				
21.4003	For completion of prior year budget plans			-537,296	-244,550
21.4007	Available to finance new budget plans			-52,600	
22.4001	Reprogramming from/to prior year budget plan			-21,000	
24.4002	Unobligated balance transferred, not			73,600	
	Unobligated balance available, end of year:				
	For completion of prior year budget plans			244,550	
39.0001	Budget authority				

2-4 February 1985

Missile Procurement, Army		01 Feb 85	
Program and Financing (in Thousands of dollars)		FISCAL YEAR 1985	
Budget Plan (amounts for PROCUREMENT actions programmed)		Obligations	
Identification code	21-2032-0-1-051	1984 actual	1985 est. 1986 est. 1987 est.
Program by activities:			
Direct program:			
00 0101	Other missiles	2,355,800	2,144,832 101,229 110,739
00 0201	Modification of missiles	107,200	69,445 32,395 5,360
00 0301	Spares and repair parts	268,100	185,141 69,554 14,405
00 0401	Support equipment and facilities	108,200	90,385 12,405 5,410
00 9101	Total direct program	2,840,300	2,489,803 215,583 134,914
01 0101	Reimbursable program	319,989	216,882 71,098 32,009
10 0001	Total	3,160,289	2,706,685 286,681 166,923
Financing:			
Offsetting collections from:			
11 0001	Federal funds(-)	-200,547	-200,547
13 0001	Trust funds(-)	-119,336	-119,336
14 0001	Non-Federal sources(-)	-106	-106
21 4002	Unobligated balance available, start of year:		
21 4007	For completion of prior year budget plans	-4,200	4,200
22 4001	Reprogramming from/to prior year budget plan	-32,600	-32,600
22 4001	Unobligated balance transferred, not		
24 4002	Unobligated balance available, end of year:		
24 4002	For completion of prior year budget plans	32,600	32,600
25 0001	Unobligated balance lapsing		
39 0001	Budget authority	2,836,100	2,836,100
Budget authority:			
40 0001	Appropriation	2,822,700	2,822,700
41 0001	Transferred to other accounts(-)	-19,200	-19,200
43 0001	Appropriation (adjusted)	2,803,500	2,803,500
50 0001	Reappropriation	32,600	32,600

2-5 February 1985

Missile Procurement, Army					
Program and Financing (in Thousands of dollars)					
04 Feb 85					
FISCAL YEAR 1985					
Identification code	21-2032-0-1-051	Budget Plan (amounts for PROCUREMENT actions programmed)			
		1984 actual	1985 est.	1986 est.	1986 est.
Program by activities:					
Direct program:					
00.0101	Other missiles		2,547,500	2,241,800	178,325
00.0201	Modification of missiles		208,400	183,392	14,588
00.0301	Spare and repair parts		270,300	237,864	18,921
00.0401	Support equipment and facilities		132,100	116,248	9,247
00.9101	Total direct program		3,158,300	2,779,304	221,081
01.0101	Reimbursable program		393,200	287,036	86,504
10.0001	Total		3,551,500	3,066,340	307,585
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)		-319,500	-319,500	
13.0001	Trust funds(-)		-73,700	-73,700	
21.4002	Unobligated balance available, start of year:				
	For completion of prior year budget plans				-485,160
24.4002	Unobligated balance available, end of year:				
	For completion of prior year budget plans			485,160	177,575
39.0001	Budget authority		3,158,300	3,158,300	
Budget authority:					
40.0001	Appropriation		3,167,000	3,167,000	
41.0001	Transferred to other accounts(-)		-8,700	-8,700	
43.0001	Appropriation (adjusted)		3,158,300	3,158,300	

Missile Procurement, Army
Object Classification (in thousands of dollars)

04 Feb 85

Identification code	21-2032-0 1-051	1984 actual	1985 est	1986 est
Direct obligations:				
Other services:				
12 5004 Other:		637,664	538,206	507,379
12 6001 Supplies and materials		1,391,268	1,614,617	1,709,905
13 1001 Equipment		869,542	1,013,092	1,000,007
19 9001 Total Direct obligations		2,898,474	3,165,915	3,216,291
Reimbursable obligations:				
Other services:				
22 5004 Other:		66,020	73,382	67,366
22 6001 Supplies and materials		144,044	220,144	187,098
23 1001 Equipment		90,028	136,130	117,395
29 9001 Total Reimbursable obligations		300,092	431,656	361,859
99 9901 Total obligations		3,198,566	3,597,571	3,703,150

2-9 February 1985

MISSILE PROCUREMENT, ARMY

Section 2

Budget Activity Justification

Activity 2 - Other Missiles

Activity 3 - Modification of Missiles

Activity 4 - Spares and Repair Parts

Activity 5 - Support Equipment and Facilities

2-10 February 1985

Department of the Army	Appropriation				FY 1986
Annual Budget Estimates	Missile Procurement, Army				Budget
JUSTIFICATION					
Program or Budget Project Account	(Thousands of Dollars)				
	Actual	Estimate	Estimate	Estimate	
Activity 2 - Other Missiles	FY 1984	FY 1985	FY 1986	FY 1987	
Direct Obligation or Direct Budget Plan	\$2,356,800	\$2,547,500	\$2,786,000		\$2,754,000

Section 1 - PURPOSE AND SCOPE

Provides for procurement of surface-to-air, antitank assault, surface-to-surface and air-to-surface missile systems; related ground support equipment; and initial issue and replacement of losses consumed in reliability firings, crew proficiency firings, and other training activities.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

CHAPARRAL Missile System (P-1 Line Item No. 1)

(\$ in Thousands)	
FY 1986	FY 1987
\$110,400	\$114,000

\$110.4 million is requested in FY 1986 for the first procurement of 400 Rosette Scan Seeker (RSS) missiles to upgrade CHAPARRAL Missile with Infrared Counter-Counter Measures capability and ground support equipment for the National Guard. \$154.0 million in FY87 continues procurement of 1,000 CHAPARRAL RSS missiles.

Other Missile Support (P-1 Line Item No. 2)

(\$ in Thousands)	
FY 1986	FY 1987
\$5,000	\$7,000

\$5.0 million in FY 1986 procures 106 replacement HAWK rocket motors and peculiar support equipment. The FY 1987 requirement is for 102 replacement rocket motors and peculiar support equipment at a cost of \$7.0 million.

2-11 February 1985

COMPARISON OF FY 1984 FINANCING AS REFLECTED
IN FY 1985 BUDGET WITH FY 1984 FINANCING
AS SHOWN IN FY 1986 BUDGET

(In Thousands of Dollars)

Appropriation:	Financing Per FY 1985 Budget	Financing Per FY 1986 Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	\$3,121,900	\$3,100,289	+\$38,389
Program Requirements (Service Account)	(2,824,100)	(2,840,300)	+16,200
Program Requirements (Reimbursable)	(297,800)	(319,989)	+22,189
Loss:			
Anticipated reimbursements	297,800	319,989	+22,189
Reprogramming from prior year budget plans		-4,200	+4,200
Net unobligated balance transferred	-32,600	-12,600	
Reappropriation	32,600	32,600	-32,600
Unobligated balance lapsing			+32,600
BUDGET AUTHORITY	2,824,100	2,836,100	+12,000
BUDGET AUTHORITY			
Appropriation	2,822,700	2,842,700	0
Transferred to other accounts	-31,200	-19,200	-12,000
Appropriation (Adjusted)	2,791,500	2,823,500	+12,000
Reappropriation	32,600	32,600	0

2-25 February 1985

COMPARISON OF FY 1984 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1985 BUDGET WITH
FY 1984 PROGRAM REQUIREMENTS AS SHOWN IN FY 1986 BUDGET

SUMMARY OF REQUIREMENTS (in Thousands of Dollars)

Appropriation:	Total Program Requirements Per FY 1985 Budget	Program Requirements Per FY 1986 Budget	Increase (+) or Decrease (-)
Activity 1 - Antibalistic Missile System	0	0	0
Activity 2 - Other Missiles	\$2,356,800	\$2,356,800	0
Activity 3 - Modification of Missiles	91,000	107,200	+16,200
Activity 4 - Spares and Repair Parts	268,100	268,100	0
Activity 5 - Support Equipment and Facilities	108,200	108,200	0
TOTAL	\$2,824,100	\$2,840,300	+16,200

EXPLANATION OF ACTIVITY

Activity 3 - Modification of Missiles (\$16.2) - Reflects \$4.2 million interappropriation transfer increase for the HERCULES modification from OPA and \$12.0 million of Greater Slope Reprogramming Action (OSD #84-16PA) which was disapproved and restored to the TOW modification program. Subsequent Congressional action in FY 85 will transfer the \$12.0 million to the Air Force for the PEACEKEEPER.

2-24 February 1985

EXPLANATION OF CHANGES IN FINANCING

The Fiscal Year 1985 has decreased by \$244.6 million since submission of the Fiscal Year 1985 budget to Congress. Adjustments to financing categories are explained below:

1. Anticipated Reimbursements: \$39.5 million increase in the foreign military sales program.
2. Budget Authority: Decrease of \$284.1 million due to Congressional reduction of \$275.4 million and \$8.7 million transferred to other appropriations.

2-23 February 1985

COMPARISON OF FY 1985 FINANCING AS REFLECTED
IN FY 1985 BUDGET WITH FY 1985 FINANCING
AS SHOWN IN FY 1986 BUDGET

(in Thousands of Dollars)

Appropriation:	Financing Per FY 1985 Budget	Financing Per FY 1986 Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	\$3,796,100	\$3,551,500	-\$244,600
Program Requirements (Service Account)	(3,442,400)	(3,158,300)	-284,100
Program Requirements (Reimbursable)	(353,700)	(393,200)	+39,500
Anticipated reimbursements	353,700	393,200	+39,500
Reprogramming from prior year budget plans		4,200	
Unobligated balance available from prior year to finance new budget plans			
Unobligated balance transferred		-4,200	
Net:			
Unobligated balance transferred to other accounts			
Reappropriation			
Unobligated balance available to finance subsequent year budget plans			
BUDGET AUTHORITY	3,442,400	3,158,300	-284,100
BUDGET AUTHORITY			
Appropriation	3,442,400	3,167,000	-275,400
Transferred to other accounts		-8,700	-8,700
Appropriation (Adjusted)	3,442,400	3,158,300	-284,100

2-22 February

COMPARISON OF FY 1985 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1985 BUDGET WITH
FY 1985 PROGRAM REQUIREMENTS AS SHOWN IN FY 1986 BUDGET

SUMMARY OF REQUIREMENTS (in Thousands of Dollars)

Appropriation:	Total Program Requirements Per FY 1985 Budget	Program Requirements Per FY 1986 Budget	Increase (+) or Decrease (-)
Activity 1 - Antiballistic Missile System	0	0	0
Activity 2 - Other Missiles	\$2,821,000	\$2,547,500	-\$273,500
Activity 3 - Modification of Missiles	209,200	208,400	-800
Activity 4 - Spares and Repair Parts	289,700	270,300	-19,400
Activity 5 - Support Equipment and Facilities	122,500	132,100	+9,600
TOTAL	\$3,442,400	\$3,158,300	-\$284,100

EXPLANATION OF ACTIVITY

Activity 2 - Other Missiles (-\$273.5) - Decrease of \$255.6 million due to Congressional action. Decrease of \$17.9 million due to revised cost estimates based on execution of FY 1984 PATRIOT contract and budgeting to most likely cost for STINGER. Balance of \$8.3 million was transferred to another appropriation.

Activity 3 - Modification of Missiles (-\$0.8) - CHAPARRAL modification requirements were revised.

Activity 4 - Spares and Repair Parts (-\$19.4) - Decrease of \$19.4 million due to Congressional action.

Activity 5 - Support Equipment and Facilities (+\$9.6) - Increase of \$9.6 million was transferred from Budget Activity 2 to fund shortfall of Air Defense Targets.

2-21 February 1985

MISSILE PROCUREMENT, ARMY

Section 3

Comparison of Program Requirements and Financing

Comparison of FY 1985 program requirements as reflected in FY 1985 budget with FY 1985 program requirements as shown in FY 1986 budget.

Comparison of FY 1985 financing as reflected in FY 1985 budget with FY 1985 financing as shown in FY 1986 budget.

Comparison of FY 1984 program requirements as reflected in FY 1985 budget with FY 1984 program requirements as shown in FY 1986 budget.

Comparison of FY 1984 financing as reflected in FY 1985 budget with FY 1984 financing as shown in FY 1986 budget.

2-20 February 1985

Production Base Support (P-1 Line Item No. 24)

(\$ in Thousands)
FY 1986
\$29,900

FY 1987
\$43,000

\$29.9 million is requested in FY 1986 and \$43.0 million is requested in FY 1987 for production base support for missiles and air defense. It includes: providing replacement or new equipment at White Sands Missile Range; rehabilitation/replacement of buildings and equipment at Government Owned/Contractor Operated facilities; and procurement of plant equipment required to support depot maintenance mission.

Other Production Charges (P-1 Line Item No. 25)

(\$ in Thousands)
FY 1986
\$2,000

FY 1987
\$2,000

\$2.0 million is requested in FY 1986 and \$2.0 million in FY 1987 for the procurement of test system/equipment to accomplish the quantity evaluation mission through stock surveillance, and evaluation of tactical weapon systems in stockpile.

2-19 February 1985

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation		FY 1986
	Missile Procurement, Army		Budget
Program or Budget Project Account			
(Thousands of Dollars)			
	Actual	Estimate	Estimate
Activity 5 - Support Equipment & Facilities	FY 1984	FY 1985	FY 1986
			FY 1987
Direct obligation or Direct Budget Plan	\$108,200	\$132,100	\$56,700
			\$82,500

Section 1 - PURPOSE AND SCOPE

Provides for the procurement of support equipment, items less than \$900,000 and production base support for Army missile systems.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Air Defense Targets (P-1 Line Item No. 22)

	(\$ in Thousands)
FY 1986	FY 1987
\$21,000	\$34,000

\$21.0 million is requested in FY 1986 and \$34.0 million in FY 1987 for procurement of air defense targets, towed targets and ground support systems. This program provides targets for training of air defense personnel.

Items Less Than \$900,000 (P-1 Line Item No. 23)

	(\$ in Thousands)
FY 1986	FY 1987
\$3,800	\$3,500

\$3.8 million is requested in FY 1986 and \$3.5 million in FY 1987 for procurement of tool and test sets to support missile system maintenance and repair.

2-18 February 1985

System	FY 1986	FY 1987
CHAPARRAL MODS	31,200	16,400
HAWK MODS	22,100	28,000
PATRIOT MODS	4,300	5,100
TOW MODS	14,300	12,000
TOTAL	(206,400)	(177,000)
	(\$ in Thousands)	
	FY 1985	FY 1986
	\$115,600	\$142,100

Replenishment Repair Parts (P-1 Line Item No 21)

\$115.6 million is requested in FY 1986 and \$142.1 million is requested in FY 1987 for peacetime replenishment repair parts.

2-17 February 1985

Department of the Army		Appropriation		FY 1986	
Annual Budget Estimates		Missile Procurement, Army		Budget	
JUSTIFICATION					
Program or Budget Project Account		(Thousands of Dollars)			
		Actual	Estimate	Estimate	Estimate
Activity 4 - Spares and Repair Parts		FY 1984	FY 1985	FY 1986	FY 1987
Direct Obligation or Direct Budget Plan		\$268,100	\$270,300	\$322,000	\$319,600

Section 1 - PURPOSE AND SCOPE

Provides for the procurement of initial provisioning, peacetime replenishment, and mobilization reserve of repairable major assemblies and repair parts for surface-to-air, air-to-surface, surface-to-surface, and antitank missile systems and support items.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

Required for the procurement of initial provisioning, peacetime replenishment, and mobilization reserve requirements of centrally managed, high dollar value depot repairable components, assemblies, and repair parts which are not carried in Army stock fund inventories.

Initial Provisioning (P-1 Line Item No. 21)

	(\$ in Thousands)
FY 1986	FY 1987
\$206,400	\$177,500

Initial Provisioning is requested to support the following major item procurements:

System	FY 1986	FY 1987
PATRIOT	\$105,000	\$105,600
HELLFIRE	2,300	--
STINGER	700	1,600
MLRS	20,600	1,000
TOW 2	5,900	7,000

2-16 February 1985

HAWK Modifications (P-1 Line Item No. 14)

(\$ in Thousands)	
FY 1986	
<u>\$54,100</u>	
FY 1987	
<u>\$61,000</u>	

\$54.1 million is requested in FY 1986 for the second year production buy of Phase III modification kits to improve the HAWK's missile capabilities. Phase III will improve fire power, low altitude target engagement, and training capabilities of each fire unit, as well as reduce operator and maintenance workloads.

TOW Modifications (P-1 Line Item No. 15)

(\$ in Thousands)	
FY 1986	
<u>\$37,800</u>	
FY 1987	
<u>\$24,600</u>	

\$37.8 million is requested in FY 1986 and \$24.6 million in FY 1987 to provide an increased anti-armor capability and increased performance and hardening against smoke Electrical Optical Countermeasures. This program modifies existing basic TOW launchers to the TOW-2 configuration.

DRAGON Modification (P-1 Line Item No. 16)

(\$ in Thousands)	
FY 1986	
<u>\$ --</u>	
FY 1987	
<u>\$21,600</u>	

\$21.6 million is requested in FY 1987 to procure DRAGON Day Tracker.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation	FY 1986
	Missile Procurement, Army	Budget
Program or Budget Project Account	(Thousands of Dollars)	

	Actual	Estimate	Estimate	Estimate
Activity 3 - Modification of Missiles	FY 1984	FY 1985	FY 1986	FY 1987
Direct Obligation or Direct Budget Plan	\$107,200	\$208,400	\$222,000	\$193,900

Section 1 - PURPOSE AND SCOPE

Provides for the modification of surface-to-air, surface-to-surface, and antitank missile systems.

Section 2 - JUSTIFICATION OF FUNDS REQUESTED

PATRIOT Modifications (P-1 Line Item No. 12)

(\$ in Thousands)
 FY 1986 FY 1987
 \$17,200 \$52,900

\$17.2 million is requested in FY 1986 and \$52.9 million in FY 1987 to continue retrofit of the digital processor to improve missile fuze performance against sophisticated electronic countermeasures, expanded radar memory capacity, and an improved emplacement capability in fielded equipment.

CHAPARRAL Modifications (P-1 Line Item No. 13)

(\$ in Thousands)
 FY 1986 FY 1987
 \$112,900 \$33,800

\$112.9 million is requested in FY 1986 for procurement of forward looking infrared (FLIR) night sights, smokeless rocket motors, electronics compartment cooling modification kits, upgraded master control panels, and collective crew nuclear biological and chemical subsystems. \$33,800 is requested in FY 1987 to continue procurement.

2-14 February 1985

TOW Advance Procurement (P-1 Line Item No. 7)

(\$ in Thousands)	
FY 1986	FY 1987
\$ 22,000	\$ --

\$22.0 million in FY 1986 is requested to procure long lead items for surge capability for TOW 2 production of 2500 missiles per month.

PERSHING (P-1 Line Item No. 8)

(\$ in Thousands)	
FY 1986	FY 1987
\$334,700	\$7,300

\$334.7 million is requested in FY 1986 to procure (54) missiles and associated ground equipment. PERSHING II will replace the PERSHING 1a missile in Europe. \$7.3 million in FY 1987 is to procure flight test instrumentation packages.

Multiple Launch Rocket System (MLRS) (MYP) (P-1 Line Item No. 9)

(\$ in Thousands)	
FY 1986	FY 1987
\$507,000	\$460,500

\$507.8 million is requested to procure 72,000 rockets, 44 launchers and associated ground support equipment in FY 1986. \$460.5 million is requested to procure 72,000 rockets and associated ground support equipment in FY 1987. The MLRS is a 227 millimeter diameter multiple launch rocket system with tracked self-propelled launcher/loader, disposable pods, and fire control equipment. Its mission is to neutralize or suppress enemy field artillery and air defense systems, and supplement cannon artillery when targets exceed capabilities during surge conditions. MLRS multiyear procurement strategy will save \$43.3 million in FY 86.

MLRS Advance Procurement (MYP) (P-1 Line Item No. 10)

(\$ in Thousands)	
FY 1986	FY 1987
\$41,000	\$ --

\$41.0 million is requested in FY 1986 to procure advance materials in economic order quantities as part of a multiyear procurement acquisition strategy for MLRS.

Joint Tactical Missile System (P-1 Line Item No. 11)

(\$ in Thousands)	
FY 1986	FY 1987
\$ --	\$35,200

\$35.2 million in FY 1987 initiates procurement of long lead items for the production of the Joint Tactical Missile System - Army (JTACMS-A).

2-13 February 1985

PATRIOT Missile System (P-1 Line Item No. 3)

(\$ in Thousands)	
FY 1986	FY 1987
<u>\$983,400</u>	<u>\$1,055,200</u>

\$983.4 million is requested in FY 1986 for 585 PATRIOT missiles and 12 fire units. In FY 1987 \$1,055.2 million is requested for procurement of 700 missiles and 12 fire units. PATRIOT is an improved system which will replace NIKE-HERCULES and some Hawk batteries and is specifically designed to defeat the advanced air threat of the 1990's and beyond. Procurement began in FY 1980 and will continue through FY 1990. Initial Operational Capability was achieved in CONUS in 1983 and will be achieved in Europe in March 1985.

STINGER Missile System (P-1 Line Item No. 4)

(\$ in Thousands)	
FY 1986	FY 1987
<u>\$304,100</u>	<u>\$585,900</u>

\$304.1 million is requested for the procurement of 3439 STINGER-POST/RMP missiles in FY 1986 and 585.9 million for 7130 STINGER-POST/RMP missile systems in FY 1987. The STINGER is a man-portable air defense missile system that provides self-defense to forward deployed, company size combat units.

LASER HELLFIRE System (P-1 Line Item No. 5)

(\$ in Thousands)	
FY 1986	FY 1987
<u>\$250,700</u>	<u>\$249,700</u>

\$250.7 million is requested in FY 1986 and \$249.7 million in FY 1987 to procure 6576 HELLFIRE missiles and associated equipment in both FY 1986 and FY 1987. This will also buy 154 training missiles (inert missiles with live seekers for air crew training) in FY 1986. HELLFIRE missile system is designed to defeat the current and future armor threat at stand-off ranges. Mounted on the AH-64 helicopter, it will increase survivability and fire power.

TOW Missile System (P-1 Line Item No. 6)

(\$ in Thousands)	
FY 1986	FY 1987
<u>\$226,900</u>	<u>\$199,000</u>

The FY 1986 budget request of \$226.9 million will procure 20,100 TOW-2 missiles and ground support equipment. 17,000 TOW-2 missiles will be procured in FY87 at a cost of \$199.0 million. The TOW-2 system is an upgrade of the basic TOW which was originally fielded in 1970. The TOW-2 missile is designed to defeat current and future enemy armored vehicles.

EXPLANATION OF CHANGES IN FINANCING

The Fiscal Year 1984 program has increased \$38.4 million since preparation of the fiscal Year 1985 budget to Congress. Adjustments to financing categories are explained below:

1. Anticipated Reimbursements: \$22.2 million increase in foreign military sales program.
2. Budget Authority: Increase of \$12.0 million due to Greater Slope Reprogramming Action (OSD #84-16PA). Reprogramming request was disapproved and restored to the TOW modification line. Subsequent Congressional action in FY 1985 will transfer the \$12.0 million to the Air Force for PEACEKEEPER. Reflects \$4.2 million interappropriation transfer for NIKE HERCULES modification from OPA.

2-26 February 1985

MISSILE PROCUREMENT, ARMY

Section 5

Modification of Missiles (P-33)

<u>NUMBERS</u>	<u>ITEM NOMENCLATURE</u>	<u>PAGE NUMBER</u>
12	PATRIOT	2-28
13	CHAPARRAL	2-31
14	HAWK	2-36
15	TOW	2-40

2-27 February 1985

MISSILES MODIFICATIONS
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: PATRIOT Air Defense Missile System

Missile Modification Title:

- P31 Modular Azimuth Positioning System (MAPS): 1-82-03-1201
- P31 Expanded Memory: 1-82-03-1202
- P31 Digital Processor Fuze: 1-82-03-1203
- P31 Radar Enhancement: 1-82-03-1204

Description/Justification:

RFP 1-82-03-1201 - This modification provides improved positioning of the radar and launcher required when the launcher is not in the radar line of sight or when inclement weather or Nuclear Biological Chemical (NBC) environment precludes present positioning procedures.

RFP 1-82-03-1202 - This improvement doubles the computer memory in the Engagement Control Central (ECS) and the Information Coordination Central (ICC) giving increased capability for target acquisition and tracking.

RFP 1-82-03-1203 - This will equip the PATRIOT missile with a digital processor fuze to enhance missile performance as threat aircraft capabilities change.

RFP 1-82-03-1204 - An improvement to expand Radar Set Computer memory and increase converter dynamic range from 10 to 12 bits giving improved radar performance against targets with low radar cross sections.

2-28 February 1985

PATRIOT Missile System

Scope of Program:

FY 1984 & PRIOR YEARS	FY 1985 CURRENT YEAR		FY 1986 BUDGET YEAR		FY 1987 BUDGET YEAR +1		FUTURE YEARS		TOTAL PROGRAM			
<u>QTY</u>	<u>Amt</u>	<u>QTY</u>	<u>Amt</u>	<u>QTY</u>	<u>Amt</u>	<u>QTY</u>	<u>Amt</u>	<u>QTY</u>	<u>Amt</u>	<u>QTY</u>	<u>Amt</u>	
NOTE. (P3I development for current & future PIPS												
ROUTE	-	119.7	-	39.5	-	34.9	-	299.6	-	165.6	-	384.5
PIP 1-82-03-1201												
MIPA	-	-	-	-	-	-	419	6.1	63	6.9	488.1	6.9
ONA	-	-	-	-	-	-	-	-	482	1.3	483.3	1.3
PIP 1-82-03-1202												
MIPA	5	2.0	7	0.7	4	0.6	-	-	-	-	16	3.3
ONA	-	-	-	0.1	-	0.1	-	-	-	-	-	0.1
PIP 1-82-03-1203												
MIPA	-	-	100	11.1	50	6.7	385	26.9	335	27.2	870	73.9
ONA	-	-	-	-	-	-	-	-	-	-	-	-
PIP 1-84-03-1204												
MIPA	-	-	-	-	11	9.9	30	21.9	5	3.8	46	30.4
ONA	-	-	-	-	-	-	-	0.9	-	1.4	-	1.4

Basis for Cost Estimate: Costs are based on development analyses which in turn is derived from the cost of similar items.

Method of Implementation: All modifications will be installed by contractor teams in the field except the future processor which will be added during missile recertification concurrent with the return of missiles from the field for replacement of components with expired shelf life.

2-29 February 1985

Development Status:

PIP 1-82-031201 - A feasibility study has been completed and Modular Azimuth Positioning System (MAPS) selected as the PATRIOT Enhancement System. MAPS is being developed by the Project Manager for Cannon Artillery Systems.

PIP 1-82-031202 - Expanded Memory has completed development and is currently being incorporated into PATRIOT during production.

PIP 1-82-031203 - Digital Processor Fuze was developed by the Army's Harry Diamond labs and first kits were procured in FY 1985.

PIP 1-84-031204 - Engineering Development on the Radar Memory Enhancement began May 1983 and will be completed late FY 1985 for first procurement in FY 1986.

2-30 February 1985

MISSILES MODIFICATIONS
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: CHAPARRAL

Missile Modification Title:

Pneumatic System: 1-80-03-0309
Rocket Motor Insulator: 1-83-03-0325
Smokeless Rocket Motor: 1-83-03-0326
Flight Capability: 1-80-03-0306
Master Control Indicator Panel: 1-82-03-0315
Cooling Rear Compartments: 1-82-03-0320
NBC Collective Protection: 1-82-03-0324
FLIR Optical Improvements: 1-83-03-0327

Description/Justification:

PIP 1-80-03-0309 - This Reliability Improvement of Selected Equipments (RISE) PIP results from low Mean Time Between Failure (MTBF) of the CHAPARRAL Air Compressor and its associated pneumatic system which results in excessive depot overhaul and requirements/cost. Selected items from the pneumatic system, as well as the compressor itself, will be improved or replaced with more suitable and reliable items. To the maximum extent possible, program will consist of improvements to existing items or replacement with items currently designed and in production.

PIP 1-83-03-0325 - This PIP provides a safety improvement to the M121 smokeless motor by eliminating the use of asbestos in the motor case insulator. This product improvement also reduces motor production cost. The basis for this improvement is a requirement for DOD and OSHA to eliminate the use of chrysotile asbestos.

PIP 1-83-03-0326 - This PIP provides for the repour of CHAPARRAL Missile Rocket Motors which exceed their shelf life with a smokeless propellant. The repour extends the field life of the CHAPARRAL missile. The smokeless rocket motor reduces missile signature when the CHAPARRAL fire unit engages targets.

2-31 February 1985

PIP 1-80-03-0306 - The night capability improvement will enable the gunner to detect and engage aircraft during periods of darkness and limited visibility conditions. The Night Sight major components are a forward looking infrared (FLIR) thermal imaging device, track optics, gunners TV display, autotrack subsystem and operator controls. The present CHAPARRAL missiles have the capability to track and engage aircraft during darkness and limited visibility, but the operator is limited to daylight operations by the necessity to visually detect and acquire aircraft. The night sight will significantly increase the envelope in which the system may operate (Day/night/adverse weather).

PIP 1-80-03-0315 - This PIP will upgrade the CHAPARRAL Master Control Indicator Panel (MCIP) by installation of upgraded electric components, and the repackaging/rewiring of the panel. The modifications will provide improved system reliability, thereby reducing system downtime and maintenance/repair costs.

PIP 1-82-03-0320 - This PIP will reduce the rear electronic compartment temperature by providing larger capacity air conditioner, improved ducting, and added baffles for better air circulation. High temperature in the electronics compartment has been a primary cause of equipment failure. The PIP will improve system operability/maintainability.

PIP 1-80-03-0324 - This PIP will provide protection to CHAPARRAL crew members in the event of a nuclear, biological, or chemical attack. There will be two separate protection systems-one for the gunner in the launching station, and the other for the five crew members when they are in the vehicle cab.

PIP 1-83-03-0327 - This PIP will provide the FLIR Night Sight with optical improvements.

CHAPARRAL Guided Missile Intercept, Aerial MIM-72-A/C (Continued)

Scope of Program:

FY 1984 & PRIOR YEARS		FY 1985 CURRENT YEAR		FY 1986 BUDGET YEAR		FY 1987 BUDGET YEAR +1		FUTURE YEARS		TOTAL PROGRAM	
Qty	Ant	Qty	Ant	Qty	Ant	Qty	Ant	Qty	Ant	Qty	Ant
PIP 1-80-03-0309											
MIPA	235	11.6	8.6	-	-	-	-	-	-	520	20.0
RDT&E	-	-	-	-	-	-	-	-	-	-	-
OMA	-	1.4	1.1	-	0.7	-	1.3	-	1.1	-	5.6
PIP 1-83-03-0325											
MIPA	-	2.0	-	-	-	-	-	-	-	-	2.0
RDT&E	-	-	-	-	-	-	-	-	-	-	-
OMA	-	-	-	-	-	-	-	-	-	-	-
PIP 1-83-03-0326											
MIPA	1048	8.7	4.8	524	5.2	524	5.1	1572	16.5	4192	40.0
RDT&E	-	-	-	-	-	-	-	-	-	-	-
OMA	-	-	-	-	-	-	-	-	-	-	-
PIP 1-80-03-0306											
MIPA	241	126.5	71.0	180	98.4	-	-	-	-	522	297.9
RDT&E	-	18.9	-	-	-	-	-	-	-	-	18.9
OMA	-	2.2	3.9	-	2.2	-	0.4	-	2.9	-	14.6
PIP 1-82-03-0315											
MIPA	-	-	1.9	398	1.9	-	-	-	-	795	3.8
RDT&E	-	-	-	-	-	-	-	-	-	-	-
OMA	-	0.2	-	-	0.1	-	0.3	-	1.1	-	1.7
PIP 1-82-03-0320											
MIPA	-	-	4.9	260	4.9	-	-	-	-	520	9.8
RDT&E	-	-	-	-	-	-	-	-	-	-	-
OMA	-	0.5	-	-	-	-	1.0	0	1.9	-	1.4

2-33 February 1985

CHAPARRAL Guided Missile Intercept, Aerial MIN-72-A/C (Continued)

Scope of Program:

FY 1984 & PRIOR YEARS	FY 1985 CURRENT YEAR		FY 1986 BUDGET YEAR		FY 1987 BUDGET YEAR +1		FUTURE YEARS		TOTAL PROGRAM	
Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	
<u>PIP 1-63-03-0324</u>										
MIPA	-	260	2.6	260	2.5	-	-	520	5.1	
RDT&E	3.1	-	-	-	-	-	-	-	3.1	
OMA	-	-	-	-	-	0.6	1.0	-	1.6	
<u>PIP 1-63-03-0327</u>										
MIPA	-	-	-	-	-	134	28.7	398	97.6	
RDT&E	-	-	4.5	-	1.5	-	-	-	126.3	
OMA	-	-	-	-	-	-	-	-	7.4	
									1.1	
									1.1	

Basis for Cost Estimate: Analytical and engineering techniques.

Method of Implementation: Field installation by contractor/government contract teams.

2-34 February 1985

CHAPARRAL Guided Missile Intercept, Aerial MIM-72-A/C (Continued)

Development Status:

- PIP 1-80-03-0309 - Pneumatic improvement was developed along with Night CHAPARRAL. Development completed in FY 1982 and procurement began that year.
- PIP 1083-03-0325 - New Insulation has been developed and is being put into existing contract for rocket motors.
- PIP 1-83-03-0326 - Smokeless missile rocket motors completed development and began procurement in 1983.
- PIP 1-80-03-0306 - Night CHAPARRAL completed development in 1981. Installation started in FY 1984 and will be completed in the 3rd Qtr, FY 1988.
- PIP 1-82-03-0315 - Master Control Indicator Panel modification was completed development. Installation starts in 2nd Qtr FY 1987 and will be completed in FY 1989.
- PIP 1-82-03-0320 - Engineering Development completed in FY 1983. Installation starts in 2nd Qtr FY 1987 and will be completed in FY 1989.
- PIP 1-83-05-0324 - RDT&E effort began in FY 1983 and was completed late in FY 1984. Installation started 2nd Qtr FY 1987 and will be completed in FY 1989.
- PIP 1-83-03-0327 - This PIP is still in development which completed in FY 1987, with first procurement that year.

2-35 February 1985

MISSILES MODIFICATIONS
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: HAWK

Missile Modification Title:

Missile ECM Upgrade (MEU)/Multiple Blinking Jammer (MBJ) PIP 1-79-03-0119
Phase III Product Improvement PIP 1-82-03-0140
Collective Protection Equipment PIP 1-82-03-0138

Description/Justification:

PIP 1-79-03-0119 - The HAWK system was designed against the expected ECM threat of the 1970s. The advancing ECM threat and the requirement to keep HAWK viable into the 1990's requires the missile performance to be upgraded. System analysis has identified missile upgrading improvements that are considered critical to the successful intercepts of high performance aircraft. The effort involves the design, development, testing, production and retrofitting modifications to the HAWK missile. These improvements will increase the performance of the HAWK missile in an advanced ECM environment.

PIP 1-82-03-0140 - PIPs 1-82-03-0130, 1-81-03-0131, 1-81-03-0132, 1-81-03-0134, and 1-81-03-0137 have been combined into one Phase III PIP. This PIP includes a fire power improvement called LASHE (Low Altitude Simultaneous HAWK Engagement). LASHE provides a significant capability against multiple pop-up targets and saturation raids. Also a micro-computer will replace the present analog Target Intercept Computer in the High Power Illuminator (HPI) radar to improve the HAWK tracking radar's detection and tracking capabilities with solid state electronics. The Automatic Data Processor (ADP) located in the Platoon Command Post (PCP) will be replaced by a single drawer micro-computer with increased memory and throughput. This improvement provides the computational capacity to meet new system requirements, e.g., LASHE. An Integral Operator Training (IOT) will provide each PCP with necessary software and hardware changes to permit training on a daily basis without interrupting or disconnecting equipment. The IOT eliminates the present AN/TPQ-29 Wave Acquisition Radar (CWAR), detects and acquires low altitude targets. The CWAR's transmitted waveform and processing of received signals will be modified to permit a more accurate and timely air picture to be sent to battalion and higher echelons of command and control.

2-36 February 1985

HAWK (HAWK) (Continued)

PIP 1-82-03-0138 - Protection against NBC agents will be provided by Collective Protection Equipment (CPE). CPE involves the protection to the PCP interior against hazardous concentrations of nuclear, biological and chemical agents while providing clean filtered air. CPE will consist of a gas-particulate filter, a protective entrance, and an air conditioner. This improvement is essential for survival and mission accomplishment.

Scope of Program:

FY 1984 & PRIOR YEARS		FY 1985 CURRENT YEAR		FY 1986 BUDGET YEAR		FY 1987 BUDGET YEAR +1		FUTURE YEARS		TOTAL PROGRAM	
Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
PIP 1-79-03-0119											
MIPA	12.6		45.1		4.8		5.4		4.0		71.5
RDTE	34.1		3.8		4.0		--		--		41.9
OMA	--		--		--		5.2		13.1		13.1
PIP 1-82-03-0140											
MIPA	17.5		11.9		47.2		53.3		84.1		267.5
RDTE	0		18.8		--		--		--		18.8
OMA	0		.9		2.9		13.0		26.6		41.4
PIP 1-82-03-0138											
MIPA	.8		1.1		2.0		2.4		6.9		13.3
RDTE	3.2		--		--		--		--		3.2
OMA	--		.1		.2		.3		3.1		4.3

Basis for Cost Estimate:

PIP 1-79-03-0119 - Prior years based on firm fixed price contract. Current and future years based on engineering estimates.

PIP 1-82-03-0140 - Engineering estimates based on experience, contractor learning curve, and equivalency in complexity to items already developed, produced, and installed.

PIP 1-82-03-0138 - Engineering estimates.

2-37 February 1985

HAWK (HAWK) (Continued)

Method of Implementation:

PIP 1-79-03-0119 - At the time a missile is returned to the contractor's plant for normal replacement of expired shelf-life items and to undergo reliability restoration, the MBJ modification will be incorporated. The MBJ kits will be applied at the Theater Reliability Maintenance Facility (TRMF).

PIP 1-79-03-0140 - Phase III modification kits will be applied by contractor teams at Letterkenny Army Depot during equipment overhaul and at field locations.

PIP 1-79-03-0138 - CPE kits will be applied by contractor teams in the field and at Letterkenny Army Depot. Concurrent with Phase III modifications.

Development Status:

PIP 1-79-03-0119

	(MEU)	(MBJ)	MBJ/FUZE ADD
Development Contract	1QFY79	3QFY81	2QFY85
Initiate Testing	4QFY80	4QFY82	4QFY85
Procurement Contract	2QFY82	4QFY84	2QFY86
Initial Production Delivery	4QFY83	1QFY86	4QFY87
Complete Installation	4QFY85	1QFY88	3QFY88

PIP 1-79-03-0140

Development Contract	3QFY82
Initiate Testing	2QFY83
Procurement Contract	4QFY85
Initial Production Delivery	3QFY87
Complete Installation	4QFY91

2-38 February 1985

HAWK (HAWK) (Cont Inued)

PIP 1-84-03-0138

	<u>(MEU)</u>	<u>(MBJ)</u>	<u>MBJ/BUZE ADD</u>
Development Contract	4QFY83		
Initiate Testing	2QFY84		
Procurement Contract	4QFY85		
Initial Production Delivery	3QFY87		
Complete Installation	4QFY91		

2-39 February 1985

MISSILES MODIFICATIONS
(\$ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: TOW (PGM-71A, BGM-71D, BTM-71A) Heavy Anti-tank Guided Missile System.

Missile Modification Title:

PIP 1-76-03-3005 - Night Sight Brackets
PIP 1-82-03-3020 - Missile Conversion
PIP 1-82-03-3021 - Missile Ordnance Inhibit Circuit (MOIC)
PIP 1-84-03-3022 - Optical Improvement
PIP 1-83-03-3024 - Optical Improvement
PIP 1-84-03-3025 - Lithium Battery

Description/Justification:

PIP 1-76-03-3005 - Provides brackets for storage and transportation of Night Sights in TOW equipped vehicles.

PIP 1-82-03-3020 - Replaces HEAT warheads with practice warheads on TOW missile designated to be fired for training. Some ranges cannot safely accommodate the blast of a HEAT warhead.

PIP 1-82-03-3021 - Equips older TOW missiles with a MOIC to stop warhead activation in the event of flight motor ignition failure to protect gunners from a nearby warhead detonation.

PIP 1-83-03-3022 - Improvements to TOW sights.

PIP 1-83-03-3024 - Provides a filter to protect TOW gunners from laser radiation of commonly used battlefield devices such as rangefinders and location devices.

PIP 1-84-03-3025 - Replaces the currently used Nickel Cadmium batteries with Lithium batteries.

2-40 February 1985

TOW (BGM-71A, BGM-71D, BTM-71A) Heavy Anti-tank Guided Missile System

Scope of Program:

	FY 1984 & PRIOR YEARS		FY 1985 CURRENT YEAR		FY 1986 BUDGET YEAR		FY 1987 BUDGET YEAR +1		FUTURE YEARS		TOTAL PROGRAM	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
PIP 1-76-03-3005												
MIPA	4,119	4.1	--	--	2,956	7.4	--	--	--	--	7,075	11.5
RDT&E												
OMA	2,248	3.7	200	0.2	1,465	1.1	1,484	1.4	1,678	0.8	7,075	11.5
PIP 1-82-03-3020												
MIPA	5,000	3.5	3,600	0.8	3,600	0.9	4,800	1.3	--	--	20,000	6.5
RDT&E												
OMA	4,225	1.1	3,600	0.9	3,600	0.9	3,600	0.9	4,975	1.0	20,000	6.5
PIP 1-82-03-3021												
MIPA	9,975	4.0	3,600	0.7	3,600	0.7	2,821	0.6	--	--	19,996	6.0
RDT&E	--	--	--	--	--	--	--	--	--	--	--	--
OMA	5,775	1.6	3,600	0.9	3,600	0.9	3,600	0.9	3,421	0.9	19,996	6.0
PIP 1-84-03-3022												
MIPA	--	--	803	9.7	1,113	20.4	2,212	0.6	--	--	4,128	1.5
RDT&E	--	3.4	--	7.7	--	5.1	--	--	--	--	--	1.0
OMA	--	--	--	--	--	--	0.2	--	--	--	--	0.5
PIP 1-84-03-3024												
MIPA	4,800	2.5	4,800	2.0	4,800	2.2	4,682	1.1	--	--	19,082	6.7
RDT&E	--	0.1	--	--	--	--	--	--	--	--	--	0.1
OMA	--	--	--	--	--	0.5	--	0.8	--	1.4	--	1.5
PIP 1-84-03-3025												
MIPA	--	0.1	--	0.4	--	0.1	--	--	--	--	--	0.6
RDT&E	--	--	--	--	--	--	--	--	--	--	--	--
OMA	--	--	--	--	--	--	--	--	7,368	0.2	7,368	0.2
PIP 1-78-03-3018												
MIPA	5,936	230.4	969	15.9	251	6.1	--	--	--	--	7,146	2.5
RDT&E	--	62.0	--	--	--	--	--	--	--	--	--	1.0
OMA	1,810	1.7	841	1.6	1,144	1.7	973	1.4	2,378	3.1	7,146	2.5

2-41 February 1985

DEVELOPMENT STATUS:

PIP 1-79-03-3005 - Development of Night Sight Brackets completed in FY 1985.

PIP 1-82-03-3029 - Warhead Conversion development is complete.

PIP 1-82-03-3021 - A 24 month Engineering development for MOIC was completed in 1980.

PIP 1-84-03-3022 - Optical Improvement began Advanced Development in 1984. Engineering and service testing will be completed in 1985 with an FY 1985 first buy.

PIP 1-83-03-3024 - R&D for Optical Filters was completed in 1984 with first procurement contract awarded that year.

PIP 1-84-03-3025 - Design verification of production Lithium Batteries is currently being conducted.

2-42 February 1985

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