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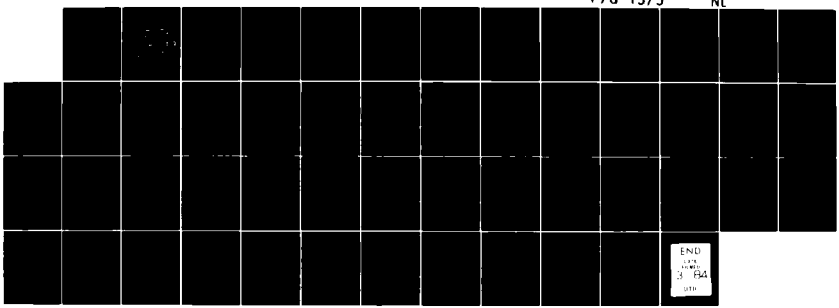

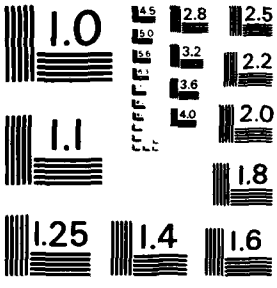

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DEPARTMENT OF THE ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1985

SUBMITTED TO CONGRESS

FEBRUARY 1984

MISSILES

PROCUREMENT PROGRAMS

AIRCRAFT	MISSILES
WEAPONS & TRACKED COMBAT VEHICLES	
AMMUNITION	OTHER

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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 1984 for Fiscal Year 1985.

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 1985. Included are Summaries of Requirements, Program and Financing Statements and Selected Data Sheets. (These volumes are unclassified).

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DEPARTMENT OF THE ARMY

MISSILE PROCUREMENT, ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEARS 1985, 1986

TABLE OF CONTENTS

MISSILE PROCUREMENT, ARMY

Section 1

Budget Appendix Extract

Language

Program and Financing Schedule

Object Classification Schedule

APPROPRIATION LANGUAGE

For construction, procurement, production, modification, and modernization of missiles, equipment, including ordnance, ground handling equipment, spare parts, and accessories therefor; specialized equipment and training devices; expansion of public and private plants, including the land necessary therefor, 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 as required by section 355, Revised Statues, as amended; and procurement and installation of equipment, appliances, and machine tools in public and private plants, reserve plant and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes, as follows: for Other Missile Support, $9,200,000; for the Patriot program, $885,000,000; for the Stinger program, $105,200,000, and in addition, $32,600,000 to be derived by transfer from "Missile Procurement, Army, 1983/1985"; for the Laser Hellfire program, $218,800,000; for the TOW program, $189,200,000; for the Pershing II program, $407,700,000; for the MLRS program, $532,100,000; for modification of missiles, $123,300,000; for spares and repair parts, $271,000,000; for support equipment and facilities, $109,200,000; in all: $2,822,700,000, and in addition $32,600,000 to be derived by transfer, to remain available until September 30, 1986: provided, that within the total amount appropriated, the subdivisions within this account shall be reduced by $28,000,000 for revised economic assumptions.

(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 1984.

(2) To change the obligation expiration date for the FY 1985 program.

2-2 February 1984

2034 Missile Procurement, Army
Program and Financing (in Thousands of dollars)

Identification code 21-2032-	Budget Plan (amounts for actions programed) 1983 actual	1984 est	1985 est	FYP SUMMARY Obligations 1983 actual	1984 est	1985 est.
Program by activities						
Direct Program						
2 Other missiles	2,239,869	2,356,800	2,821,000	2,073,229	2,269,350	2,739,773
3 Modification of missiles	108,096	91,000	209,200	68,418	176,379	190,965
4 Spares and repair parts	228,310	268,100	289,700	211,166	333,287	279,753
5 Support equipment and facilities	106,925	108,200	122,500	93,806	113,591	118,025
Total direct program	2,683,200	2,824,100	3,442,400	2,446,619	2,892,607	3,328,517
Reimbursable program	331,458	297,800	353,700	236,479	384,974	363,150
10 0001 Total Obligations	3,014,658	3,121,900	3,796,100	2,683,098	3,277,581	3,691,667
Financing:						
Offsetting collections from						
11 0001 Federal funds(-)	-246,506	-212,600	-320,900	-237,389	-212,600	-320,900
11 0001 Trust funds(-)	-84,952	-85,200	-32,800	-71,801	-85,200	-32,800
11 0001 Non-federal sources(-)				-1		
17 0001 Recovery of prior year obligations(-)				-29,278		
Unobligated balance available, SOY						
21 4002 For completion of prior year budget pla				-446,825	-754,533	-598,852
21 4003 Available to finance new budget plans		-52,600			-52,600	
21 4007 Reprogramming from or to prior year budget	-30,862					
22 4001 Not unobligated balance transferred	13,400	20,000		13,400	20,000	
Unobligated balance available, EOY						
24 4002 For completion of prior year budget pla				754,533	598,852	703,285
24 4003 Available to finance subsequent year bu	52,600			52,600		
25 0001 Reappropriation	17,462	32,600		17,462	32,600	
40 0001 Budget authority	2,735,800	2,824,100	3,442,400	2,735,800	2,824,100	3,442,400
Budget authority						
60 0001 Appropriation	2,740,600	2,822,700	3,442,400	2,740,600	2,822,700	3,442,400
60 0002 Reduction pursuant to P.L. 97-377	-20,400			-20,400		
61 0001 Transferred to other accounts(-)		-31,200			-31,200	
62 0001 Transferred from other accounts	15,600			15,600		
70 0001 Appropriation (adjusted)	2,735,800	2,791,500	3,442,400	2,735,800	2,791,500	3,442,400
72 0001 Reappropriation		32,600			32,600	
Relation of obligations to outlays						
90 0001 Obligations incurred, net				2,373,907	2,979,781	3,337,967
91 4001 Obligated balance, start of year				2,264,009	3,016,992	4,011,673
92 4001 Obligated balance, end of year				-3,016,992	-4,011,673	-4,790,840
93 0001 Adjustments in expired accounts				8,033		
94 0001 Adjustments in unexpired accounts				-29,278		
95 0001 Outlays				1,599,678	1,985,100	2,558,800

2032a Missile Procurement, Army
Object Classification (in Thousands of dollars)

Identification code 21-2032--------	1983 actual	1984 est	1985 est
Direct obligations:			
12.5004 Other	415,925	496,305	560,508
12.6001 Supplies and materials	1,272,242	1,491,276	1,745,909
13.1001 Equipment	758,452	905,026	1,022,100
19.9001 Total direct obligations	2,446,619	2,892,607	3,328,517
Reimbursable Obligations:			
22.5004 Other	37,749	65,446	61,735
22.6001 Supplies and materials	129,895	200,186	188,839
23.1001 Equipment	68,835	119,342	112,576
29.9001 Total reimbursable obligations	236,479	384,974	363,150
99.9901 Total Obligations	2,683,098	3,277,581	3,691,667

2032A Missile Procurement, Army
Program and Financing (in thousands of dollars)

FISCAL YEAR 1981

Identification code 21 2032	Budget Plan (amounts for actions programed) 1983 actual	1984 est	1985 est	Obligations 1983 actual	1984 est.	1985 est.
Program by activities						
Direct program						
2 Other missiles				19,008		
3 Modification of missiles				1,770		
4 Spares and repair parts				15,673		
5 Support equipment and facilities				660		
Total direct program				37,111		
Reimbursable program				10,308		
10 0001 Total Obligations				47,419		
Financing:						
Offsetting collections from:						
11 0001 Adjustment to prior year federal fund or				2,604		
11 0001 Adjustment to prior year trust fund ordo				797		
11 0001 Recoveries of prior year obligations(-)				-9,279		
Unobligated balance available, SOY						
14 4002 For completion of prior year budget plans				-59,003		
14 4007 Reprograming from or to prior year budget pl	-17,462					
24 0001 Unobligated balance lapsing	17,462			17,462		
40 0001 Budget Authority						

2032a Missile Procurement, Army
Program and Financing (in Thousands of dollars) FISCAL YEAR 1982

Identification code 21-2032--------	Budget Plan (amounts for actions programmed) 1983 actual	1984 est	1985 est	Obligations 1983 actual	1984 est	1985 est
Program by activities						
Direct Program:						
2. Other missiles				57,162	87,860	
3. Modification of missiles				19,312	39,705	
4. Spares and repair parts				34,106	40,752	
5. Support equipment and facilities				4,537	4,543	
Total direct program				115,117	172,860	
Reimbursable program				43,200	44,378	
10 0001 Total Obligations				158,317	217,238	
Financing:						
Offsetting collections from:						
11 0001 Adjustment to prior year federal fund or				6,513		
13 0001 Adjustment to prior year trust fund ordo				12,354		
14 0001 Adjustment to non-federal sources				-1		
17 0001 Recoveries of prior year obligations(-)				-19,999		
Unobligated balance available, SOY						
21 4002 For completion of prior year budget plans				-387,822	-217,238	
21 4007 Reprograming from or to prior year budget pl	-13,400					
22 4001 Net unobligated balance transferred	13,400			13,400		
Unobligated balance available, EOY						
24 4002 For completion of prior year budget plans				217,238		
39 0001 Budget authority						

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

Identification code 21-2032	Budget Plan (amounts for actions programed) 1983 actual	1984 est	1985 est	FISCAL YEAR 1983 Obligations 1983 actual	1984 est.	1985 est
Program by activities						
Direct Program						
2 Other missiles	2,239,869			1,997,059	154,642	88,167
3 Modification of missiles	108,096			47,336	58,414	2,346
4 Spares and repair parts	228,310			161,387	61,969	4,954
5 Support equipment and facilities	106,925			88,609	15,996	2,320
Total direct program	2,683,200			2,294,391	291,021	97,787
Reimbursable program	331,458			182,971	112,719	35,768
10 0001 Total Obligations	3,014,658			2,477,362	403,740	133,555
Financing:						
Offsetting collections from						
11 0001 Federal funds(-)	-246,506			-246,506		
14 0001 Trust funds(-)	84,952			-84,952		
Unobligated balance available, SOY						
21 4002 For completion of prior year budget plans					-537,295	-133,555
21 4003 Available to finance new budget plans		-52,600			-52,600	
22 4001 Net unobligated balance transferred		52,600			52,600	
Unobligated balance available, EOY						
24 4002 For completion of prior year budget plans				537,295	133,555	
24 4003 Available to finance subsequent year budge	52,600			52,600		
40 0001 Budget authority	2,735,800			2,735,800		
Budget authority						
60 0001 Appropriation	2,740,600			2,740,600		
60 0002 Reduction pursuant to P L 97-377	-20,400			-20,400		
61 0001 Transferred from other accounts	15,600			15,600		
71 0001 Appropriation (adjusted)	2,735,800			2,735,800		

2032a Missile Procurement, Army
Program and Financing (in Thousands of dollars) FISCAL YEAR 1984

Identification code 21-2032--------	Budget Plan (amounts for actions programed) 1983 actual	1984 est	1985 est	Obligations 1983 actual	1984 est	1985 est
Program by activities						
Direct Program:						
2. Other missiles		2,356,800			2,026,848	225,546
3. Modification of missiles		91,000			78,260	8,708
4. Spares and repair parts		268,100			230,566	25,657
5. Support equipment and facilities		108,200			93,052	10,355
Total direct program		2,824,100			2,428,726	270,266
Reimbursable program		297,800			227,877	56,731
10 0001 Total Obligations		3,121,900			2,656,603	326,997
Financing:						
Offsetting collections from:						
11 0001 Federal funds(-)		-212,600			-212,600	
13 0001 Trust funds(-)		-85,200			-85,200	
Unobligated balance available, SOY						
21 4002 For completion of prior year budget plans						-465,297
22 4001 Net unobligated balance transferred		-32,600			-32,600	
Unobligated balance available, EOY						
24 4002 For completion of prior year budget plans					465,297	138,300
25 0001 Reappropriation		32,600			32,600	
39 0001 Budget authority		2,824,100			2,824,100	
Budget authority:						
40 0001 Appropriation		2,822,700			2,822,700	
41 0001 Transferred to other accounts(-)		-31,200			-31,200	
43 0001 Appropriation (adjusted)		2,791,500			2,791,500	
50 0001 Reappropriation		32,600			32,600	

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

FISCAL YEAR 1985

Identification code 21 2032	Budget Plan (amounts for actions programed) 1983 actual	1984 est	1985 est	Obligations 1983 actual	1984 est	1985 est
Program by activities						
Direct Program						
2 Other missiles			2,821,000			2,426,060
3 Modification of missiles			209,200			179,912
4 Spares and repair parts			289,700			249,142
5 Support equipment and facilities			122,500			105,350
Total direct program			3,442,400			2,960,464
Reimbursable program			353,700			270,651
10 0001 Total Obligations			3,796,100			3,231,115
Financing						
Offsetting collections from						
11 0001 Federal funds(-)			-320,900			-320,900
11 0001 Trust funds(-)			-32,800			-32,800
Unobligated balance available, EOY						
21 1002 For completion of prior year budget plans						564,985
40 0001 Budget Authority (Appropriation)			3,442,400			3,442,400

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 1984

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Missile Procurement, Army			FY 1985 Budget
Program or Budget Project Account	(Thousands of Dollars)			
	Actual	Estimate	Estimate	Estimate
Activity 2 - Other Missiles	FY 1983	FY 1984	FY 1985	FY 1986
Direct Obligation or Direct Budget Plan	$2,239,900	$2,356,800	$2,821,000	$3,433,500

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 1985	FY 1986
-	$152,300

$92.9 million is requested in FY 1986 for the first procurement of 300 missiles to upgrade CHAPARRAL Missile with Infrared Counter-Counter Measures capability. In addition $59.4 million is requested for initial procurement of TOWED CHAPARRAL for the light forces and direct support equipment for the National Guard.

Other Missile Support (P-1 Line Item No. 3)

($ in Thousands)	
FY 1985	FY 1986
$17,300	$5,000

$17.3 million in FY 1985 procures 525 replacement HAWK rocket motors and initial buy of direct support test equipment for modernizing the National Guard with CHAPARRAL. The FY 1986 requirement is for 225 replacement rocket motors at a cost of $5.0 million.

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

($ in Thousands)	
FY 1985	FY 1986
$1,096,400	$1,199,700

$1,096.4 million is requested in FY 1985 for 585 PATRIOT missiles and 15 fire units. In FY 1986 $1,199.7 million is requested for procurement of 815 missiles and 18 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 1985.

STINGER Missile System (P-1 Line Item No. 5)

($ in Thousands)	
FY 1985	FY 1986
$209,600	$544,600

$209.6 million is requested for the procurement of 2360 STINGER missiles in FY 1985 and $544.6 million for 6467 missile systems in FY 1986. 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. 6)

($ in Thousands)	
FY 1985	FY 1986
$235,000	$240,100

$235.0 million is requested in FY 1985 and $240.1 million in FY 1986 to procure 6026 and 6576 HELLFIRE missiles and associated equipment respectively. This will also buy 107/134 training missiles (inert missiles with live seekers for air crew training) and 315/360 dummy missiles (completely inert rounds used for ground crew training and aircraft weight and balance during flight). 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. Production at economic rates is anticipated, saving $36.5 million in FY 1985.

TOW Missile System (MYP) P-1 (Line Item No. 7)

($ in Thousands)	
FY 1985	FY 1986
$240,300	$204,800

The FY 1985 budget request of $265.3 million will procure 18,000 TOW-2 missiles and ground support equipment. 18,000 TOW-2 missiles will be procured in FY86 at a cost of $232.8 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. TOW-2 missiles will be procured using a traditional multiyear contract, which will save $15.7 million compared to annual contracting.

TOW Advance Procurement (P-1 Line Item No. 8)

($ in Thousands)	
FY 1985	FY 1986
$ 25,000	$ 28,000

$25.0 million in FY 1985 and $28.0 in FY 1986 is requested to surge the TOW II production rate to 3,500 per month within six months of go-ahead. This Advance Procurement is not associated with the multiyear buy.

PERSHING (P-1 Line Item No. 9)

($ in Thousands)	
FY 1985	FY 1986
$456,000	$521,000

$456.0 million is requested in FY 1985 to procure 93 missiles and associated ground equipment. PERSHING II will replace the PERSHING 1a missile in Europe.

Multiple Launch Rocket System (MLRS) (MYP) (P-1 Line Item No. 10)

($ in Thousands)	
FY 1985	FY 1986
$404,000	$496,900

$404.0 million is requested to procure 50,472 rockets and associated ground support equipment in FY 1985. $496.9 million is requested to procure 72,000 rockets and associated ground support equipment in FY 1986. 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 $36.9 million in FY 85.

MLRS Advance Procurement (MYP) (P-1 Line Item No. 11)

($ in Thousands)	
FY 1985	FY 1986
$137,400	$41,000

$137.4 million is requested in FY 1985 and $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.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Missile Procurement, Army			FY 1985 Budget
Program or Budget Project Account	(Thousands of Dollars)			
	Actual	Estimate	Estimate	Estimate
Activity 3 - Modification of Missiles	FY 1983	FY 1984	FY 1985	FY 1986
Direct Obligation or Direct Budget Plan	$108,100	$91,000	$209,200	$204,700

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 1985	FY 1986
$11,800	$17,400

$11.8 million is requested in FY 1985 and $17.4 million in FY 1986 to provide for retrofit of a digital processor to improve missile fuze performance against sophisticated electronic countermeasures, expanded radar memory capacity, and an improved emplacement capability.

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

($ in Thousands) FY 1985	FY 1986
$106,200	$118,900

$106.2 million is requested in FY 1985 for procurement of forward looking infrared (FLIR) night sights, pneumatic system air compressors, smokeless rocket motors, electronics compartment cooling modification kits, upgraded master control panels, weapon display units and collective crew nuclear biological and chemical subsystems. $118,900 is requested in FY 1986 to continue procurement of items identified in FY 1985 with the exception of the pneumatic system air compressor which will be completed in FY 1985.

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

($ in Thousands)	
FY 1985	FY 1986
$58,100	$54,900

$58.1 million is requested in FY 1985 for the second year production buy of missile modification kits to improve the HAWK's missile ability to destroy aircraft employing multiple blinking jammers (MBJ). In addition, equipment will be procured for the Phase III series of modifications to HAWK ground equipment. 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. In FY 1986, $54.9 million is required to complete the second year Phase III kit production.

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

($ in Thousands)	
FY 1985	FY 1986
$17,900	$13,500

$17.9 million is requested in FY 1985 and $13.5 million in FY 1986 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.

LCSS (Land Combat Support System) (P-1 Line Item No. 17)

($ in Thousands)	
FY 1985	FY 1986
$ 3,800	0

$3.8 million is requested in FY 1985 for a modification to upgrade the system which is used for field testing of TOW, Dragon, and Lance. The upgrade consists of replacement of the controller and data processor with microprocessors and tape reader with integrated circuit memory chips.

AN/TSQ 73 Modification (P-1 Line Item No. 19)

($ in Thousands)	
FY 1985	FY 1986
$11,400	0

$11.4 million is requested in FY 1985 to provide additional memory capacity to the AN/TSQ-73 computer by replacing existing core memory with a complementary metallic oxide silicon (CMOS) chip. Additional memory capability is required for inter-operability with PATRIOT, I-HAWK, and various NATO Command and Control Systems.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Missile Procurement, Army			FY 1985 Budget
Program or Budget Project Account	(Thousands of Dollars)			
	Actual	Estimate	Estimate	Estimate
Activity 4 - Spares and Repair Parts	FY 1983	FY 1984	FY 1985	FY 1986
Direct Obligation or Direct Budget Plan	$228,300	$268,100	$289,700	$429,400

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. 20)	($ in Thousands) FY 1985	FY 1986
	$169,700	$243,700

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

System	FY 1985	FY 1986
PATRIOT	$106,000	$154,800
HELLFIRE	2,500	1,800
STINGER	-	500
MLRS	20,500	20,600
CHAPARRAL	-	13,300

System	FY 1985	FY 1986
PERSHING	16,200	-
CHAPARRAL MODS	12,100	32,800
HAWK MODS	5,800	14,800
PATRIOT MODS	-	4,000
TOW MODS	3,500	1,100
TSQ-73 MODS	3,100	-
TOTAL	(169,700)	(243,700)

($ in Thousands)	
FY 1985	FY 1986
$120,000	$185,700

Replenishment Repair Parts (P-1 Line Item No 20)

$120.0 million is requested in FY 1985 and $185.7 million is requested in FY 1986 for peacetime replenishment repair parts.

Department of the Army Annual Budget Estimates JUSTIFICATION	Appropriation Missile Procurement, Army			FY 1985 Budget
Program or Budget Project Account	(Thousands of Dollars)			
	Actual	Estimate	Estimate	Estimate
Activity 5 - Support Equipment & Facilities	FY 1983	FY 1984	FY 1985	FY 1986
Direct Obligation or Direct Budget Plan	$106,900	$108,200	$122,500	$109,900

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. 21)

($ in Thousands)	
FY 1985	FY 1986
$20,800	$27,200

$20.8 million is requested in FY 1985 and $27.2 million in FY 1986 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. 22)

($ in Thousands)	
FY 1985	FY 1986
$6,600	$7,000

$6.6 million is requested in FY 1985 and $7.0 million in FY 1986 for procurement of tool and test sets to support missile system maintenance and repair.

Production Base Support (P-1 Line Item No. 23)	($ in Thousands) FY 1985	FY 1986
	$56,500	$37,900

$56.5 million is requested in FY 1985 and $37.9 million is requested in FY 1986 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.

Below are highlights of projects over $1.9 million:

	FY 1985	FY 1986
Morton/Thiokol Corp, Huntsville, AL Rocket Motor Loading Facility	$7,800	$7,000
White Sands Missile Test Range - Modernization of Production Test Equipment	1,900	2,300
Depot Maintenance Plant Equipment (modification for CHAPARRAL FLIR)	4,000	2,000

Other Production Charges (P-1 Line Item No. 24)	($ in Thousands) FY 1985	FY 1986
	$38,600	$37,800

$38.6 million is requested in FY 1985 and $37.8 million in FY 1986 for the procurement of test system/equipment to accomplish the quantity evaluation mission through stock surveillance, and evaluation of tactical weapon systems in stockpile.

MISSILE PROCUREMENT, ARMY

Section 3

Comparison of Program Requirements and Financing

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

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

Comparison of FY 1983 program requirements as reflected in FY 1984 budget with FY 1983 program requirements as shown in FY 1985 budget.

Comparison of FY 1983 financing as reflected in FY 1984 budget with FY 1983 financing as shown in FY 1985 budget.

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

SUMMARY OF REQUIREMENTS (in Thousands of Dollars)

Appropriation:	Total Program Requirements Per Amended FY 1984 Budget	Program Requirements Per FY 1985 Budget	Increase (+) or Decrease (-)
Activity 1 - Antiballistic Missile System	0	0	0
Activity 2 - Other Missiles	$2,512,000	$2,356,800	-155,200
Activity 3 - Modification of Missiles	122,200	91,000	- 31,200
Activity 4 - Spares and Repair Parts	313,700	268,100	- 45,600
Activity 5 - Support Equipment and Facilities	112,600	108,200	-4,400
TOTAL	$3,060,500	$2,824,100	-236,400

EXPLANATION BY ACTIVITY

Activity 2 - Other Missiles (-$155.2) - The following decreases are due to Congressional reductions:

PATRIOT -	$107.0
TOW Surge -	$ 28.2
HELLFIRE -	$ 20.0

Activity 3 - Modification of Missiles (-$31.2) - Decrease of $31.2 million in TOW modifications reprogrammed to the RDT&E appropriation.

Activity 4 - Spares and Repair Parts (-$45.6) - Decrease due to Congressional action.

Activity 5 - Support Equipment and Facilities (-$4.4) - Decrease of $4.4 million due to Congressional transfer of the manufacturing methods and technology program to the RDTE appropriation.

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

(in Thousands of Dollars)

Appropriation:	Financing Per Amended FY 1984 Budget	Financing Per FY 1985 Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	$3,255,900	$ 3,121,900	-$134,000
Program Requirements (Service Account)	(3,060,500)	(2,824,100)	-236,400
Program Requirements (Reimbursable)	(195,400)	(297,800)	+102,400
Less:			
Anticipated reimbursements	195,400	297,800	+102,400
Reprogramming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans			
Unobligated balance transferred		-32,600	-32,600
Add:			
Unobligated balance transferred to other accounts			
Reappropriation		32,600	+32,600
Unobligated balance available to finance subsequent year budget plans			
BUDGET AUTHORITY	3,060,500	2,824,100	-236,400
BUDGET AUTHORITY			
Appropriation	3,060,500	2,822,700	-237,800
Transferred to other accounts		-31,200	-31,200
Appropriation (Adjusted)	3,060,500	2,791,500	-297,000
Reappropriation		32,600	32,600

2-22 February 1984

EXPLANATION OF CHANGES IN FINANCING

The Fiscal Year 1984 program has decreased by $134.0 million since submission of the amended Fiscal Year 1984 budget to Congress. Adjustments to financing categories are explained below:

1. Anticipated Reimbursements: $102.4 million increase in the foreign military sales program.

2. Budget Authority: Decrease of $236.4 million due to Congressional reductions.

COMPARISON OF FY 1983 PROGRAM REQUIREMENTS
AS REFLECTED IN FY 1984 BUDGET WITH
FY 1983 PROGRAM REQUIREMENTS AS SHOWN IN FY 1985 BUDGET

SUMMARY OF REQUIREMENTS (in Thousands of Dollars)

Appropriation:	Total Program Requirements Per Amended FY 1984 Budget	Program Requirements Per FY 1985 Budget	Increase (+) or Decrease (-)
Activity 1 - Antiballistic Missile System	0	0	0
Activity 2 - Other Missiles	$1,849,850	$2,239,869	+$390,019
Activity 3 - Modification of Missiles	91,900	108,096	+16,196
Activity 4 - Spares and Repair Parts	219,050	228,310	+9,260
Activity 5 - Support Equipment and Facilities	105,800	106,925	+1,125
TOTAL	$2,266,600	$2,683,200	$416,600

EXPLANATION OF ACTIVITY

Activity 2 - Other Missiles (+390.0) - Reflects $443.3 million Pershing II Supplemental Appropriation; a Stinger decrease of $52.6 million; $32.6 million transferred to FY 1984 and $20.0 million reprogramed to RDT&E; and a decrease of $.7 million transferred to other budget activities.

Activity 3 - Modification of Missiles (+$16.2) - Reflects $15.6 million interappropriation transfer increase for conversion of 13 self-propelled CHAPARRAL systems to a TOWED configuration and $.6 million increase transferred from Budget Activity 2.

Activity 4 - Spares and Repair Parts (+9.3) - Reflects $10.3 million Supplemental for PERSHING II and a decrease of $1.0 million transferred to Budget Activity 5.

Activity 5 - Support Equipment and Facilities (+$1.1) - Reflects $1.1 million transfer from other budget activities.

COMPARISON OF FY 1983 FINANCING AS REFLECTED
IN THE FY 1984 BUDGET WITH FY 1983 FINANCING
AS SHOWN IN FY 1985 BUDGET

(in Thousands of Dollars)

Appropriation:	Financing Per Amended FY 1984 Budget	Financing Per FY 1985 Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	$ 2,598,000	$ 3,014,658	$ 416,658
Program Requirements (Service Account)	(2,266,600)	(2,683,200)	+416,600
Program Requirements (Reimbursable)	(331,400)	(331,458)	+ 58
Less:			
Anticipated Reimbursements	331,400	331,458	+ 58
Reprogramming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans			
Unobligated balance transferred from other accounts			
Add:			
Unobligated balance transferred to other accounts			
Unobligated balance available to finance subsequent year budget plans		52,600	+ 52,600
BUDGET AUTHORITY	2,266,600	2,735,800	+469,200
BUDGET AUTHORITY			
Appropriation	2,287,000	2,740,600	+453,600
Reduction pursuant to P.L. 97-377	-20,400	-20,400	0
Transferred from other Accounts	0	15,600	15,600
Appropriation (Adjusted)	2,266,600	2,735,800	+469,200

EXPLANATION OF CHANGES IN FINANCING

The fiscal year 1983 program has increased $469.2 million since preparation of the Amended Fiscal Year 1984 budget to Congress. Adjustment to financing categories are explained below:

1. Anticipated Reimbursements: $58 thousand increase in foreign military sales program.

2. Budget Authority: Increase of $469.2 million due to FY 1983 Supplemental for PERSHING II of $453,600 and transfer of $15.6 million from the RDTE appropriation to fund the CHAPARRAL program for the High Technology Light Division.

MISSILE PROCUREMENT, ARMY

Section 5

Modification of Missiles (Exhibit P-33)

MISSILE MODIFICATION
($ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: PATRIOT Air Defense Missile System

Missile Modification Title: PATRIOT Modifications

Description/Justification: Provides funding required to support retrofitting PATRIOT equipment in conjunction with the system planned product improvement program. Funds will add the following hardware enhancements to the PATRIOT weapon system: improved emplacement system (land navigation), improved digital fuze processor, multi-beam capability, improved clutter canceller and expanded computer memory. Implementation of these preplanned improvements will greatly enhance system capabilities and survivability against the postulated threat response to the fielding of PATRIOT.

Development Status: The PATRIOT electronic counter measure (ECCM) development program was initiated in FY 1981. This effort is a preplanned product improvement program (P^3I), and is supported by user requirements.

Scope of Program:

	FY 1983 & Prior Years		FY 1984 Current Year		FY 1985 Budget Year		FY 1986 Budget Year +1		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
	0	0										
	0	38.4										
PIP 1-82-03-1201												
MIPA			0	0	0	11.8	0	17.4		198.5		227.7
RDTE			0	51.5	0	0	39.8	36.7		127.2		293.6
OMA			0	0	0	0	0	.200	0	3.500		3.700

Basis for Cost Estimate: Costs have been refined based on extensive development analysis and studies. Estimates originally based on cost of similar devices.

Method of Implementation: Land navigation will be accomplished by contractor field teams. The PATRIOT missile will be retrofitted with the improved fuzed processor during the recertification cycle concurrent with return of missiles for replacement of shelf life components.

MISSILE MODIFICATION
($ 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
Night Capability: 1-80-03-0326
Master Control Indicator Panel: 1-82-03-0315
Cooling Rear Compartments: 1-82-03-0320
Weapons Display: 1-82-03-0322
NBC Collective Protection: 1-83-03-0324
FLIR Electro-Optical Counter-Countermeasure: 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 1-84-03-0326 - 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.

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 system missiles have the capability to track and engage aircraft during darkness

and limited visibility, but the system is presently limited by the necessity for the operator to visually detect and acquire aircraft for the missiles. The night sight will more than double the percent of a 24-hour day in which the system may operate.

PIP 1-82-03-0315 - 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 blowers, 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 1-82-03-0322 - The Weapons Display Unit will provide the CHAPARRAL gunner required target cueing information. Rapid, accurate target cueing is required to allow the gunner to take advantage of the missiles forward engagement capability and to effectively use the Forward Looking Infrared (FLIR) Night Sight which allows the gunner to detect and track targets beyond visual range. The PIP will automatically superimpose target data from the Short Range Air Defense (SHORAD) Command and Control (C^2) System onto the gunner FLIR TV display.

PIP 1-83-03-0324 - 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 an electro-optical counter-countermeasure capability.

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

Scope of Program:

	FY 1983 & Prior Year		FY 1984 Current Year		FY 1985 Budget Year		FY 1986 Budget Year +1		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
PIP 1-80-03-0309												
MIPA	65	4.7	170	6.9	285	8.6	-	-	-	-	520	20.2
RDTE	-	-	-	-	-	-	-	-	-	-	-	-
OMA	-	1.1	-	.8	-	1.3	-	-	-	2.6	-	5.8
PIP 1-83-03-0325												
MIPA	-	1.0	-	1.0	-	-	-	-	-	-	-	2.0
RDTE	-	-	-	-	-	-	-	-	-	-	-	-
OMA	-	-	-	-	-	-	-	-	-	-	-	-
PIP 1-83-03-0326												
MIPA	524	4.3	524	4.4	524	4.8	524	5.0	1572	15.9	3668	34.4
RDTE	-	-	-	-	-	-	-	-	-	-	-	-
OMA	-	-	-	-	-	-	-	-	-	-	-	-
PIP 1-80-03-0306												
MIPA	241	122.9	-	-	129	81.0	152	90.6	-	-	522	294.5
RDTE	-	15.8	-	-	-	-	-	-	-	-	-	15.8
OMA	-	.6	-	3.1	-	5.4	-	-	-	4.5	-	13.6
PIP 1-82-03-0315												
MIPA	-	-	-	-	260	1.9	260	1.9	-	-	520	3.8
RDTE	-	-	-	-	-	-	-	-	-	-	-	-
OMA	-	.4	-	-	-	-	-	.1	-	1.4	-	1.9
PIP 1-82-03-0320												
MIPA	-	-	-	-	260	4.9	260	4.9	-	-	520	9.8
RDTE	-	-	-	-	-	-	-	-	-	-	-	-
OMA	-	.6	-	-	-	-	-	.1	-	3.0	-	3.7

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

	FY 1983 & Prior Year		FY 1984 Current Year		FY 1985 Budget Year		FY 1986 Budget Year +1		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
PIP 1-82-03-0322												
MIPA	-	-	-	-	20	2.4	500	14.6	-	-	520	17.0
RDTE	-	1.3	-	3.9	-	-	-	-	-	-	-	5.2
OMA	-	-	-	-	-	.2	-	.3	-	1.7	-	2.2
PIP 1-3-03-0324												
MIPA	-	-	-	-	260	2.6	260	2.5	-	-	520	5.1
RDTE	-	1.4	-	1.7	-	-	-	-	-	-	-	3.1
OMA	-	-	-	-	-	-	-	-	-	1.7	-	1.7
PIP 1-83-03-0327												
MIPA	-	-	-	-	-	-	-	-	520	93.4	520	93.4
RDTE	-	.4	-	1.0	-	4.5	-	1.5	-	-	-	7.4
OMA	-	-	-	-	-	-	-	-	-	-	-	-

Basis for Cost Estimate: Analytical and engineering techniques.

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

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

Development Status:

PIP 1-80-03-0309 -	Installation starts 2nd Qtr FY 1984, and will be completed in 3rd Quarter, FY 1988.
PIP 1-83-03-0325 -	New Insulation being cut into existing contract for rocket motors.
PIP 1-83-03-0326 -	Inventory missile rocket motors being repoured with smokeless propellant upon shelf life expiration.
PIP 1-80-03-0306 -	Installation starts in 2nd Qtr FY 1984 and will be completed in the 3rd Qtr, FY 1988.
PIP 1-82-03-0315 -	Installation starts in 2nd Qtr FY 1987 and will be completed in FY 1989.
PIP 1-82-03-0320 -	New installation starts in 2nd Qtr FY 1987 and will be completed in FY 1989.
PIP 1-82-03-0322 -	New installation starts in 2nd Qtr FY 1987 and will be completed in FY 1989.
PIP 1-83-03-0324 -	This PIP is still in development procurement scheduled for FY 1989.

MISSILE 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 Improvements PIP 82-03-0140
Collective Protection Equipment PIP 82-03-0138

Description/Justification:

PIP 1-79-30-0119 - 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 late 1980s 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 aricraft. The effort involves the design, development, testing, production and retrofiting 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 in an ECM environment. HPI reliability will also improve by approximately 21% by replacing vacuum tubes 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 Trainer (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 trainer (one per battalion) with an attendant reduction in manpower and logistics support. The Continuous Wave Acquisiton 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.

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 1983 & Prior Years		FY 1984 Current Year		FY 1985 Budget Year		FY 1986 Budget Year +1		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
MIPA		50.4		16.8		24.7		0		0		91.7
RDTE		29.6		7.6		0		0		0		34.0
OMA		1.4		1.0		0		2.8		8.4		13.6

Basis for Cost Estimate: Prior years based on firm fixed price contract. Current and future years based on engineering estimates.

Method of Implementation: 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 MEU modification will be incorporated. The MBJ kits will be applied at the theater reliability maintenance facility (TRMF).

MIPA	0	12.3	29.7	53.3	44.2	140.0
RDTE	58.8	26.2	19.3	0	0	104.3
OMA	.1	.8	4.0	5.1	22.8	32.8

Basis for Cost Estimate: Engineering estimates based on experience, contractor learning curve, and equivalency in complexity to items already developed, produced, and installed.

Method of Implementation: Phase III modification kits will be applied by contractor teams at Letterkenny Army Depot during equipment overhaul and at field locations.

HAWK (IHAWK) (Continued)

PIP 1-82-03-0138

	FY 1983 & Prior Years		FY 1984 Current Year		FY 1985 Budget Year		FY 1986 Budget Year +1		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
MIPA		0		2.0		3.7		1.1		1.5		8.3
RDTE		1.9		1.3		0		0		0		3.2
OMA		0		0		.5		.1		2.1		2.7

Basis for Cost Estimate: Engineering estimates.

Method of Implementation: 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)
Development Contract	1QFY79	3QFY81
Initiate Testing	4QFY80	4QFY82
Procurement Contract	2QFY82	3QFY84
Initial Production Delivery	4QFY83	3QFY86
Complete Installation	4QFY85	1QFY88

PIP 1-82-03-0140

Development Contract	3QFY82
Initiate Testing	2QFY83
Procurement Contract	3QFY85
Initial Production Delivery	3QFY87
Complete Installation	2QFY89

HAWK (HAWK) (Continued)

PIP 1-82-03-0138

Development Contract	4QFY83
Initiate Testing	2QFY84
Procurement Contract	3QFY85
Initial Production Delivery	3QFY87
Complete Installation	2QFY89

MISSILE MODIFICATION
($ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: TOW(BGM-71A, BGM-71C, BGM-71D, BTM-71A) (Heavy Antitank Guided Missile System).

Missile Modification Title:

TOW Missile System Improvements - PIP 1-79-03-3018

Description/Justification:

PIP 1-79-03-3018 - This modification provides Launcher guidance Systems improvements (FY 1982 program) and provide guidance system hardening in FY 1983 and later years. Program results in an improved system capable of operating under conditions of EOCM and obscurants.

Development Status:

Event	PIP 1-79-03-0318
Initial Engineering Effort	2QFY79
Hardware Contract Award	2QFY80
First Hardware Delivery	1QFY81
Start Installation	3QFY81
Complete Installation	2QFY88

Scope of Program:

	Prior Years	FY 1984	FY 1985	FY 1986	Future Years	Total Program
	Amt ($M)	Amt ($M)	Amt ($M)	Amt ($M)	Amt ($M)	Amt ($M)
PIP 1-79-03-3018						
MIPA	278.0	72.5	17.9	13.5	27.3	409.2
RDTE	220.3	1.9	0	0	0	80.7
OMA	7.2	4.3		2.5	2.2	1.8

Basis for Cost Estimate: Analytical and Engineering techniques.

Method of Implementation: Installation by contractor and/or Government contact teams.

MISSILE MODIFICATION
($ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: Land Combat Support System (LCSS)

Missile Modification Title: LCSS Microprocessor Mod (PIP 1-80-03-0217)

Description/Justification:

This modification will upgrade the system which is used for field testing of TOW, DRAGON and LANCE. The upgrade consists of replacement of the controller and data processor with microprocessors and the tape reader with integrated circuit memory chips.

Development Status:

Event	PIP 1-80-03-0217
Hardware Contract Award	3Q85
First Hardware Delivery	1Q86
Start Installation	2Q86
Complete Installation	2Q87

Scope of Program:

	Prior Yrs AMT ($M)	FY 1984 AMT ($M)	FY 1985 AMT ($M)	FY 1986 AMT ($M)	Future Years AMT ($M)	Total Program AMT ($M)
PIP 1-80-03-0217						
MIPA	-	-	3.8	-	-	3.8
RDTE	-	-	-	-	-	-
OMA	4.2	-	.3	.6	.2	5.3

Basis for Cost Estimate: Analytical and engineering techniques.

Method of Implementation: Depot field teams.

MISSILE MODIFICATION
($ in Millions)

Appropriation: Missile Procurement, Army

Missile Type: Air Defense Command & Control System, AN/TSQ-73

Missile Modification Title:

C-MOS Computer Memory Improvement - PIP 1-79-03-1102

Description/Justification:

PIP 1-79-03-1102 - Provides additional memory capacity to the AN/TSQ-73 computer by replacing existing core memory with a Complementary Metallic Oxide Silicon (CMOS) chip. Additional memory capacity is required for interoperability with PATRIOT, IHAWK, and various NATO Command and Control Systems. The increase will be from 64000 to 128000+ bits.

Development Status:

PIP 1-79-03-1102

Initiate Engineering Effort	2QFY81
Development Contract Award	2QFY82
First Hardware Delivery	3QFY85
Start Installation	1QFY86
Complete Installation	4QFY86

Scope of Program:

	FY 1983 & Prior Years		FY 1984 Current Year		FY 1985 Budget Year		FY 1986 Budget Year +1		Future Years		Total Program	
	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt	Qty	Amt
MIPA			8	6.4	18	11.4	0	0	0	0	26	17.8
RDTE	4			0								4.3
OMA												

TSQ-73 (Continued)

Basis for Cost Estimate: Prices of similar devices used in computers currently being manufactured.

Method of Implementation: Field installation by depot team.

MISSILE PROCUREMENT, ARMY

Appendix

Consultants, Studies and Analyses, and Management Support Contracts

Exhibit PB-32, Special Analysis

Narrative Justification

[illegible]

[illegible]

[illegible]

	FY 1983	FY 1984	FY 1985
A. EXPERTS AND CONSULTANTS	-	-	-
1. PERSONNEL APPOINTMENTS	-	-	-
A. EXPERTS	-	-	-
B. CONSULTANTS	-	-	-
(1) FEDERAL ADVISORY COMMITTEE MEMBERS	-	-	-
(2) ALL OTHER APPOINTED CONSULTANTS	-	-	-
2. CONTRACT CONSULTANTS	-	-	-
B. CONTRACT STUDIES & ANALYSES	-	-	-
1. CONSULTING SERVICES	-	-	-
2. OTHER	-	-	-
C. PROFESSIONAL AND MANAGEMENT SERVICES BY CONTRACT	5,390	-	5,700
1. PROGRAM MANAGEMENT SUPPORT	5,390	-	5,700
A. CONSULTING SERVICES	-	-	-
B. OTHER	(5,390)	-	(5,700)
2. POLICY REVIEW AND DEVELOPMENT	-	-	-
A. CONSULTING SERVICES	-	-	-
B. OTHER	-	-	-
3. SPECIFICATION DEVELOPMENT	-	-	-
A. CONSULTING SERVICES	-	-	-
B. OTHER	-	-	-
4. SYSTEMS ENGINEERING	-	-	-
A. CONSULTING SERVICES	-	-	-
B. OTHER	-	-	-

COMMAND/AGENCY: CARCOM

APPROPRIATION: MIPA
SUB-ELEMENT:

	FY 1983	FY 1984	FY 1985
5. TECHNOLOGY SHARING/ UTILIZATION	-	-	-
A. CONSULTING SERVICES	-	-	-
B. OTHER	-	-	-
6. LOGISTIC SUPPORT SERVICES	-	-	-
A. CONSULTING SERVICES	-	-	-
B. OTHER	-	-	-
7. TECHNICAL DATA COLLECTION	-	-	-
A. CONSULTING SERVICES	-	-	-
B. OTHER	-	-	-
8. PUBLIC RELATIONS AND ADVERTISING	-	-	-
A. CONSULTING SERVICES	-	-	-
B. OTHER	-	-	-
9. OTHER PROFESSIONAL AND MANAGEMENT SERVICES BY CONTRACT	-	-	-
A. CONSULTING SERVICES	-	-	-
B. OTHER	-	-	-
D. CONTRACT ENGINEERING TECHNICAL SERVICES (CETS)	-	-	-
1. CONTRACT PLANT SERVICES	-	-	-
2. CONTRACT FIELD SERVICES	-	-	-
3. FIELD SERVICE REPRESENTATIVES	-	-	-
TOTAL	5,390	-	5,700

COMMAND/AGENCY: CARCOM
APPROPRIATION: MIPA
SUB-ELEMENT:

APPROPRIATIONS - NIPA
SUPPLEMENTS

	FY 1983	FY 1984	FY 1985
I. SUMMARY			
1. PERSONAL SERVICES CONTRACTS	-	-	-
2. CONTRACT CONSULTING SERVICES	-	-	-
3. OTHER CONTRACT SERVICES	5,390	-	5,700
4. PERSONNEL APPOINTMENTS	-	-	-
TOTAL	5,390	-	5,700

Missile Procurement, Army
Narrative Justification
Consultants, Studies and Analyses
and Management Support Contracts

Professional and Management Services

PATRIOT Air Defense System:

- Funds provide an independent means of analysis of the PATRIOT Air Defense System. Includes software analysis, hardware analysis, evaluation of PATRIOT's capabilities using computer simulator models. Also includes verification and validation of system operational software.

FY 1983	FY 1984	FY 1985
$5,390	0	$5,700

END

DATE
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