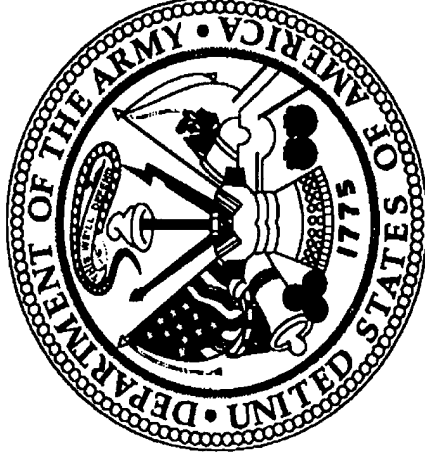


DEPARTMENT OF THE ARMY

Procurement Programs



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FY 2001 Budget Estimate

AIRCRAFT PROCUREMENT, ARMY

February 2000

APPROPRIATION

DTIC QUALITY INSPECTED 4

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Index for AIRCRAFT PROCUREMENT, ARMY

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4	UH-60 BLACKHAWK (MYP)	AA0005	16772147.01P	9
5	UH-60 BLACKHAWK (MYP) (ADV PROC)	AA0005	16773147.01P	17
6	GUARDRAIL MODS (TIARA)	AZ2000	11032103.01P	26
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DEPARTMENT OF THE ARMY
2001 PROCUREMENT PROGRAM

EXHIBIT P-1
February 2000

Appropriation: **AIRCRAFT**

Activity: 1. **AIRCRAFT**

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 00 UNIT COST	FY 99		FY 00		FY 01	
				QTY	COST	QTY	COST	QTY	COST
(1)	(2)	(3)	(4)	(7)	(8)	(9)	(10)	(11)	(12)
	FIXED WING								
1	ARL (TIARA) (A11500)				13,019				
2	UTILITY FW (MR) AIRCRAFT (A11300)			5	26,766	1	5,293		
3	GUARDRAIL COMMON SENSOR/ACS (TIARA) (A02005)	A			1,913				
	SUB-ACTIVITY TOTAL				41,698		5,293		
	ROTARY								
4	UH-60 BLACKHAWK (MYP) (AA0005) LESS: ADVANCE PROCURMENT (PY)			29	293,020	19	199,286	6	81,205
					-23,219				-16,554
					269,801		199,286		64,651
5	UH-60 BLACKHAWK (MYP) (AA0005) ADVANCE PROCUREMENT (CY)						16,554		22,127
	SUB-ACTIVITY TOTAL				269,801		215,840		86,778
	ACTIVITY TOTAL				311,499		221,133		86,778

DEPARTMENT OF THE ARMY
2001 PROCUREMENT PROGRAM

EXHIBIT P-1
February 2000

Appropriation: **AIRCRAFT**

Activity: 2. **MODIFICATION OF AIRCRAFT**

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 00 UNIT COST	FY 99			FY 00			FY 01	
				QTY	COST	(7)	QTY	COST	(9)	QTY	COST
(1)	(2)	(3)	(4)	(7)	(8)		(9)	(10)		(11)	(12)
MODIFICATIONS OF AIRCRAFT											
6	GUARDRAIL MODS (TIARA) (AZ2000)				43,516			18,699			22,626
7	ARL MODS (AZ2050)	A						5,777			6,553
8	AH1F MODS (AA0150)				509			428			423
9	AH-64 MODS (AA6605)	A			50,309			32,660			18,516
10	CH-47 CARGO HELICOPTER MODS (MYP) (AA0252)				80,422			114,899			117,083
11	CH-47 ICH (AA0254)										57,630
12	CH-47 ICH (AA0254) ADVANCE PROCUREMENT (CY)										26,200
13	UTILITY/CARGO AIRPLANE MODS (AA0270)				10,047			9,603			11,903
14	OH-58 MODS (AA0400)				90			464			462
15	AIRCRAFT LONG RANGE MODS (AA0560)				1,068			754			752
16	LONGBOW (AA6670) LESS: ADVANCE PROCURMENT (PY)				610,167 -36,932 ----- 573,235			789,167 -43,154 ----- 746,013			744,846 -35,392 ----- 709,454
17	LONGBOW (AA6670) ADVANCE PROCUREMENT (CY)				43,154			35,392			35,000
18	UH-1 MODS (AB0602)				3,758			4,342			4,297

DEPARTMENT OF THE ARMY
2001 PROCUREMENT PROGRAM

EXHIBIT P-1
February 2000

Appropriation: **AIRCRAFT**

Activity: 2. **MODIFICATION OF AIRCRAFT**

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 00 UNIT COST	FY 99			FY 00			FY 01		
				QTY	COST	(7)	QTY	COST	(9)	QTY	COST	(12)
(1)	(2)	(3)	(4)	(7)	(8)	(7)	(9)	(10)	(9)	(11)	(12)	(12)
19	UH-60 MODS (AA0480)				22,671			12,962			3,021	
20	KIOWA WARRIOR (AZ2200)				48,721			41,940			41,816	
21	EH-60 QUICKFIX MODS (AB3000)							4,872				
22	AIRBORNE AVIONICS (AA0700)				56,299			45,475			60,042	
23	ASE MODS (SIRFC) (AA0720)				5,419			11,693			4,487	
24	ASE MODS (ATIRCM) (AA0722)							4,901				
25	GATM (AA0701)							7,028			10,073	
26	MODIFICATIONS < \$5.0M (AA0725)				1,370			2,564				
	SUB-ACTIVITY TOTAL				940,588			1,100,466			1,130,338	
	ACTIVITY TOTAL				940,588			1,100,466			1,130,338	

DEPARTMENT OF THE ARMY
2001 PROCUREMENT PROGRAM

EXHIBIT P-1
February 2000

Appropriation: **AIRCRAFT**

Activity: 3. **SPARES AND REPAIR PARTS**

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 00 UNIT COST	FY 99			FY 00			FY 01		
				QTY	COST	(7)	QTY	COST	(9)	QTY	COST	(12)
(1)	(2)	(3)	(4)		(8)			(10)		(11)		
27	**SPARES AND REPAIR PARTS**											
	SPARE PARTS (AIR) (AA0950)				27,486			15,934			15,167	
	SUB-ACTIVITY TOTAL				27,486			15,934			15,167	
	ACTIVITY TOTAL				27,486			15,934			15,167	

DEPARTMENT OF THE ARMY
2001 PROCUREMENT PROGRAM

EXHIBIT P-1
February 2000

Appropriation: **AIRCRAFT**

Activity: 4. **SUPPORT EQUIPMENT AND FACILITIES

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 00 UNIT COST	FY 99			FY 00			FY 01	
				QTY	COST	(7)	QTY	COST	(10)	QTY	COST
(1)	(2)	(3)	(4)	(7)	(8)	(7)	(9)	(10)	(10)	(11)	(12)
	GROUND SUPPORT AVIONICS										
28	AIRCRAFT SURVIVABILITY EQUIPMENT (AZ3504)				10,436			15,280			
	SUB-ACTIVITY TOTAL				10,436			15,280			
	OTHER SUPPORT										
29	AVIONICS SUPPORT EQUIPMENT (AZ3000)				2,534			8,850			
30	COMMON GROUND EQUIPMENT (AZ3100)				21,837			20,077			11,926
31	AIRCREW INTEGRATED SYSTEMS (AZ3110)				8,972			17,167			3,490
32	AIR TRAFFIC CONTROL (AA0050)				16,843			8,684			74,144
33	INDUSTRIAL FACILITIES (AZ3300)				1,481			1,449			1,419
34	AIRBORNE COMMUNICATIONS (AA0705)				41,904			43,183			
35	CLOSED ACCOUNT ADJUSTMENT (AZ9999)				10						
	SUB-ACTIVITY TOTAL				93,581			99,410			90,979
	ACTIVITY TOTAL				104,017			114,690			90,979
	APPROPRIATION TOTAL				1,383,590			1,452,223			1,323,262

Exhibit P-1M, Procurement Programs - Modification Summary

(TOA, Dollars in Millions)

System/Modification	Prior	1999	2000	2001	2002	2003	2004	2005	To Complete	Total Program
GUARDRAIL MODS (TIARA) (AZZ0000)										
System 2 Block Upgrade	198.8	40.7	18.7							258.2
TIBS and TRIXS for GRCS	27.1									27.1
Mini-IPF				22.6	18.2	3.7	3.7			48.2
ELINT Pod Replacement					9.9	10.3	15.4	3.6		39.2
SIGINT Transition Program (STP)						14.0	8.8	9.0		31.8
Joint Tactical Terminal (JTT) Integration						5.7	2.0			7.7
Sygate Integration								1.1		1.1
System 4 Remote Relay		3.0								3.0
Total	225.9	43.7	18.7	22.6	28.1	33.7	29.9	13.7		416.3
ARL MODS (AZZ050)										
B-Kits for WKSTS			1.6							1.6
Upgrade to IMINT Suite			2.6	4.6	0.5		5.1			12.8
Radar Improvements			1.6			1.6				3.2
Upgrade to DAMA Compliant Radio				2.0	1.9	3.0				6.9
COMINT Upgrades						5.1	3.0	3.0		11.1
Aircraft Standardization						5.9	5.0	5.0		15.9
Aircraft Survivability Equipment for ARL						5.8	5.8	5.8		17.4
Joint Tactical terminal (JTT) integration						2.0	2.0	2.0		6.0
Airspace 2000						3.0				3.0
Upgrade ARL-M4 & M5 IMINT Suites						2.7				2.7
Total		5.8		6.6	2.4	29.1	20.9	15.8		80.6
AH-64 MODS (AA6605)										
Backup Control System (BUCS)	11.5	8.2			3.6	5.4	12.9	6.2	3.4	51.2
Fuel Control Warning Panel	7.8	1.7	0.5							10.0
Embedded GPS / Inertial Navigation System (EGI)	82.3	2.3								84.6
H-11 Bolt Replacement	4.8				0.9	0.9	0.9	0.9		8.4
Airframe Modifications	7.4	8.3	9.5	4.8	15.8	14.7	4.9	8.6	7.0	81.0
Alternate Laser Code	32.3	9.6								41.9

Exhibit P-1M, Procurement Programs - Modification Summary

(TOA, Dollars in Millions)

System/Modification	1998 &						To		Total Program
	Prior	1999	2000	2001	2002	2003	2004	2005	Complete
TADS/PNVS I/II upgrades	57.9	7.9							
TADS/PNVS Upgrades	5.4	6.7	6.3	7.0	7.2	7.4	7.9	8.8	24.8
Misc Mod less than \$5.0M	265.6	5.6	13.2	2.6	3.5	3.0	4.0	2.7	35.9
ORT Conversion	17.2								27.9
Captive Boresight Harmonization Kit (CBHK) Upgrade	14.5		3.2	4.1	4.4	6.5	2.3		
Contingency Modernization Project (CMP)			32.7	18.5	35.4	37.9	32.9	27.2	99.0
Total	506.7	50.3	32.7	18.5	35.4	37.9	32.9	27.2	840.6
CH-47 CARGO HELICOPTER MODS (MYP) (AA0252)									
Installation of Modification Kits Various	26.2	2.6	1.4	0.8					31.1
Improved Cross Shaft Adapters, Coupling & Bolts				1.1	0.2	0.2			1.6
Improved Battery				2.5	0.3	0.3			3.1
Engine Filtration System					5.1	7.0	8.4	20.2	32.4
Extended Range Fuel System	7.1	6.5	6.2	6.9	18.9	18.6	17.6		73.0
Engine Upgrade to T55-GA-714A Configuration	91.0	69.3	103.4	102.3	123.3	146.7	170.6	209.8	81.7
APU Upgrade		2.0	4.0	3.5	1.1				1115.4
Total	124.3	80.4	114.9	117.1	148.9	172.7	196.5	230.0	131.3
CH-47 ICH (AA0254)									
Improved Cargo Helicopter				57.6	132.4	154.6	237.5	234.8	1541.2
Total				57.6	132.4	154.6	237.5	234.8	2358.1
UTILITY/CARGO AIRPLANE MODS (AA0270)									
Avionics System Cockpit Upgrade	15.5	10.0	9.6	11.9	16.0	15.4	9.9	9.9	238.1
Total	15.5	10.0	9.6	11.9	16.0	15.4	9.9	9.9	238.1
LONGBOW (AA6670)									
Longbow Apache Mods	981.5	475.0	631.1	596.8	697.6	751.4	728.9	410.6	402.8
Apache Longbow FCR	269.6	98.3	114.9	112.6	112.3	87.8	37.4	27.5	377.0
Total	1251.1	573.3	746.0	709.4	809.9	839.2	766.3	438.1	779.8
									6913.1

Exhibit P-1M, Procurement Programs - Modification Summary

(TOA, Dollars in Millions)

System/Modification	1998 & Prior	1999	2000	2001	2002	2003	2004	2005	To Complete	Total Program
UH-60 MODS (AA0480)										
Ext Stores Sup Sys (ESSS) Aux Fuel Monitoring Sys (AFMS)	16.9	11.8	1.7							30.4
Halon Changeout	0.1	2.5								2.6
Battery/Power Light Relocate	0.3	2.0	5.5	2.6	9.1	3.4				22.9
NVG Lighting Lower Console	1.9	4.9	4.8	0.4	2.3					14.3
Major UH-60A/L Modification Program						40.3	73.5	140.5		254.3
UH-60Q Medevac	9.4				27.4	10.4	19.3	18.9		85.4
Fire Hawk	2.0									2.0
UH-60L Safety/Operational Modifications	0.9	1.5	1.0				6.7	5.0		11.7
Minor Modification Programs	31.5	22.7	13.0	3.0	38.8	54.1	99.5	164.4		427.0
Total										
KIOWA WARRIOR (AZ2200)										
Crew Station Mission Equipment Trainer (OSMET)	2.4	9.9	1.3							13.6
Safety Enhancement Program	136.9	36.2	38.6	41.8	42.3	42.3	31.4	31.4	195.1	596.0
Digitization (No P-3a Set)	9.8									9.8
Mast Mounted Site (MMS) (No P-3a Set)	1.4		2.0							3.4
Training Devices (No P-3a Set)	1.6									1.6
Remanufacture (No P-3a Set)	909.0	1.1								910.1
Retrofit (No P-3a Set)	480.3	1.0								481.3
Halon Fire Extinguisher (No P-3a Set)	1.8	0.5								2.3
Total	1543.2	48.7	41.9	41.8	42.3	42.3	31.4	31.4	195.1	2018.1
EH-60 QUICKFIX MODS (AB3000)										
Quickfix Upgrades			4.9							4.9
Total			4.9							4.9
AIRBORNE AVIONICS (AA0700)										
Embedded GPS Inertial Navigation System (EGI)	34.5									34.5
Doppler GPS Navigation System (DGNS) (AN/ASN-128B)	57.8	18.8	15.2	2.7						94.5
Global Positioning System (GPS) [AN/ASN-149]	2.1									2.1

Exhibit P-1M, Procurement Programs - Modification Summary

System/Modification	(TOA, Dollars in Millions)										Total
	1998 & Prior	1999	2000	2001	2002	2003	2004	2005	To Complete	Program	
Improved Data Modem (IDM)	39.5	27.6	16.5	32.5	42.6	53.7	35.7	46.9	30.3	325.3	
Aviation Mission Planning System	29.2	9.9	9.6	9.0	7.1					64.8	
Embedded GPS Inertial Navigation System (EGI) PPI			4.2	11.4	18.8	8.6	9.9	14.6	9.1	76.6	
Doppler GPS Navigation System (DGNS) (AN/ASN-128B) PPI				4.4	9.5	5.9	6.8	15.3	3.5	45.4	
Total	163.1	56.3	45.5	60.0	78.0	68.2	52.4	76.8	42.9	643.2	
ASE MODS (SIRFC) (AA0720)											
Laser Detecting Set AN/AVR-2A(V)/AH-64	30.6									30.6	
AN/ALQ-211 Suite of Integrated Radio Frequency CMS	127.0	5.4	11.7	4.5	14.3	4.8	4.9	2.2		174.8	
Advanced Threat Infrared Countermeasures (ATIRCM)	20.2									20.2	
Total	177.8	5.4	11.7	4.5	14.3	4.8	4.9	2.2		225.6	
ASE MODS (ATIRCM) (AA0722)											
Advanced Threat Infrared Countermeasures (ATIRCM)			4.9		12.0	12.0	21.1	31.0	199.5	280.5	
Total			4.9		12.0	12.0	21.1	31.0	199.5	280.5	
GATM (AA0701)											
Global Air Traffic Management(GATM) - Fixed Wing			7.0	6.9	25.7	43.0	33.2	42.7	85.5	244.0	
Global Air Traffic Management - Rotary Wing				3.2	28.5	27.2	36.9	27.4	15.7	138.9	
Total			7.0	10.1	54.2	70.2	70.1	70.1	101.2	382.9	
Grand Total	4039.1	890.8	1056.6	1063.0	1412.7	1534.2	1573.3	1345.4	3230.0	16145.3	

Exhibit P-40, Budget Item Justification Sheet											Date:	February 2000			
Appropriation / Budget Activity/Serial No:			P-1 Item Nomenclature:								ARL (TIARA) (A11500)				
AIRCRAFT PROCUREMENT / 1 / Aircraft			Other Related Program Elements:												
Program Elements for Code B Items:			Code:		FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty	Prior Years														
	82.1	29.7	39.3	13.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	164.2
Gross Cost															
Less PY Adv Proc															
Plus CY Adv Proc															
Net Proc (P-1)	82.1	29.7	39.3	13.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	164.2
Initial Spares															
Total Proc Cost	82.1	29.7	39.3	13.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	164.2
Flyaway U/C															
Wpns Sys Proc U/C															

DESCRIPTION: The Airborne Reconnaissance Low (ARL) has evolved from two complementary tactical airborne systems ARL-I (Imagery Intelligence IMINT), an Electro-optic reconnaissance and surveillance system, and ARL-C (communications intelligence COMINT), system which provides real-time highly accurate radio intercept and location. The ARL program integrates the capabilities of ARL-I and ARL-C into a single system which satisfies the requirements identified by validated SOUTHCOM Statements of Need (SON). The merger of these programs minimizes the acquisition and operational costs, increases availability, and optimizes flexibility resulting from the integration of the electro-optic and Radio Frequency (RF) sensors into a unified system. The primary sensors will be a Signal Intelligence (SIGINT) with precision Direction Finding (DF) capability and IMINT electro-optics for target identification and classification and multimode capability including wide area search Moving Target Indicator (MTI) and Synthetic Aperture Radar (SAR). ARL provides near real-time tactical airborne SIGINT and near real time IMINT collection support to Joint Task Force (JTF) Commanders. ARL is a multi-echelon level, multi-INT (combined SIGINT and IMINT) system, designed for forward deployment/force projection in Operations Other Than War (OOTW) to mid intensity conflict environments. ARL also conducts daily JCS Sensitive Reconnaissance Operations, is rapidly self-deployable to support contingency operations, and is the airborne Reconnaissance Surveillance Target Acquisition (RSTA) platform of choice for various non-DOD government agencies such as DEA and FEMA. ARL is currently providing an indications and warnings capability to U.S. Armed Forces in Korea. A November 1995 Department of the Army (DA) Directed Requirement validated the USARPAC/PACOM SON requirement for six ARL-Ms with Electronic Intelligence (ELINT) and MTI/SAR.

JUSTIFICATION: There is no planned program in FY 01 for ARL under this funding line.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft				P-1 Line Item Nomenclature: ARL (TIARA) (A11500)				Weapon System Type:		Date: February 2000	
Aircraft Cost Elements		FY 98		FY 99		FY 00		FY 01					
ID	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
AIRCRAFT Flyaway Costs													
Airframes/CFE		26480	2	13240									
ARL-M Systems 4&5 B-Kits for WKSTS		4766	1	4766									
Modify Airframe to ARL-M Config w/Sensors													
Upgrade to IMINT Suite (HW) - ARL-I						1	2903						
Y2K Retrofit													
Subtotal Flyaway Costs		31246											
Non-Recurring Costs													
Tooling Equipment													
Other System Test													
Total Flyaway		31246											
Support Cost													
Engineering Support		831					100						
Program Management (Admin Support)		3017					972						
GFE		358					1185						
Fielding													
Peculiar Training Equipment		1222											
Engineering Change Orders		2660					250						
Other (Testing/Spares)		8088					2507						
Subtotal Support Cost		39334					13019						
Gross P-1 End Cost													
Less: Prior Year Adv Proc													
Net P-1 Full Funding Cost													
Plus: P-1 CY Adv Proc		39334					13019						
Other Non P-1 Costs													
Initial Spares													
Mods													
TOTAL		39334					13019						

Exhibit P-5a, Budget Procurement History and Planning										Date: February 2000
Appropriation / Budget Activity/Serial No:		P-1 Line Item Nomenclature:								
AIRCRAFT PROCUREMENT / 1 / Aircraft		ARL (TIARA) (A11500)								
WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost \$000	Specs Avail Now?	Date Revisn Avail	RFP Issue Date
FY98 ARL-M System 4&5 B-Kits for Workstations per aircraft/imagery sensors and high performance multimide radar	Cal Microwave, Belcamp, MD	C/FP	CECOM	Dec-97	Jul-99	2	13240	Yes	No	
Modify Airframes to ARL-M config w/sensors	Cal Microwave, Belcamp, MD	C/FP	CECOM	Feb-98	Feb-00	1	4766	Yes	No	
FY99 Upgrade to IMINT Suites	Cal Microwave, Belcamp, MD	C/FP	CECOM	Feb-98	Feb-00	1	2903	Yes	No	
REMARKS:										

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:		P-1 Item Nomenclature:										UTILITY FW (MR) AIRCRAFT (A11300)	
AIRCRAFT PROCUREMENT / 1 / Aircraft		Other Related Program Elements:											
Program Elements for Code B Items:		Code:											
		A											
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty	7	5	5	5	1		2	2	2	2	37	68	
Gross Cost	21.8	21.8	22.0	26.8	5.3	0.0	14.3	14.3	15.1	15.1	259.0	415.6	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	21.8	21.8	22.0	26.8	5.3	0.0	14.3	14.3	15.1	15.1	259.0	415.6	
Initial Spares													
Total Proc Cost	21.8	21.8	22.0	26.8	5.3	0.0	14.3	14.3	15.1	15.1	259.0	415.6	
Flyaway U/C													
Wgt Sys Proc U/C													

DESCRIPTION:
The Cessna UC-35 (Medium Range) aircraft is a fully integrated, two-pilot crew, 6-8 passenger capability, multi-engine system with worldwide self-deployability. It has advanced technology, while being a non-developmental, fixed wing aircraft system. The UC-35 aircraft is being fielded using the concept of Life Cycle Contractor Support.

JUSTIFICATION:
The FY 01 budget provides no funding for UC-35 procurement.

Exhibit P-5, Weapon Aircraft Cost Analysis				Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft				P-1 Line Item Nomenclature: UTILITY FW (MR) AIRCRAFT (A11300)				Weapon System Type:				Date: February 2000			
Aircraft				FY 98				FY 99				FY 00				FY 01			
Cost Elements				TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	
				\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	
AIRCRAFT Flyaway Costs																			
Airframes / CFE																			
Avionics																			
A. GFE																			
Other GFE																			
Armament (FCR)																			
ECO (All Flyaway Components)																			
Other Costs (Halon)																			
Subtotal Flyaway Costs																			
Non-Recurring Costs																			
Tooling Equipment																			
Other System Test																			
Total Flyaway																			
Support Cost																			
Engine (leftover A model)																			
Airframe PGSE																			
Engine PGSE																			
Peculiar Training Equipment																			
Publications Tech / Data																			
Engineering Change Orders																			
Other (specify) Net/ICS/Mtxsupt																			
Subtotal Support Cost																			
Gross P-1 End Cost																			
Less: Prior Year Adv Proc																			
Net P-1 Full Funding Cost																			
Plus: P-1 CY Adv Proc																			
Other Non P-1 Costs																			
Initial Spares																			
Mods																			
TOTAL																			

Exhibit P-40, Budget Item Justification Sheet										Date:	
Appropriation / Budget Activity/Serial No:										February 2000	
AIRCRAFT PROCUREMENT / 1 / Aircraft										P-1 Item Nomenclature:	
GUARDRAIL COMMON SENSORS/ACS (TIARA) (A02005)											
Program Elements for Code B Items:											
Code:											
Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty											
Gross Cost	710.6	4.9	12.5	1.9	0.0	0.0	0.0	0.0	0.0	0.0	729.9
Less PY Adv Proc											
Plus CY Adv Proc											
Net Proc (P-1)	710.6	4.9	12.5	1.9	0.0	0.0	0.0	0.0	0.0	0.0	729.9
Initial Spares	117.6	11.3	0.8								129.7
Total Proc Cost	828.2	16.2	13.3	1.9	0.0	0.0	0.0	0.0	0.0	0.0	859.6
Flyaway U/C											
Wpn Sys Proc U/C											
DESCRIPTION: GUARDRAIL is an Airborne Signal intercept and emitter location system designed to provide commanders with critical battlefield information via a Commanders' Tactical Terminal (CTT) and other DoD tactical and fixed communication systems. The Army's GUARDRAIL/Common Sensor Systems (GRCS) will have a highly flexible architecture to allow deployment to support contingency operations. The GUARDRAIL/Common Sensor System (GRCS) integrates the improved GUARDRAIL V for communications intelligence (COMINT), the Communications High Accuracy Airborne Location System (CHAALS/CHALS-X) for COMINT and precision emitter location, and the Advanced QUICKLOOK (AQL) for electronics intelligence (ELINT) and precision emitter location into a single signal intelligence (SIGINT) system. The airborne elements are integrated into the RC-12K/N/P aircraft. Ground processing is conducted in the Integrated processing facility (IPF). Key performance requirements include a real-time COMINT and ELINT collection and high accuracy target location capability in communications and radar frequencies. The Interoperable Data Link (IDL)/Multi-Role Data Link (MRDL) connects the airborne elements and the ground processing element. Additional funding was provided in FY98 to integrate production CHAALS hardware into GRCS System 3 in Korea and to fund additional embedded training efforts. The current GRCS capabilities will be merged with those of the Airborne Reconnaissance Low (ARL) into a single airborne system (the Aerial Common Sensor (ACS) program) capable of providing a rapid response information dominance capability to land component commanders in the early 21st century. JUSTIFICATION: No Planned Program.											

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft		P-1 Line Item Nomenclature: GUARDRAIL COMMON SENSOR/ACS (TIARA) (A02005)		Weapon System Type:		Date: February 2000		
Aircraft Cost Elements		FY 98		FY 99		FY 00		FY 01		
ID	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
AIRCRAFT Flyaway Costs										
Airframes / CFE										
Avionics										
A. GFE										
Other GFE										
Armament (FCR)										
ECO (All Flyaway Components)										
Other Costs (Halon)										
Subtotal Flyaway Costs										
Non-Recurring Costs										
Tooling Equipment										
Other System Test										
Total Flyaway										
Support Cost										
Government In-House/Program Mgmt										
Test &Integration Facility										
Fielding/ICS										
CHAALS										
Embedded Training										
Engineering Change Orders										
Other (specify) Net/ICS/Mtxsupt										
Subtotal Support Cost										
Gross P-1 End Cost										
Less: Prior Year Adv Proc										
Net P-1 Full Funding Cost										
Plus: P-1 CY Adv Proc										
Other Non P-1 Costs										
Initial Spares										
Mods										
TOTAL		13270			1913					

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:		P-1 Item Nomenclature:										UH-60 BLACKHAWK (MYP) (AA0005)	
AIRCRAFT PROCUREMENT / 1 / Aircraft		Other Related Program Elements:											
Program Elements for Code B Items:		Code:											
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty	1418	34	28	29	19	6	9	22	12	16		1593	
Gross Cost	7352.7	288.0	321.5	293.0	199.3	81.2	110.8	233.7	159.6	222.1		9262.0	
Less PY Adv Proc	2210.4	72.8	65.1	23.2		16.6	19.5	42.6	40.9	58.2		2549.3	
Plus CY Adv Proc	2283.2	65.1	23.2		16.6	22.1	42.3	45.7	51.0			2549.3	
Net Proc (P-1)	7425.5	280.4	279.6	269.8	215.8	86.8	133.6	236.9	169.7	164.0		9262.0	
Initial Spares	410.0	5.4	2.4	3.5								421.3	
Total Proc Cost	7835.5	285.8	282.0	273.3	215.8	86.8	133.6	236.9	169.7	164.0		9683.3	
Flyaway U/C	5.0	7.9	10.3	8.8	8.8	8.3	9.1	9.3	10.5	11.8		5.4	
Wpn Sys Proc U/C	5.5	8.6	11.6	10.2	10.5	13.5	12.3	10.6	13.3	13.9		6.1	
DESCRIPTION The UH-60 BLACK HAWK is a twin engine, single rotor helicopter that is designed to support the Army's air mobility doctrine for employment of land forces into the 21st century. The BLACK HAWK is used in the performance of the Air Assault, General Support and Aeromedical Evacuation missions. It is designed to carry a crew of four and 11 combat-equipped troops or an external load up to 9,000 pounds. It performs the missions of transporting troops and equipment into combat, resupplying the troops while in combat, and performing the associated functions of aeromedical evacuation, repositioning of reserves, and command and control.													
JUSTIFICATION FY01 funds are required for the procurement of aircraft, continuation of fielding, and to provide for PMO operations. The BLACK HAWK budget is predicated on firm fixed prices on the FY97-01 Airframe multiservice multiyear contract. A new multiservice multiyear contract is planned, with Economic Order Quantity funding commencing in FY 2001. Multiyear exhibits requesting multiyear authorization are being submitted in this budget request. FY 1999 funding (included in PM Administration) was utilized for completion of the General Officer Steering Committee (GOSC) led Utility Fleet study. The required 90 'dual missioning' aircraft will be procured by FY 2005. Further, total annual quantities have been coordinated with the United States Navy (USN), assuring contract compliance. Due to the absence of FY99 Advance Procurement funding, FY99 production funds were used for long lead GFE (including engines) to support FY00/01 aircraft. This has the effect of artificially reducing the unit price of these aircraft.													

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft		P-1 Line Item Nomenclature: UH-60A (BLACK HAWK) (MYP) (AA0005)		Weapon System Type:		Date: February 2000	
ID CD	Aircraft Cost Elements	FY 98		FY 99		FY 00		FY 01	
		TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each
	AIRCRAFT Flyaway Costs								
	Airframes / CFE	176276	29	6078	138950	19	7313	41328	6
	Engines/Accessories	43949	74	594	17364	28	620	4005	6
	Avionics								
	A. GFE	9441			8142			2610	
	Other GFE	8313			1243			994	
	Armament								
	ECO (All Flyaway Components)								
	Other Costs (Mission Kits)				1339			691	
	Subtotal Flyaway Costs	237996			167038			49628	
	Non-Recurring Costs								
	Tooling Equipment								
	Other Nonrecurring	16705							
	Total Flyaway	254701			167038			49628	
	Support Cost								
	Airframe PGSE								
	Engine PGSE								
	Peculiar Training Equipment								
	Publications Tech / Data	4153			4189			5344	
	Engineering Change Orders								
	PM Administration	29085			24614			22488	
	Fielding	5081			3445			3745	
	Subtotal Support Cost	38319			32248			31577	
	Gross P-1 End Cost	293020			199286			81205	
	Less: Prior Year Adv Proc	23219						16554	
	Net P-1 Full Funding Cost	269801			199286			64651	
	Plus: P-1 CY Adv Proc				16554			22127	
	Other Non P-1 Costs								
	Initial Spares	3481						3021	
	UH-60 Mods	22671							
	Environmental Mods								
	UH-60Q MEDEVAC								
	TOTAL	295953			228802			89799	

Exhibit P-5a, Budget Procurement History and Planning											Date: February 2000
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 1 / Aircraft			Weapon System Type:			P-1 Line Item Nomenclature: UH-60A (BLACK HAWK) (MYP) (AA0005)					
WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost \$000	Specs Avail Now?	Date Revisn Avail	RFP Issue Date	
Airframes / CFE											
FY99 (Aircraft/Production Engineering)	Sikorsky, Stratford CT	SSM/FP	AMCOM	Dec-98	Dec-98	29	6078	Yes	No		
FY00 (Aircraft/Production Engineering)	Sikorsky, Stratford CT	SSM/FP	AMCOM	Dec-99	Dec-00	9	7661	Yes	No		
FY00 (Aircraft)	Sikorsky, Stratford CT	SSM/FP	AMCOM	Mar-00	Feb-01	10	7000	Yes	No		
FY01 (Aircraft/Production Engineering)	Sikorsky, Stratford CT	SSM/FP	AMCOM	Dec-00	Jan-02	6	6888	Yes	No		
Engines/Accessories											
FY 99 (Engines/Production Engineering)	General Electric, Lynn MA	SS/FP	AMCOM	Dec-97	Feb-99	16	603	Yes	No		
FY 99 (Engines)	General Electric, Lynn MA	SS/FP	AMCOM	Dec-98	Mar-99	34	585	Yes	No		
FY99 (Engines)	General Electric, Lynn MA	SS/FP	AMCOM	Apr-99	Jul-00	18	600	Yes	No		
FY99 (Engines)	General Electric, Lynn MA	SS/FP	AMCOM	Mar-00	Jul-01	6	600	Yes	No		
FY 00 (Engines/Production Engineering)	General Electric, Lynn MA	SS/FP	AMCOM	Mar-00	Jul-01	28	620	Yes	No		
FY 01 (Engines/Production Engineering)	General Electric, Lynn MA	SS/FP	AMCOM	Dec-00	Mar-02	6	668	Yes	No		
REMARKS: March 2000 award expected to be for seven UH-60L aircraft and three HH-60L MEDEVAC aircraft. Both the March 2000 and December 2000 awards reflect the procurement of base contract aircraft as well as contract option aircraft.											

Exhibit P-40, Budget Item Justification Sheet												
Appropriation / Budget Activity/Serial No:		P-1 Item Nomendature:		Date:		February 2000						
AIRCRAFT PROCUREMENT / 1 / Aircraft		UH-60 BLACKHAWK (MYP) (ADV / PROC) (AA0005)										
Program Elements for Code B Items:				Other Related Program Elements:								
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty												
Gross Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Less PY Adv Proc												
Plus CY Adv Proc	2283.2	65.1	23.2	0.0	16.6	22.1	42.3	45.7	51.0	0.0		2549.3
Net Proc (P-1)	2283.2	65.1	23.2	0.0	16.6	22.1	42.3	45.7	51.0	0.0	0.0	2549.3
Initial Spares												
Total Proc Cost	2283.2	65.1	23.2	0.0	16.6	22.1	42.3	45.7	51.0	0.0	0.0	2549.3
Flyaway U/C												
Wpn Sys Proc U/C												
DESCRIPTION: The Advance Procurement for the UH-60 BLACK HAWK contains funding for the airframe and engine contracts as well as for funding for Government Furnished Equipment (GFE) to support UH-60 aircraft and mission kit production. GFE includes such items as the Auxiliary Power Unit (APU), Hover Infrared Suppressor Subsystem (HIRSS), Crew Seats, and other miscellaneous equipment. JUSTIFICATION: Advance Procurement requested in FY98, FY00, and FY01 is for termination liability for aircraft on the FY97-01 multiservice multiyear contract and a new airframe contract planned for FY 2002-FY 2006, with EOQ funding of long lead items commencing in FY 2001. In addition, advance procurement is required for the procurement of GFE items, including the T700-GE-701C engine, the Auxiliary Power Unit (APU), Crew Seats, and the Hover Infrared Suppressor Subsystem (HIRSS). The Prime Contractor has waived the requirement for Advance Procurement funding in FY99 only.												

Advance Procurement Requirements Analysis-Funding (P-10A)														
Appropriation / Budget Activity/Serial No:				First System Award Date:				First System Completion Date:				Date:		
AIRCRAFT PROCUREMENT / 1 / Aircraft				P-1 Line Item Nomenclature / Weapon System:				UH-60 BLACKHAWK (MYP) (ADV PROC) (AA00005)						
(\$ in Millions)														
	PLT (mos)	When Rqd (mos)	Pr Yrs	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Comp	Total
End Item Quantity:			1,418	34	28	29	19	6	9	22	12	16		1,593
CFE Airframe	18	6	1406.8	40.0	12.3		12.0	10.8	26.6	31.0	34.0			1573.4
Engines	14	3	621.9	20.8	9.4		3.7	7.4	13.8	11.5	15.7			704.3
Avionics	Var	3	124.3											124.3
Auxiliary Power Unit	15	3	40.6	1.3	1.0		0.5	1.9	1.4	1.4	1.3			48.0
Armored Crew Seat	12	3	19.7	1.4					0.5	1.4				23.0
Hover Infrared Suppressor	14	3	28.1	0.8			0.4	2.0		1.9				33.1
Elastomeric Bearings	10	3	1.3	0.2										1.5
Other	Var	Var	40.5	0.6	0.5									41.6
Total Advance Procurement			2283.2	65.1	23.2		16.6	22.1	42.3	45.7	51.0			2549.2
Description:Leadtime shown is manufacturing (production) leadtime. 'When Required' reflects end item delivery starting in July, a Dec 31 contract award, and a three month dock time for GFE. CFE airframe is termination liability of long lead as well as economic order quantities. Engine, avionics, APU, crew seats HIRSS, and elastomeric bearings are items that are fully funded in advance.Other cost is for mission kits and contractor concurrent support of fully funded items. GFE items funded in economic quantities when funding permits.														

Advance Procurement Requirements Analysis-Budget Justification (P-10B)									
Appropriation / Budget Activity/Serial No:				P-1 Line Item Nomenclature / Weapon System:				Date:	
AIRCRAFT PROCUREMENT / 1 / Aircraft				UH-60 BLACKHAWK (MYP) (ADV PROG) (AA00005)				February 2000	
(\$ in Millions)									
	PLT (mos)	Quantity Per Assembly	Unit Cost	2000		2001		Total Cost Request	
				Qty	Contract Forecast Date	Qty	Contract Forecast Date		
UH-60L BLACK HAWK									
Airframe	18	1	2,000/1,196	6	Feb 00	12.0	9	Dec 00	10.8
Engine	14	2	.620/.620	6	Mar 00	3.7	12	Dec 00	7.4
Auxiliary Power Unit	15	1	.077/.077	6	Mar 00	0.5	25	Mar 01	1.9
Hover Infrared Suppressor	14	1	.063/.064	6	Mar 00	0.4	31	Mar 01	2.0
Total Advance Procurement						16.6			22.1
Description: Airframe cost in FY2000 is for termination liability on the current multiyear contract for both long lead (LLT) and Economic Order Quantity (EOQ) items, and reflects the lack of any prior advance funding for the last year of a multiyear contract. FY2001 airframe funds are for termination liability of an anticipated new multiservice multiyear contract. Engine requirements are being procured on an existing Indefinite Delivery, Indefinite Quantity (IDIQ) contract with currently priced options on deliveries through CY2000--additional option prices are planned for negotiation. Use of FY98 and FY99 funding has reduced the Advance Procurement requirement for engines. EOQ buys in FY99 impact the quantities required for the APU, Crew Seat, and Hover Suppressor.									

Advance Procurement Requirements Analysis-Present Value Analysis (P-10C)										Date: February 2000		
Appropriation / Budget Activity/Serial No:					P-1 Line Item Nomenclature / Weapon System:					UH-60 BLACKHAWK (MYP) (ADV PROG) (AA00005)		
AIRCRAFT PROCUREMENT / 1 / Aircraft					(\$ in Millions)							
	Pr Yrs	1997	1998	1999	2000	2001	2002	2003	2004	2005	To Comp	Total
Proposal w/o AP												
Then Year Cost		37	137	253	282	205	138	167	192	194	204	1809
Constant Year Cost		39	143	260	286	205	136	161	182	181	184	1777
Present Value		38	137	244	261	182	117	136	149	144	142	1550
AP Proposal												
Then Year Cost		37	134	244	269	195	132	161	185	188	198	1743
Constant Year Cost		39	139	251	273	195	130	156	176	174	178	1711
Present Value		38	134	235	249	173	113	131	144	139	137	1493
AP Savings (Difference)												
Then Year Cost			-3	-9	-13	-10	-6	-6	-7	-6	-6	-66
Constant Year Cost			-4	-9	-13	-10	-6	-5	-6	-7	-6	-66
Present Value			-3	-9	-12	-9	-4	-5	-5	-5	-5	-57
Remarks: Costs shown are total program outlays. The AP proposal represents the cost associated with the FY97-01 airframe multiyear contract and an anticipated multiyear contract commencing in FY 2001. Proposal without AP is the estimated cost for airframe single year contracts from FY 1997 through FY 2005.												

Advance Procurement Requirements Analysis-Execution (P-10D)										
Appropriation / Budget Activity/Serial No:					Date: February 2000					
P-1 Line Item Nomenclature / Weapon System:					UH-60 BLACKHAWK (MYP) (ADV PROC) (AA0005)					
AIRCRAFT PROCUREMENT / 1 / Aircraft										
(\$ in Millions)										
	PLT (mos)	1998			1999			2000		2001
		Contract Forecast Date	Actual Contract Date	Total Cost Request	Actual Contract Cost	Contract Forecast Date	Actual Contract Cost	Total Cost Request	Contract Forecast Date	Qty
UH-60L BLACK HAWK										
Airframe	18	12	Dec 97	12.3	12.3					9
Engine	14	12	Dec 97	6.7	9.4					12
Auxiliary Power Unit	15	12	Dec 97	1.0	1.0					25
Crew Seats	12	24	Dec 97	0.5						31
Hover Suppresspr	14	12	May 98	0.8						
Elastomeric Bearings	10	12	Dec 97	0.2						
Avionics	Var	12	Various	3.0						
Other	N/A	N/A	Dec 97	0.5	0.5					
Total Advance Procurement				25.0	23.2					
Description:Source of estimated dollars and award dates for FY 1998 is the FY98 President's Budget. Engine quantity procured was four greater than had been projected. Avionics and Elastomeric Bearings are now being requisitioned from the supply system. Other cost is planned for procurement out of the Buy line. Lack of advance procurement in FY99 reflects the plan (since reversed) to discontinue after the FY99 buy. Advance procurement for the airframe is for termination liability. Airframe quantity in FY01 is for the total FY02-06 Army requirement (MYC).										

Advance Procurement Requirements Analysis-Obligations/Expenditures (P-10E)															
Appropriation / Budget Activity/Serial No:										Date: February 2000					
P-1 Line Item Nomenclature / Weapon System:										UH-60 BLACKHAWK (MYP) (ADV PROC) (AA0005)					
AIRCRAFT PROCUREMENT / 1 / Aircraft										FY 98					
(\$ in Millions)															
	Total Program	1997			1998							Total Obl/Exp (Cum)	Ending Balance (Cum)		
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul			Aug	Sep
FY 98															
Obl Plan	24.4			23.5				.9							24.4
Actual	23.2			21.7	.5				1.0						23.2
Exp Plan															
Actual															
FY 99															
Obl Plan															
Actual															
Exp Plan															
Actual															
FY 00															
Obl Plan	16.6														16.6
FY 01															
Obl Plan	22.1														22.1
Narrative: Expenditure plans are not utilized.															

Advance Procurement Requirements Analysis-Obligations/Expenditures (P-10E)																
Appropriation / Budget Activity/Serial No:										Date: February 2000						
AIRCRAFT PROCUREMENT / 1 / Aircraft										P-1 Line Item Nomenclature / Weapon System: UH-60 BLACKHAWK (MYP) (ADV PROC) (AA00005)						
(\$ in Millions)																
	Starting Balance	FY 99												Total Obl/Exp (Cum)	Ending Balance (Cum)	
		1998						1999								
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep			
FY 98																
Obl Plan																
Actual																
Exp Plan																
Actual																
FY 99																
Obl Plan																
Actual																
Exp Plan																
Actual																
FY 00	16.6															16.6
Obl Plan																
FY 01	22.1															22.1
Obl Plan																
Narrative:																

Advance Procurement Requirements Analysis-Obligations/Expenditures (P-10E)															
Appropriation / Budget Activity/Serial No:										Date: February 2000					
AIRCRAFT PROCUREMENT / 1 / Aircraft										P-1 Line Item Nomenclature / Weapon System: UH-60 BLACKHAWK (MYP) (ADV PROC) (AA0005)					
(\$ in Millions)															
	Starting Balance	FY 00											Total Obl/Exp (Cum)	Ending Balance (Cum)	
		1999					2000								
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			Sep
FY 98															
Obl Plan															
Actual															
Exp Plan															
Actual															
FY 99															
Obl Plan															
Actual															
Exp Plan															
Actual															
FY 00	16.6				12.0	4.6								16.6	
Obl Plan															
Actual															
FY 01	22.1														22.1
Obl Plan															
Actual															
Narrative:															

Advance Procurement Requirements Analysis-Obligations/Expenditures (P-10E)													
Appropriation / Budget Activity/Serial No:										Date:		February 2000	
AIRCRAFT PROCUREMENT / 1 / Aircraft										P-1 Line Item Nomenclature / Weapon System:			
										UH-60 BLACKHAWK (MYP) (ADV PROC) (AA0005)			
(\$ in Millions)													
	Starting Balance	FY 00				FY 01				Total Obl/Exp (Cum)	Ending Balance (Cum)		
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May			Jun	Jul
FY 98													
Obl Plan													
Actual													
Exp Plan													
Actual													
FY 99													
Obl Plan													
Actual													
Exp Plan													
Actual													
FY 00													
Obl Plan													
FY 01													
Obl Plan	22.1			18.2						3.9			22.1
Narrative:													

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:		P-1 Item Nomenclature:											
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		GUARDRAIL MODS (TIARA) (AZ2000)											
Program Elements for Code B Items:		Other Related Program Elements:											
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	559.4	0.0	14.3	43.5	18.7	22.6	28.1	33.7	29.9	13.7	0.0	764.0	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	559.4		14.3	43.5	18.7	22.6	28.1	33.7	29.9	13.7	0.0	764.0	
Initial Spares	0.4	5.7	3.2	1.8	5.8			5.8				22.7	
Total Proc Cost	559.8	5.7	17.6	45.3	24.5	22.6	28.1	39.5	29.9	13.7	0.0	786.8	
Flyaway UIC													
Wpn Sys Proc UIC													

DESCRIPTION: Guardrail is an Airborne signal intercept and emitter location system designed to provide tactical commanders with critical battlefield information via a Joint Tactical Terminal (JTT) and other DoD tactical and fixed communications systems. The Army's GUARDRAIL /Common Sensor System (GRCS) will have a highly flexible architecture to allow rapid deployment to support contingency operations.

The GRCS integrates the Improved GUARDRAIL V for communications intelligence (COMINT), the Communications High Accuracy Airborne Location System (CHAALS/CHALS-X) for COMINT and precision emitter location, and the Advanced QUICKLOOK (AQL) for electronics intelligence (ELINT) and precision emitter location into a single signal intelligence (SIGINT) system. The airborne elements are integrated into the RC-12K/N/P/Q aircraft. Ground processing is conducted in the Integrated Processing Facility (IPF). Key performance requirements include a real-time COMINT and ELINT collection and high accuracy target location capability in communications and radar frequencies. The Interoperable Data Link (IDL)/Multi-Role Data Link (MRDL) connects the airborne elements and the ground processing element. A satellite remote relay will provide rapid deployment capability.

JUSTIFICATION: FY01 funds procure a HMMWV based Minaturized -Integrated Processing Facility (Mini-IPF) to replace the existing GRCS System 4 trailer based IPF.

Exhibit P-40M Budget Item Justification Sheet											Date
Appropriation / Budget Activity/Serial No.		P-1 Item Nomenclature			February 2000						
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		GUARDRAIL MODS (TIARA) (AZ2000)									
Program Elements for Code B Items		Code	Other Related Program Elements								
Description		Fiscal Years									
OSIP NO.	Classification	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	TC	Total
System 2 Block Upgrade											
1-96-666-6666	Operational	198.8	40.7	18.7	0.0	0.0	0.0	0.0	0.0	0.0	258.2
TIBS and TRIXS for GRCS											
1-96-777-7777	Operational	27.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.1
Mini-IPF											
1-00-111-1111	Operational	0.0	0.0	0.0	22.6	18.2	3.7	3.7	0.0	0.0	48.2
ELINT Pod Replacement (No P3a Set)											
1-01-111-1111	Operational	0.0	0.0	0.0	0.0	9.9	10.3	15.4	3.6	0.0	39.2
SIGINT Transition Program (STP) (No P3a Set)											
01-03-111-1111	Operational	0.0	0.0	0.0	0.0	0.0	14.0	8.8	9.0	0.0	31.8
Joint Tactical Terminal (JTT) Integration (No P3a Set)											
1-03-222-2222	Operational	0.0	0.0	0.0	0.0	0.0	5.7	2.0	0.0	0.0	7.7
Sygate Integration (No P3a Set)											
1-04-111-1111	Operational	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	1.1
System 4 Remote Relay											
1-99-111-1111	Operational	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Totals											
		225.9	43.7	18.7	22.6	28.1	33.7	29.9	13.7	0.0	416.3

INDIVIDUAL MODIFICATION																																																																																																																						
MODIFICATION TITLE: System 2 Block Upgrade 1-96-666-6666														Date																																																																																																								
MODELS OF SYSTEMS AFFECTED: GUARDRAIL/Common Sensor System to RC-12 P/Q																																																																																																																						
DESCRIPTION / JUSTIFICATION:																																																																																																																						
The GUARDRAIL/Common Sensor System Block Upgrade is a modification to the System 2 Production Contract. It provides the required outyear efforts in support of the basic GR/CS System 2 program and major ECPs to include Advanced Tactical SIGINT Architecture (ATSA), Advanced Situations Analysis and Reporting Tools (ASART) and Direct Air to Satellite Relay (DASR). The ECPs were awarded with prior year funds and included installation costs. These funds are the annualized costs required to support these efforts. These annualized costs include contractor and government engineering, interim contractor support, training, testing, fielding, and program management. There are no hardware quantity procurements planned.																																																																																																																						
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: <table border="0"> <tr> <td></td> <td>Planned</td> <td>Accomplished</td> </tr> <tr> <td>IPF Upgrade Award;</td> <td>1QFY93</td> <td>1QFY93</td> </tr> <tr> <td>DASR Contract Awards;</td> <td>2QFY94</td> <td>4QFY94</td> </tr> <tr> <td>ASART Contract Award;</td> <td>4QFY94</td> <td>4QFY94</td> </tr> <tr> <td>System Fielding;</td> <td>2QFY00</td> <td></td> </tr> <tr> <td>Field Testing</td> <td>3QFY00</td> <td></td> </tr> </table>																Planned	Accomplished	IPF Upgrade Award;	1QFY93	1QFY93	DASR Contract Awards;	2QFY94	4QFY94	ASART Contract Award;	4QFY94	4QFY94	System Fielding;	2QFY00		Field Testing	3QFY00																																																																																							
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INDIVIDUAL MODIFICATION														February 2000					
System 2 Block Upgrade 1-96-666-6666																			
FINANCIAL PLAN: (\$ in Millions)																			
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																			
PROCUREMENT																			
Kit Quantity																			
Installation Kits																			
Installation Kits, Nonrecurring																			
Equipment	99.1		14.8																113.9
Equipment, Nonrecurring	46.5																		46.5
Engineering Change Orders	2.5																		2.5
GFE/Aircraft Support	10.5				4.0														17.7
Training/Fielding	1.2				3.6														11.7
Support Equipment	1.9				1.8														5.5
Other	3.6																		3.6
Interim Contractor Support	1.0				4.2														9.3
Testing	7.0				4.1														11.1
Gov In House/Prg Mgmt ADM	11.5				2.3														16.1
Contractor Engineering	14.0				2.8														20.3
Installation of Hardware																			
FY 1998 & Prior Eqpt -- Kits																			
FY 1999 Eqpt -- Kits																			
FY 2000 Eqpt -- Kits																			
FY 2001 Eqpt -- Kits																			
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FY 2003 Eqpt -- kits																			
FY 2004 Eqpt -- kits																			
FY 2005 Eqpt -- kits																			
TC Equip-Kits																			
Total Installment																			
Total Procurement Cost	198.8		40.7		18.7														258.2

INDIVIDUAL MODIFICATION																																																																																																																																							
Date										February 2000																																																																																																																													
MODIFICATION TITLE: TIBS and TRIXS for GRCS 1-96-777-7777																																																																																																																																							
MODELS OF SYSTEMS AFFECTED: Guardrail Common Sensor Systems 1, 3 & 4																																																																																																																																							
DESCRIPTION / JUSTIFICATION: This modification provides a Tactical Information Broadcast Service (TIBS) capability for GR/CS Systems 1, 3 and 4. It provides Tactical Reconnaissance Intelligence Exchange System (TRIXS) capability for all GR/CS systems. TIBS will be integrated into the 3 IPFs allowing the IPFs to become TIBS producers. The TRIXS capability will allow broadcast and receive on both the collateral and SI networks for GRCS Systems 1, 3, and 4. The TRIXS capability will be accomplished by using CECOM 's Intelligence and Information Warfare Directorate (I2WD) as the system integrator. The hardware will be integrated into a shelterized HMMWV which will then be fielded to the existing GRCS Systems.																																																																																																																																							
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> Planned TIBS Contract Award: 3QFY96 TRIXS Contract Award: 2QFY98 TIBS System Req't Review: 1QFY97 TRIXS System Req't Review: 2QFY98 TIBS/TRIXS Qtr Reviews: Quarterly </td> <td style="width: 33%; vertical-align: top;"> Accomplished 4QFY96 2QFY98 1QFY97 2QFY98 </td> <td style="width: 33%; vertical-align: top;"> Planned TIBS Preliminary Acceptance: 3QFY98 TRIXS Preliminary Acceptance: 2QFY99 TIBS Final Acceptance Test: 4QFY00 TRIXS Final Acceptance Test: 4QFY00 </td> </tr> </table>												Planned TIBS Contract Award: 3QFY96 TRIXS Contract Award: 2QFY98 TIBS System Req't Review: 1QFY97 TRIXS System Req't Review: 2QFY98 TIBS/TRIXS Qtr Reviews: Quarterly	Accomplished 4QFY96 2QFY98 1QFY97 2QFY98	Planned TIBS Preliminary Acceptance: 3QFY98 TRIXS Preliminary Acceptance: 2QFY99 TIBS Final Acceptance Test: 4QFY00 TRIXS Final Acceptance Test: 4QFY00																																																																																																																									
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INDIVIDUAL MODIFICATION																																																																																														
MODIFICATION TITLE: Mini-IPF 1-00-111-1111										Date																																																																																				
February 2000																																																																																														
MODELS OF SYSTEMS AFFECTED: GUARDRAIL/Common Sensor System 3 & 4																																																																																														
DESCRIPTION / JUSTIFICATION:																																																																																														
This modification provides for two (2) miniaturized Integrated Processing Facilities (Mini-IPF) to replace two of the current IPFs which are comprised of four (40) forty foot vans. The Mini-IPFs support increased flexibility in deployment, reduce transportation requirements, and field a current and supportable baseline. The FY01 funds procure and shelterize all the hardware and software to build a fully functional Mini-IPF. FY02 funds will be used to build a second Mini-IPF. FY03 and FY04 funds will be used to field, and test both IPFs.																																																																																														
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:																																																																																														
Mini-IPF #1 Contract(s) Award Integration CONUS Test Field & OCONUS Test				Planned 1QFY01 3QFY01 4QFY02 2QFY03				Accomplished																																																																																						
Mini-IPF #2 Contract(s) Award Integration CONUS Test Field & OCONUS Test				Planned 1QFY02 3QFY02 4QFY03 2QFY04				Accomplished																																																																																						
Installation Schedule:																																																																																														
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Delivery Date:				FY 1999				FY 2000				FY 2001				FY 2002																																																																														
				ADMINISTRATIVE LEADTIME:				1 Months				PRODUCTION LEADTIME:				22 Months																																																																														

INDIVIDUAL MODIFICATION														Date		February 2000					
MODIFICATION TITLE (Cont):														Mini-IPF 1-00-111-1111							
FINANCIAL PLAN: (\$ in Millions)																					
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL			
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
RDT&E																					
PROCUREMENT																					
Kit Quantity																					
Installation Kits																					
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Fielding																					
Testing																					
Shelter Facilitiztion/Mod																					
Installation of Hardware																					
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TC Equip-Kits																					
Total Installment																					
Total Procurement Cost																					

INDIVIDUAL MODIFICATION																																																																																																																						
MODIFICATION TITLE: System 4 Remote Relay 1-99-111-1111														Date																																																																																																								
MODELS OF SYSTEMS AFFECTED: Guardrail Common Sensor System 4																																																																																																																						
DESCRIPTION / JUSTIFICATION:																																																																																																																						
This modification provides for the purchase of a new satellite terminal to replace the existing Crazy Horse Satellite Terminal (provided in the short term modification, 1-99-222-2222, FY99), and other hardware to provide a mid-term Remote Relay (RR) capability to GUARDRAIL Common Sensor (GRCS) System 4. Efforts include purchase, test and integration of a minimum capability Transportable Medium Earth Terminal (TMET), Commercial Modems and other associated hardware at a CONUS site. This will allow access to some satellites providing coverage of the operational area for System 4. Hardware will be fielded to the OCONUS site, replacing the Crazy Horse hardware, and integrated with GRCS System 4, and tested to provide the local terminal Remote Relay capability to System 4. (the use of TMET supports the MINI-IPF effort in the long-term).																																																																																																																						
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> Planned Contract Award: 2Q00 TMET Delivery/Ship: 1Q01 Integration and Test: 1Q01 Final Acceptance: 1Q01 </td> <td style="width: 50%; vertical-align: top;"> Accomplished </td> </tr> </table>															Planned Contract Award: 2Q00 TMET Delivery/Ship: 1Q01 Integration and Test: 1Q01 Final Acceptance: 1Q01	Accomplished																																																																																																						
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Pr Yr	FY 2005				FY 2006				FY 2007				FY 2008				To Complete																																																																																																					
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METHOD OF IMPLEMENTATION: <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; text-align: center;"> Contract Dates: FY 2000 Feb 00 Delivery Date: FY 2000 Oct 00 </td> <td style="width: 33%; text-align: center;"> ADMINISTRATIVE LEADTIME: 6 Months FY 2000 Feb 00 FY 2000 Oct 00 </td> <td style="width: 33%; text-align: center;"> PRODUCTION LEADTIME: 8 Months FY 2001 FY 2001 </td> </tr> </table>															Contract Dates: FY 2000 Feb 00 Delivery Date: FY 2000 Oct 00	ADMINISTRATIVE LEADTIME: 6 Months FY 2000 Feb 00 FY 2000 Oct 00	PRODUCTION LEADTIME: 8 Months FY 2001 FY 2001																																																																																																					
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INDIVIDUAL MODIFICATION																				
Date																				
February 2000																				
System 4 Remote Relay 1-99-111-1111																				
MODIFICATION TITLE (Cont):																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring Equipment	1		1	2.1															1	2.1
Equipment, Nonrecurring Engineering Change Orders				0.2																0.2
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Government In House/Pgm Mgmt				0.3																0.3
Contractor Engineering				0.3																0.3
Installation of Hardware																				
FY 1998 & Prior Eqpt -- Kits																				
FY 1999 Eqpt -- Kits			1	0.1															1	0.1
FY 2000 Eqpt -- Kits																				
FY 2001 Eqpt -- K'its																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
FY 2004 Eqpt -- kits																				
FY 2005 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment			1	0.1															1	0.1
Total Procurement Cost				3.0																3.0

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:		P-1 Item Nomenclature:											
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		ARL MODS (AZ2050)											
Program Elements for Code B Items:		Other Related Program Elements:											
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	0.0	0.0	0.0	0.0	5.8	6.6	2.4	29.1	20.9	15.8	0.0	80.6	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	0.0	0.0	0.0	0.0	5.8	6.6	2.4	29.1	20.9	15.8	0.0	80.6	
Initial Spares													
Total Proc Cost	0.0	0.0	0.0	0.0	5.8	6.6	2.4	29.1	20.9	15.8	0.0	80.6	
Flyaway U/C													
Wpn Sys Proc U/C													
DESCRIPTION: The Airborne Reconnaissance Low (ARL) has evolved from two complementary tactical airborne systems ARL-I (Imagery Intelligence (IMINT)), an electro-optic reconnaissance and surveillance system, and ARL-C (communications intelligence (COMINT)), system which provides real-time highly accurate radio intercept and location. The ARL program integrates the capabilities of ARL-I and ARL-C into a single system which satisfies the requirements identified by validated SOUTHCOM Statements of Need (SON). The merger of these programs minimizes the acquisition and operational costs, increases availability, and optimizes flexibility resulting from the integration of the electro-optic and Radio Frequency (RF) sensors into a unified system. The primary sensors will be a Signal Intelligence (SIGINT) with precision Direction Finding (DF) capability, IMINT electro-optics for target identification, and classification and multimode capability including wide area search Moving Target Indicator (MTI) and Synthetic Aperture Radar (SAR). ARL provides near real-time tactical airborne SIGINT and near real time IMINT collection support to Joint Task Force (JTF) Commanders. ARL is a multi-echelon level, multi-INT (combined SIGINT and IMINT) system, designed for forward deployment/force projection in Operations Other Than War (OOTW) to mid intensity conflict environments. ARL also conducts daily JCS Sensitive Reconnaissance Operations, is rapidly self-deployable to support contingency operations, and is the airborne Reconnaissance Surveillance Target Acquisition (RSTA) platform of choice for various non-DOD government agencies such as DEA and FEMA. ARL is currently providing an indications and warnings capability to U.S. Armed Forces in Korea. A November 1995 Department of the Army (DA) Directed Requirement validated the USARPAC/PACOM SON requirement for six ARL-Ms with Electronic Intelligence (ELINT) and MTI/SAR. JUSTIFICATION: FY 01 funds will provide for further software retrofits and improvements to existing IMINT suites. FY01 also provides funding for the procurement and installation of Demand Assigned Multiple Access (DAMA) compliant radios mandated for Tactical Satellite communications on the two ARL-C aircraft.													

Exhibit P-40M Budget Item Justification Sheet											Date	February 2000
Appropriation / Budget Activity/Serial No.			P-1 Item Nomenclature			ARL MODS (AZ2050)						
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft												
Program Elements for Code B Items			Code		Other Related Program Elements							
Description			Fiscal Years									
OSIP NO.	Classification		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	TC	Total
B-Kits for WKSTS												
1-00-111-1111	Operational		0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Upgrade to IMINT Suite												
1-00-222-2222	Operational		0.0	0.0	2.6	4.6	0.5	0.0	5.1	0.0	0.0	12.8
Radar Improvements												
1-00-333-3333	Operational		0.0	0.0	1.6	0.0	0.0	1.6	0.0	0.0	0.0	3.2
Upgrade to DAMA Compliant Radio												
1-01-111-1111	Operational		0.0	0.0	0.0	2.0	1.9	3.0	0.0	0.0	0.0	6.9
COMINT Upgrades (No P3a Set)												
1-03-111-1111	Operational		0.0	0.0	0.0	0.0	0.0	5.1	3.0	3.0	0.0	11.1
Aircraft Standardization (No P3a Set)												
1-03-222-2222	Operational		0.0	0.0	0.0	0.0	0.0	5.9	5.0	5.0	0.0	15.9
Aircraft Survivability Equipment for ARL (No P3a Set)												
1-03-333-3333	Operational		0.0	0.0	0.0	0.0	0.0	5.8	5.8	5.8	0.0	17.4
Joint Tactical terminal (JTT) integration (No P3a Set)												
1-03-444-4444	Operational		0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	6.0
Airspace 2000 (No P3a Set)												
1-03-555-5555	Operational		0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0
Upgrade ARL-M4 & M5 IMINT Suites (No P3a Set)												
1-03-666-6666	Operational		0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	2.7
Totals												
			0.0	0.0	5.8	6.6	2.4	29.1	20.9	15.8	0.0	80.6

INDIVIDUAL MODIFICATION																																																																																																																						
Date										February 2000																																																																																																												
MODIFICATION TITLE: B-Kits for WKSTS 1-00-111-1111																																																																																																																						
MODELS OF SYSTEMS AFFECTED: ARL-M																																																																																																																						
DESCRIPTION / JUSTIFICATION: Hardware was procured in FY 99 under ARL (TIARA), A11500. The ARL system will be upgraded to allow full Electronic Support Measures (ESM) capability for ARL M4. This will result in workstation hardware and software improvements to allow complete integration of the Superhawk ESM sensor suite. FY 00 funds the execution of the contract option for the installation of these efforts.																																																																																																																						
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Planned Contract Option Award 2QFY00 System Status Review 2QFY00 System Acceptance Test 4QFY00 System Fielding 1QFY01 Accomplished																																																																																																																						
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Pr Yr	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003																																																																																																					
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INDIVIDUAL MODIFICATION														Date		February 2000					
MODIFICATION TITLE (Cont):														B-Kits for WKSTS 1-00-111-111							
FINANCIAL PLAN: (\$ in Millions)																					
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL			
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
RDT&E																					
PROCUREMENT																					
Kit Quantity																					
Installation Kits																					
Installation Kits, Nonrecurring Equipment																					
Equipment, Nonrecurring																					
Engineering Change Orders																					
Data																					
Training Equipment																					
Support Equipment																					
Other																					
Interim Contractor Support																					
Gov't In House/Program Mgmt																					
						0.1												0.1			
Installation of Hardware																					
FY 1998 & Prior Eqpt -- Kits																					
FY 1999 Eqpt -- Kits																					
				1		1.5												1 1.5			
FY 2000 Eqpt -- Kits																					
FY 2001 Eqpt -- Kits																					
FY 2002 Eqpt -- kits																					
FY 2003 Eqpt -- kits																					
FY 2004 Eqpt -- kits																					
FY 2005 Eqpt -- kits																					
TC Equip-Kits																					
				1		1.5												1 1.5			
Total Installment																					
						1.6												1.6			
Total Procurement Cost																					

INDIVIDUAL MODIFICATION												Date	February 2000
MODIFICATION TITLE: Upgrade to IMINT Suite 1-00-222-2222													
MODELS OF SYSTEMS AFFECTED: ARL-M													
DESCRIPTION / JUSTIFICATION:													
This modification provides for upgrades and improvements to the Imagery Intelligence (IMINT) suites of each of the ARL-M aircraft. These improvements will allow ARL to more effectively meet its imagery collection requirements established by both CINC SOUTHCOM and CINC PACOM. Improvements consist of both hardware and software modifications. In addition, special application sensors (Foliage Penetration (FOPEN) and Hyperspectral Imagery (HSI) will be integrated and tested to support the SOUTHCOM theater of operations. In FY00 two ARL aircraft (M1 & M2) will have their IMINT suites upgraded to incorporate a 2nd Generation FLIR and improved Daylight Imaging System (DIS). In FY01 ARL aircraft (M3) will receive the IMINT suite upgrade and installation will occur on all three aircraft. All are currently operational in Korea. This will bring them up to the same IMINT baseline found on the more recently built ARL aircraft (M4 & M5). FY01 will consist of further software modifications to change video recording from analog to digital.													
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:													
		Planned		Accomplished		Planned		Accomplished					
Contract Award		2QFY00				1QFY01							
System Status Review		2QFY00				1QFY01							
System Acceptance Test		2QFY01				4QFY01							
System Fielding		3QFY01				1QFY02							
Installation Schedule:													
Pr Yr		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003			
Totals		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
Outputs													
		FY 2004		FY 2005		FY 2006		FY 2007		To		Totals	
1		2	3	4	1	2	3	4	1	2	3	4	
Inputs													
Outputs													
METHOD OF IMPLEMENTATION:													
Contract Dates:		FY 1999		FY 2000		Feb 00		8 Months		FY 2001		Oct 00	
Delivery Date:		FY 1999		FY 2000		Mar 01		PRODUCTION LEADTIME:		FY 2001		Nov 01	

INDIVIDUAL MODIFICATION																																																																																																																						
MODIFICATION TITLE: Radar Improvements 1-00-333-3333														Date																																																																																																								
February 2000																																																																																																																						
MODELS OF SYSTEMS AFFECTED: ARL-M																																																																																																																						
DESCRIPTION / JUSTIFICATION:																																																																																																																						
This modification provides for software improvements to the Moving Target Indicator (MTI)/Synthetic Aperture Radar (SAR) sensor. Specific FY00 improvements include increased SAR image resolution, additional radar modes of operation, improved MTI probability of detection. FY03 provides for further improvements through additional software algorithm uploads to improve image structure and target recognition.																																																																																																																						
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> Contract Award System Status Review System Acceptance Test System Fielding; </td> <td style="width: 50%; vertical-align: top;"> Planned 2QFY00 2QFY00 4QFY00 1QFY01 </td> </tr> <tr> <td colspan="2" style="text-align: center;">Accomplished</td> </tr> </table>															Contract Award System Status Review System Acceptance Test System Fielding;	Planned 2QFY00 2QFY00 4QFY00 1QFY01	Accomplished																																																																																																					
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PRODUCTION LEADTIME: 12 Months																																																																																																																						

INDIVIDUAL MODIFICATION												Date	February 2000
MODIFICATION TITLE: Upgrade to DAMA Compliant Radio 1-01-111-1111													
MODELS OF SYSTEMS AFFECTED: ARL- C and ARL -M													
DESCRIPTION / JUSTIFICATION:													
Modification replaces the current LST-5 radios in the ARL with Demand Assigned Multiple Access (DAMA). This modification provides for the upgrade of communications suites including all required hardware and software modifications. The modifications will be accomplished by contractor at the systems field site. In FY01 funds for the purchase of equipment and rack changes required for the two ARL-C aircraft. FY02 and FY03 fund modification of 3 ARL-M aircraft and installation of the radios and system flight test. Modification will allow the ARL to meet requirement that all DOD SATCOM radios be DAMA compliant.													
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:													
	ARL-C		ARL-C		ARL-M (FY02)		ARL-M (FY03)						
	Planned	Accomplished			Contract Award	System Review	Airframe Modifications	Radio Integration And Test	System acceptance	1QFY03	2QFY03	4QFY03	1QFY04
Contract Award	1QFY01												
System Status Review	2QFY01												
Airframe Modification	3QFY01												
Radio integration and Test	1QFY02												
System acceptance ARL-C	1QFY02												
Installation Schedule:													
Pr Yr	FY 1999		FY 2000		FY 2001		FY 2002		FY 2003				
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Inputs													
Outputs													
Totals													
	1	2	3	4	1	2	3	4	1	2			

INDIVIDUAL MODIFICATION																			Date		February 2000					
MODIFICATION TITLE (Cont): Upgrade to DAMA Compliant Radio 1-01-111-1111																										
FINANCIAL PLAN: (\$ in Millions)																										
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL							
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$						
RDT&E																										
PROCUREMENT																										
Kit Quantity																										
Installation Kits					2		0.4		1	0.2	2	0.4							5	1.0						
Installation Kits, Nonrecurring Equipment							0.3			0.2										0.5						
Equipment, Nonrecurring Engineering Change Orders							0.6			0.3		0.6								1.5						
Data																				0.2						
Training Equipment/training																				0.3						
Support Equipment																				0.3						
Other																				0.7						
Interim Contractor Support																										
Contractor Engineering																				0.3						
Gov't In-House/Program Mgmt																				0.6						
Installation of Hardware																										
FY 1998 & Prior Eqpt -- Kits																										
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FY 2001 Eqpt -- Kits																										
FY 2002 Eqpt -- kits																										
FY 2003 Eqpt -- kits																										
FY 2004 Eqpt -- kits																										
FY 2005 Eqpt -- kits																										
TC Equip-Kits																										
Total Installment									2	0.6	3	0.9							5	1.5						
Total Procurement Cost								2.0		1.9		3.0								6.9						

Exhibit P-40, Budget Item Justification Sheet										Date:	February 2000	
Appropriation / Budget Activity/Serial No:		P-1 Item Nomenclature:		AH1F MODS (AA0150)								
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		Other Related Program Elements:										
Program Elements for Code B Items:		Code:										
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty												
Gross Cost	1314.1	1.1	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.5	31.1	1350.0
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	1314.1	1.1	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.5	31.1	1350.0
Initial Spares	92.3											92.3
Total Proc Cost	1406.4	1.1	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.5	31.1	1442.3
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: The AH-1 is a single-engine, tandem seated helicopter with a maximum gross weight of 10,000 pounds and a T53-L-703 1800 SHP engine. The armament system consists of the M65 TOW Missile System, 20mm gun and Hydra-70 rockets.

JUSTIFICATION: AH-1F fleet will remain in the National Guard with fleet size of 250-350 through FY12. FY01 funds will be utilized to continue rewire of AH-1 fleet. Rewire improves RAM, lowers O&S cost and enhances safe operation. All modifications are complete except Rewire. Funding is also required for safety and sustainment modifications in addition to operational improvement modifications required to meet mission requirements. Failure to provide funding will result in degradation of the aircraft and mission package, impacting readiness and combat support capability. DoD regulations mandate that AMCOM provide sustainment support for the Cobra fleet for all branches of the service.

Exhibit P-40, Budget Item Justification Sheet												Date:
Appropriation / Budget Activity/Serial No:												February 2000
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft												P-1 Item Nomenclature:
Program Elements for Code B Items:												AH-64 MODS (AA6605)
Code:												Other Related Program Elements:
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty												
Gross Cost	419.3	50.5	36.9	50.3	32.7	18.5	35.4	37.9	32.9	27.2	99.0	840.6
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	419.3	50.5	36.9	50.3	32.7	18.5	35.4	37.9	32.9	27.2	99.0	840.6
Initial Spares												
Total Proc Cost	419.3	50.5	36.9	50.3	32.7	18.5	35.4	37.9	32.9	27.2	99.0	840.6
Flyaway U/C												
Wpnt Sys Proc U/C												
DESCRIPTION: The AH-64 is a single main rotor, twin engine, tandem seat attack helicopter armed with HELLFIRE antitank missiles, 2.75 inch rockets, and 30MM gun. The AH-64 is capable of defeating armor in day, night, and adverse weather. The Target Acquisition Designation Sight (TADS) is housed in a turret on the nose of the AH-64 and consists of a TV, Forward Looking Infrared (FLIR), Direct View Optics, Laser Designator/ Rangefinder and Spot Tracker. The Pilot Night Vision Sensor (PNVS) is a FLIR which allows Nap-of-Earth operations at night by the pilot independent of the co-pilot/gunner's FLIR. JUSTIFICATION: As the Army's primary Attack Helicopter, the AH-64 has been integrated in maneuver and fire plans of the combined arms team and will have the primary mission of destroying high value targets. The firepower, speed and agility of the AH-64 will provide a versatility to the combined arms team not otherwise available. Modifications are based on fleetwide reliability, availability, and maintainability (RAM) improvements and limited operational enhancements identified as a result of lessons learned during Operation Desert Storm, and Albania/Kosovo operations. Funding for FY01 buys the following modifications: a. Airframe Modifications b. TADS/PNVs Upgrades c. Contingency Modernization Project (CMP) d. Misc Mod less than \$5M (No P3a set)												

Exhibit P-40M Budget Item Justification Sheet											Date		February 2000		
Appropriation / Budget Activity/Serial No.				P-1 Item Nomenclature				AH-64 MODS (AA6605)							
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft															
Program Elements for Code B Items			Code		Other Related Program Elements										
Description			Fiscal Years												
			OSIP NO.		Classification		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	TC
Backup Control System (BUCS)															
1-86-01-2025 Unclassified			11.5	8.2	0.0	0.0	0.0	3.6	5.4	12.9	6.2	3.4	51.2		
Fuel Control Warning Panel (No P3a Set)															
1-89-01-2063 Unclassified			7.8	1.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0		
Embedded GPS / Inertial Navigation System (EGI) (No P3a Set)															
1-92-01-2072 Unclassified			82.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.6		
H-11 Bolt Replacement (No P3a Set)															
1-92-01-2035 Safety			4.8	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.0	8.4		
Airframe Modifications															
1-95-01-2007 Op/Log			7.4	8.3	9.5	4.8	15.8	14.7	4.9	8.6	7.0	81.0			
Alternate Laser Code (No P3a Set)															
1-92-01-2033 Unclassified			32.3	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.9		
TADS/PNVS I/II upgrades (No P3a Set)															
1-94-01-2004 Unclassified			57.9	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.8		
TADS/PNVS Upgrades															
1-94-01-2005 Unclassified			5.4	6.7	6.3	7.0	7.2	7.4	7.9	8.8	24.8	81.5			
Misc Mod less than \$5.0M (No P3a Set)															
NA Unclassified			265.6	5.6	13.2	2.6	3.5	3.0	4.0	2.7	35.9	336.1			
ORT Conversion (No P3a Set)															
NA Unclassified			17.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.9	45.1			
Captive Boresight Harmonization Kit (CBHK) Upgrade (No P3a Set)															
NA Unclassified			14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5			
Contingency Modernization Project (CMP)															
1-00-01-2001 Unclassified			0.0	0.0	3.2	4.1	4.4	6.5	2.3	0.0	0.0	20.5			

INDIVIDUAL MODIFICATION										Date	February 2000
MODIFICATION TITLE: Backup Control System (BUCS) 1-86-01-2025											
MODELS OF SYSTEMS AFFECTED: AH-64 Apache											
DESCRIPTION / JUSTIFICATION: Operational requirement. This modification is required to bring all AH-64 Apache aircraft to a BUCS active configuration. This modification includes a redesign of BUCS. The redesign will be accomplished as part of the Longbow remanufacture line beginning with Lot II incorporation. Lot I aircraft will be retrofitted. A total of 158 aircraft will be modified under the A model program through FY 01. An additional 214 aircraft will be retrofitted to a BUCS active configuration FY 02-07. This quantity represents those A model Apaches that will not be remanufactured to the Longbow configuration. Installation costs are included in contract and are not broken out separately.											
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Contract award was 30 Sep 97 for Lots 2-5 and retrofit of Lot 1 aircraft. First delivery of Lot 2 aircraft was Mar 98.											
Installation Schedule:											
		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003	
Pr Yr	1	2	3	4	1	2	3	4	1	2	3
Totals	84	12	14	15	15	6			6	6	7
Inputs	45	10	11	11	14	14	14	14	6	6	7
Outputs											
		FY 2004		FY 2005		FY 2006		FY 2007		Totals	
1	2	3	4	1	2	3	4	1	2	3	4
22	22	23	23	10	10	11	11	9	9		
22	22	23	23	10	10	11	11	9	9		
Inputs											
Outputs											
METHOD OF IMPLEMENTATION:											
Contract Dates:		FY 1999		Dec 98		FY 2000		NA		PRODUCTION LEADTIME: 11 Months	
Delivery Date:		FY 1999		Nov 99		FY 2000		NA		FY 2001	

INDIVIDUAL MODIFICATION																					Date		February 2000										
Backup Control System (BUCS) 1-86-01-2025																																	
MODIFICATION TITLE (Cont):																																	
FINANCIAL PLAN: (\$ in Millions)																																	
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL															
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$														
RDT&E																																	
PROCUREMENT																																	
Kit Quantity	24	2.0																238															
Installation Kits								26	3.6	38	5.4	90	12.9	42	6.2	18	3.4																
Installation Kits, Nonrecurring																																	
Equipment	68	2.9	66	4.6														134	7.5														
Equipment, Nonrecurring		4.7		2.9															7.6														
Engineering Change Orders																																	
Data																																	
Training Equipment																																	
Support Equipment																																	
Other				0.1															0.1														
Interim Contractor Support		1.9		0.6															2.5														
Installation of Hardware																																	
FY 1998 & Prior Eqpt -- Kits	45		43		4		14											92															
FY 1999 Eqpt -- Kits					52													66															
FY 2000 Eqpt -- Kits																																	
FY 2001 Eqpt -- Kits																																	
FY 2002 Eqpt -- kits								26										26															
FY 2003 Eqpt -- kits										38								38															
FY 2004 Eqpt -- kits												90						90															
FY 2005 Eqpt -- kits														42				42															
TC Equip-Kits																18		18															
Total Installment	45		43		56		14		26		38		90		42		18	372															
Total Procurement Cost		11.5		8.2						3.6		5.4		12.9		6.2		3.4	51.2														

INDIVIDUAL MODIFICATION											
MODIFICATION TITLE: Airframe Modifications 1-95-01-2007											Date
MODELS OF SYSTEMS AFFECTED: AH-64 Apache											
DESCRIPTION / JUSTIFICATION:											
Operational and logistical improvement. This modification provides for strengthening airframe components to withstand higher loading. Funding addresses three primary areas plus several additional areas susceptible to cracking. Specific modifications include slot closure, a single piece 530 and 547 frame, and elastomeric mounts. There will be 474 AH-64A aircraft retrofitted. In addition starting in FY 02, 214 AH-64A aircraft that will not be remanufactured into Longbows will be retrofitted with additional airframe modifications to include spider mount, wing pylon upgrade, FS176 upgrade, and T/R blade leading edge protection. Installation costs included in the contract and are not broken out separately.											
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Contract was awarded Nov 96 for ECP 1315 for retrofitting 474 AH-64A Apaches. An additional 214 AH-64A Apaches that are not being remanufactured to Longbow configuration will be retrofitted with additional airframe modifications starting in FY 02.											
Installation Schedule:											
FY 1999		FY 2000		FY 2001		FY 2002		FY 2003			
1	2	3	4	1	2	3	4	1	2	3	4
Totals											
31	10	10	10	24	24	25	31	32	25	26	27
31	10	10	10	24	24	25	31	32	17	26	27
Inputs Outputs											
FY 2004		FY 2005		FY 2006		FY 2007		Totals			
1	2	3	4	1	2	3	4	1	2	3	4
Totals											
28	29	29	29	12	12	12	10				
27	27	27	27	13	13	12	12				
Inputs											
Outputs											
METHOD OF IMPLEMENTATION: Contract Dates: FY 1999 Dec 98 FY 2000 NA FY 2001 NA Delivery Date: FY 1999 Nov 99 FY 2000 NA FY 2001 NA											

INDIVIDUAL MODIFICATION																	Date		February 2000	
MODIFICATION TITLE (Cont): Airframe Modifications 1-95-01-2007																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity	71	6.1	98	7.7	127	9.5	53	4.8	118	15.8	115	14.7	26	4.9	45	8.6	35	7.0	688	79.1
Installation Kits																				
Installation Kits, Nonrecurring Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
		1.3		0.6																1.9
Installation of Hardware																				
FY 1998 & Prior Eqpt -- Kits	31		40		98		127												71	
FY 1999 Eqpt -- Kits																			98	
FY 2000 Eqpt -- Kits							127												127	
FY 2001 Eqpt -- Kits									53										53	
FY 2002 Eqpt -- kits									36										118	
FY 2003 Eqpt -- kits											82		91						115	
FY 2004 Eqpt -- kits											24		19		7				26	
FY 2005 Eqpt -- kits															44		1		45	
TC Equip-Kits																	35		35	
Total Installment	31		40		98		127	4.8	89	15.8	106	14.7	110	4.9	51	8.6	36	7.0	688	
Total Procurement Cost		7.4		8.3		9.5														81.0

INDIVIDUAL MODIFICATION															Date	February 2000	
MODIFICATION TITLE: TADS/PNVs Upgrades 1-94-01-2005																	
MODELS OF SYSTEMS AFFECTED: AH-64 Apache																	
DESCRIPTION / JUSTIFICATION:																	
Operational, and logistical improvement. Provide for system upgrade through new/updated hardware integration into Lots III thru XII TADS/PNVs systems. Facilitate maintainers access to TADS/PNVs systems thereby allowing for accelerated application of outstanding ECPs. Additionally, satisfies program growth and the life extension requirements and provides for offsite contractor support for upgrades/integration of hardware in the TADS/PNVs. This will also provide a single configuration TADS/PNVs to the Longbow. This is a critical AH-64D element in the Longbow remanufacturing effort. Also provides funding for the 214 A Model Apaches that will not be remanufactured into Longbows. Installation costs are included in contract and are not broken out separately.																	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:																	
Contract award was Dec 95. Date of first delivery was Jun 96.																	
Installation Schedule:																	
Pr Yr		FY 1999			FY 2000			FY 2001			FY 2002			FY 2003			
Totals		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs		84	12	12	14	15	15	18	18	11	15	15	15	15	18	18	18
Outputs		45	9	10	12	12	13	15	15	15	15	15	15	15	15	15	16
Totals		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs		18	18	18	18	23	24	24	24	16	17	17	16	17	16	17	17
Outputs		18	18	18	18	25	25	26	26	31	31	31	16	16	17	17	17
METHOD OF IMPLEMENTATION:																	
Contract Dates: FY 1999 Dec 98																	
Delivery Date: FY 1999 Jul 99																	
ADMINISTRATIVE LEADTIME: 2 Months																	
PRODUCTION LEADTIME: 7 Months																	
FY 2000 Dec 99																	
FY 2001 Jul 00																	
FY 2001 Dec 00																	
FY 2001 Jul 01																	

INDIVIDUAL MODIFICATION																					Date	February 2000
TADS/PNVS Upgrades 1-94-01-2005																						
MODIFICATION TITLE (Cont):																						
FINANCIAL PLAN: (\$ in Millions)																						
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL				
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			
97	4.5	55	2.5	55	2.5	68	3.2	68	3.3	70	3.4	70	3.5	77	4.1	183	11.0	743	38.0			
PROCUREMENT		Installation Kits		Installation Kits, Nonrecurring Equipment		Equipment, Nonrecurring Engineering Change Orders		Data		Training Equipment		Support Equipment		Other		Interim Contractor Support						
			1.2		1.3		1.5		1.5		1.6		1.6		1.7		3.5		13.9			
			2.5		2.5		2.3		2.4		2.4		2.8		3.0		10.3		28.2			
	0.9		0.5																1.4			
Installation of Hardware																						
45		43		9		9												97				
				46		9												55				
						51		4		8								55				
								60		53		15						68				
												57		13				68				
														70				70				
														19		58		77				
																183		183				
45	5.4	43	6.7	55	6.3	60	7.0	64	7.2	61	7.4	72	7.9	102	8.8	241	24.8	743	81.5			
Total Installation																						
Total Procurement Cost																						

INDIVIDUAL MODIFICATION																																																																																																																																																																																																											
MODIFICATION TITLE: Contingency Modernization Project (CMP) 1-00-01-2001										Date	February 2000																																																																																																																																																																																																
MODELS OF SYSTEMS AFFECTED: AH-64 Apache																																																																																																																																																																																																											
DESCRIPTION / JUSTIFICATION:																																																																																																																																																																																																											
The CMP addresses critical weapon system deficiencies surfaced during the recent Apache deployment to Albania. Modifications are based on three areas: (1) Operational deficiencies/shortcomings of ongoing, approved modifications; (2) Efforts to attack cost and reliability drivers under Total Ownership Cost Reduction, and, (3) Safety issues from TRADOC Systems Manager and other chartered teams. These modifications are: (1) Update Fire Control Computer (FCC) (2) Aerial Rocket Control System (ARCS) software & hardware upgrade to correct ballistic solutions and prevent inadvertent rocket firing (3) Main Rotor Spar Enhancement (MRSE) to increase blade strength and reliability; (4) Aircraft Interface Assembly (AIA) enhancement. The CMP represents a block upgrade (hence only one modification number), however the total modification varies on the configuration of each individual aircraft deployed (see mod schedule, next page).																																																																																																																																																																																																											
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: FCC contract award Feb 00, delivery Mar 00 ARCS contract award Feb 00, delivery Mar 00 MRSE contract award Feb 00, delivery Jun 00 AIA contract award Feb 00, delivery May 00																																																																																																																																																																																																											
Installation Schedule: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Pr Yr</th> <th colspan="4">FY 1999</th> <th colspan="4">FY 2000</th> <th colspan="4">FY 2001</th> <th colspan="4">FY 2002</th> <th colspan="4">FY 2003</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> </tr> </thead> <tbody> <tr> <td>Totals</td> <td>1</td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>Inputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>Outputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="4">FY 2004</th> <th colspan="4">FY 2005</th> <th colspan="4">FY 2006</th> <th colspan="4">FY 2007</th> <th rowspan="2">To Complete</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> </tr> </thead> <tbody> <tr> <td>Totals</td> <td>1</td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td> </tr> <tr> <td>Inputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td> </tr> <tr> <td>Outputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td> </tr> </tbody> </table>												Pr Yr	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Totals	1																				Inputs																					Outputs																						FY 2004				FY 2005				FY 2006				FY 2007				To Complete	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Totals	1																	Inputs																		Outputs																	
Pr Yr	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003																																																																																																																																																																																										
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METHOD OF IMPLEMENTATION: Contract Dates: See Above FY 1999 Delivery Date: See Above FY 1999 ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months FY 2000 FY 2001 FY 2000 FY 2001																																																																																																																																																																																																											

Exhibit P-40, Budget Item Justification Sheet												Date:
Appropriation / Budget Activity/Serial No:												February 2000
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft												P-1 Item Nomenclature:
Program Elements for Code B Items:												CH-47 CARGO HELICOPTER MODS (MYP) (AA0252)
Code:												Other Related Program Elements:
Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty												
Gross Cost	16.4	48.4	59.5	80.4	114.9	148.9	172.7	196.6	230.0	131.3	1316.3	
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	16.4	48.4	59.5	80.4	114.9	148.9	172.7	196.6	230.0	131.3	1316.3	
Initial Spares												
Total Proc Cost	16.4	48.4	59.5	80.4	114.9	148.9	172.7	196.6	230.0	131.3	1316.3	
Flyaway U/C												
Wpnt Sys Proc U/C												

DESCRIPTION: The CH-47 heavy lift helicopter is a day/night tandem rotor helicopter powered by two T-55 turbine engines. The CH-47 is the Army's only active heavy cargo helicopter and is a key element in the Contingency CORPS. The CHINOOK provides invaluable battlefield mobility for tactical vehicles, artillery and engineer equipment, personnel and logistical support equipment. Cargo Helicopters provide the logistical base for Air-Land operations. The CHINOOK also provides support of operations other than war.

JUSTIFICATION: FY 01 funding procures safety and operational modifications to the CH-47D fleet and trainers to maintain the latest configuration. Modifications are planned to fielded aircraft to incorporate safety and operational modifications to the CH-47D aircraft. These changes contribute to the effectiveness of heavy lift capability, maintainability, reliability, and aircraft/crew safety. The major modifications occurring during FY 01 are procurement of kits for Improved Battery, Conversion of the T55-L-712 to T55-GA-714A Engines, Auxiliary Power Unit Upgrade, and Extended Range Fuel System.

Exhibit P-40M Budget Item Justification Sheet										Date	February 2000
Appropriation / Budget Activity/Serial No.			P-1 Item Nomenclature			CH-47 CARGO HELICOPTER MODS (MYP) (AA0252)					
Program Elements for Code B Items			Code	Other Related Program Elements							
Description		Fiscal Years									
OSIP NO.	Classification	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	TC	Total
Installation of Modification Kits Various											
Various	Operational/Safety	26.2	2.6	1.4	0.8	0.0	0.0	0.0	0.0	0.0	31.1
Improved Cross Shaft Adapters, Coupling & Bolts											
1-95-01-0817	Safety	0.0	0.0	0.0	1.1	0.2	0.2	0.0	0.0	0.0	1.6
Improved Battery											
1-95-01-0822	Operational	0.0	0.0	0.0	2.5	0.3	0.3	0.0	0.0	0.0	3.1
Engine Filtration System (No P3a Set)											
1-93-01-0807	Operational	0.0	0.0	0.0	0.0	5.1	7.0	8.4	20.2	32.4	73.0
Extended Range Fuel System											
1-97-01-822	Operational	7.1	6.5	6.2	6.9	18.9	18.6	17.6	0.0	0.0	81.7
Engine Upgrade to T55-GA-714A Configuration											
1-96-01-0828	Operational	91.0	69.3	103.4	102.3	123.3	146.7	170.6	209.8	98.9	1,115.4
APU Upgrade											
New	Safety	0.0	2.0	4.0	3.5	1.1	0.0	0.0	0.0	0.0	10.5
Totals		124.3	80.4	114.9	117.1	148.9	172.7	196.5	230.0	131.3	1,316.3

INDIVIDUAL MODIFICATION																		February 2000		
MODIFICATION TITLE (Cont): Installation of Modification Kits Various																		Date		
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E PROCUREMENT Kit Quantity	8089	20.4																	8089	20.4
Installation of Hardware FY 1998 & Prior Eqpt -- Kits FY 1999 Eqpt -- Kits FY 2000 Eqpt -- Kits FY 2001 Eqpt -- Kits FY 2002 Eqpt -- kits FY 2003 Eqpt -- kits FY 2004 Eqpt -- kits FY 2005 Eqpt -- kits TC Equip-Kits	4474	5.8	1673	2.6	1202	1.4	740	0.8											8089	10.7
Total Installment	4474	5.8	1673	2.6	1202	1.4	740	0.8											8089	10.7
Total Procurement Cost		26.2		2.6		1.4		0.8												31.1

INDIVIDUAL MODIFICATION												Date	February 2000
MODIFICATION TITLE: Improved Cross Shaft Adapters, Coupling & Bolts 1-95-01-0817													
MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK, MH47E, and Trainers.													
DESCRIPTION / JUSTIFICATION: Type of Improvement - Safety. This modification is to improve Cross Shaft Adapters, Couplings, and Bolts. Field reports have identified failure of the steel cross shaft adapters. Corrosion pitting inside the bolt holes have served as stress risers for fatigue failures. Correction of this deficiency will reduce maintenance, resolve safety concerns, and increase reliability and maintainability.													
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:													
				Planned				Accomplished					
				Jan 01									
				Jan 02									
				Jan 02									
Production Contract Award First Production Hardware Delivery Field Retrofit Initiated													
Installation Schedule:													
		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003			
Pr Yr	1	2	3	4	1	2	3	4	1	2	3	4	
Totals													
Inputs													
Outputs													
		FY 2004		FY 2005		FY 2006		FY 2007		To		Totals	
1	2	3	4	1	2	3	4	1	2	3	4	Complete	
Inputs													467
Outputs													467
METHOD OF IMPLEMENTATION: Contract													
Contract Dates: FY 1999													
Delivery Date: FY 1999													
				ADMINISTRATIVE LEADTIME:				4 Months					
				FY 2000				FY 2001				12 Months	
				FY 2000				FY 2001				Jan 01	
				FY 2000				FY 2001				Jan 02	

INDIVIDUAL MODIFICATION																		February 2000		
MODIFICATION TITLE (Cont): Improved Cross Shaft Adapters, Coupling & Bolts 1-95-01-0817																		Date		
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Installation Kits							467	1.1											467	1.1
Installation Kits, Nonrecurring Equipment																				
Equipment, Nonrecurring Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1998 & Prior Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- Kits																				
FY 2001 Eqpt -- Kits									234	0.2	233	0.2							467	0.5
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
FY 2004 Eqpt -- kits																				
FY 2005 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment								1.1	234	0.2	233	0.2							467	0.5
Total Procurement Cost									0.2	0.2	0.2	0.2							1.6	

INDIVIDUAL MODIFICATION															Date	February 2000		
MODIFICATION TITLE: Improved Battery 1-95-01-0822																		
MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK and Trainers.																		
DESCRIPTION / JUSTIFICATION: Type of Improvement - Improved Operational Capability. Incorporation of a New Lead Acid Battery will reduce the frequent battery failure. Currently the aircraft battery has a frequent failure rate. This has been a major maintenance concern for the users.																		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Planned Jan 01 Sep 01 Oct 02 Accomplished																		
Installation Schedule:																		
Inputs Outputs	Pr Yr	FY 1999		FY 2000		FY 2001		FY 2002		FY 2003								
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Inputs Outputs	FY 2004	FY 2005		FY 2006		FY 2007		FY 2007		FY 2007								
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals		1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Totals																		

INDIVIDUAL MODIFICATION																		February 2000	
MODIFICATION TITLE (Cont): Improved Battery 1-95-01-0822																		Date	
FINANCIAL PLAN: (\$ in Millions)																			
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																			
PROCUREMENT																			
A-kit																			
Batteries																			

INDIVIDUAL MODIFICATION																																																																																	
MODIFICATION TITLE: Extended Range Fuel System 1-97-01-822											Date																																																																						
MODELS OF SYSTEMS AFFECTED: CH-47D Chinook																																																																																	
DESCRIPTION / JUSTIFICATION:																																																																																	
Type of Improvement - Improved Operational Capability. The Extended Range Fuel System (ERFS) provides the CH-47D with up to 2400 gallons of auxiliary fuel for worldwide self-deployment or tactical forward area refueling. The typical ERFS installation includes three 800-gallon auxiliary fuel tanks fitted with crashworthy self-sealing bladders, pressure refueling capability, and fuel quantity probes. For mission flexibility, one, two, or three auxiliary fuel tanks can be installed. The B - Kit system components include tank assemblies, a fuel control panel, individual tank restraint systems, interconnecting self-sealing fuel hoses, fuel vent hoses, electrical cables, and a Forward Area Refueling Equipment (FARE) kit. The FARE kit provides the necessary components to permit tactical forward area refueling of combat weapons systems at two refueling points 200 feet from the helicopter. The A - Kit is the airframe modification kit. The ERFS can be installed or removed by a crew of four in less than 30 minutes by hand without the use of tools. National Guard Dedicated Procurement has funded procurement and installation of 128 A-Kits, and 14 B-kits.																																																																																	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:																																																																																	
Planned Production Contract Award Aug 98 First Hardware Delivery Jan 99 Testing Completed Jun 99 Field Installation Initiated Sep 99						Accomplished Aug 98 Jan 99 Jun 99 Jun 99																																																																											
Installation Schedule:																																																																																	
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Pr Yr	FY 1999			FY 2000			FY 2001			FY 2002			FY 2003																																																																				
Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																																																																	
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10	11																																																																																
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METHOD OF IMPLEMENTATION: Contract Contract Dates: FY 1999 Feb 99 Delivery Date: FY 1999 Aug 99 ADMINISTRATIVE LEADTIME: 4 Months PRODUCTION LEADTIME: 6 Months FY 2000 Feb 00 FY 2001 Aug 00 FY 2001 Feb 01 FY 2001 Aug 01																																																																																	

INDIVIDUAL MODIFICATION														Date		February 2000				
MODIFICATION TITLE (Cont):																				
Extended Range Fuel System 1-97-01-822																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PROCUREMENT																				
ERFS II B-KIT	11	5.9	7	4.1	7	4.2	8	5.2	25	16.5	25	16.8	24	16.5					107	69.1
ERFS II A KIT	80	0.9	57	0.7	35	0.5	66	0.9	44	0.6	21	0.3							303	3.8
Logistics		0.3		0.8		0.4		0.1		0.2		0.1		0.1						2.0
PM Admin Support				0.3		0.3		0.3		0.9		0.9		0.8						3.5
Installation of Hardware																				
FY 1998 & Prior Eqpt -- Kits			58	0.6															58	0.6
FY 1999 Eqpt -- Kits					79	0.8													79	0.8
FY 2000 Eqpt -- Kits							35	0.4											35	0.4
FY 2001 Eqpt -- Kits									66	0.7									66	0.7
FY 2002 Eqpt -- kits											44	0.5	21	0.2					44	0.5
FY 2003 Eqpt -- kits																			21	0.2
FY 2004 Eqpt -- kits																				
FY 2005 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment			58	0.6	79	0.8	35	0.4	66	0.7	44	0.5	21	0.2					303	3.2
Total Procurement Cost		7.1		6.5		6.2		6.9		18.9		18.6		17.6						81.7

INDIVIDUAL MODIFICATION																				February 2000	
Date																					
MODIFICATION TITLE (Cont):																					
Engine Upgrade to T55-GA-714A Configuration 1-96-01-0828																					
FINANCIAL PLAN: (\$ in Millions)																					
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL			
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
RDT&E																					
PROCUREMENT																					
95	60.0	73	51.2	108	76.1	108	77.4	130	94.8	152	113.9	171	130.9	213	166.5	100	79.8	1150	850.5		
96	15.9	59	7.0	86	10.3	86	11.1	104	12.9	122	15.4	146	18.9	150	19.8	35	5.0	884	116.2		
50	6.2	25	3.1	50	6.0	43	5.5	52	6.8	60	8.0	73	9.9	75	10.4	14	2.0	442	57.7		
			3.3		4.3		4.0		4.0		3.4		3.9		5.4		3.6		31.9		
			4.7		4.5		2.6		2.9		3.7		4.3		4.4		2.2		38.4		
Logistics																					
Installation of Hardware																					
FY 1998 & Prior Eqpt -- Kits		2	0.1																	2	0.1
FY 1999 Eqpt -- Kits				52	2.2	40	1.7	43	1.9							60	2.7	73	3.4		
FY 2000 Eqpt -- Kits																		40	1.7		
FY 2001 Eqpt -- Kits																		43	1.9		
FY 2002 Eqpt -- kits										52	2.3							52	2.3		
FY 2003 Eqpt -- kits																		60	2.7		
FY 2004 Eqpt -- kits																		73	3.4		
FY 2005 Eqpt -- kits																		120	6.4		
TC Equip-Kits																					
Total Installation				2	0.1	52	2.2	40	1.7	43	1.9	52	2.3	60	2.7	73	3.4	120	6.4		
Total Procurement Cost		91.0	69.3	103.4	102.3	123.3	146.7	170.6	209.8	207.7	1115.4										

INDIVIDUAL MODIFICATION												Date	February 2000																																																																																				
MODIFICATION TITLE: APU Upgrade																																																																																																	
MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK																																																																																																	
DESCRIPTION / JUSTIFICATION:																																																																																																	
Type of Improvement - Safety. This modification will upgrade the airframe mounted Auxiliary Power Unit (APU). Field reports have identified three failures of the APU where the turbine wheel burst during operation. Engineering studies reveal that one pound pieces of metal may be thrown up to 1,000 feet upon APU turbine wheel failure. The failures are attributed to turbine fatigue due to the age and high usage of the APU. A new design has been approved for the APU turbine wheels that have a much greater fatigue life. Correction of this deficiency will preclude flight restrictions that will severely impact mission performance. The total buy of 540 kits includes the spare APUs that will be modified during overhaul, the 467 installations are on fielded aircraft. The containment shield will be installed on aircraft to lift safety restrictions until the turbine wheels are replaced.																																																																																																	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:																																																																																																	
Planned				Accomplished																																																																																													
Aug 99				Aug 99																																																																																													
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Pr Yr	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003																																																																																
Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																																																																													
Inputs					37	37	38	38	45	45	45	45	45	45	45	45	34	34	34	35																																																																													
Outputs									37	37	38	38	45	45	45	45	34	34	34	35																																																																													
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FY 2004				FY 2005				FY 2006				FY 2007				Totals																																																																																	
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete																																																																																	
Inputs																	467																																																																																
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METHOD OF IMPLEMENTATION:																																																																																																	
Contract Dates:				FY 1999 Aug 99				ADMINISTRATIVE LEADTIME:				3 Months				PRODUCTION LEADTIME:		6 Months																																																																															
Delivery Date:				FY 1999 Jan 99				FY 2000 Jan 00				FY 2000 Sep 00				FY 2001 Jan 01				FY 2001 Sep 01																																																																													

INDIVIDUAL MODIFICATION															February 2000				
APU Upgrade															Date				
MODIFICATION TITLE (Cont):																			
FINANCIAL PLAN: (\$ in Millions)																			
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																			
PROCUREMENT		180		2.0		180	2.1	180	2.1									540	6.2
Kit Quantity						340	0.6											340	0.6
Containment Shields																			
PM Support				0.0			0.2		0.1										0.4
Installation of Hardware																			
FY 1998 & Prior Eqpt -- Kits																			
FY 1999 Eqpt -- Kits																			
FY 2000 Eqpt -- Kits						150	1.1											150	1.1
FY 2001 Eqpt -- Kits								180	1.2									180	1.2
FY 2002 Eqpt -- kits									137	1.0								137	1.0
FY 2003 Eqpt -- kits																			
FY 2004 Eqpt -- kits																			
FY 2005 Eqpt -- kits																			
TC Equip-Kits																			
Total Installment						150	1.1	180	1.2	137	1.0							467	3.3
Total Procurement Cost				2.0			4.0		3.5		1.1								10.5

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft										P-1 Item Nomenclature: CH-47 ICH (AA0254)			
Program Elements for Code B Items:										Code:		Other Related Program Elements:	
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty							11	17	27	29	216	300	
Gross Cost	0.0	0.0	0.0	0.0	0.0	57.6	158.6	192.6	293.1	290.4	2020.9	3013.4	
Less PY Adv Proc							26.2	38.0	55.6	55.6	479.9	655.3	
Plus CY Adv Proc						26.2	38.0	55.6	55.6	55.1	424.8	655.3	
Net Proc (P-1)	0.0	0.0	0.0	0.0	0.0	83.8	170.4	210.2	293.1	289.9	1965.8	3013.4	
Initial Spares													
Total Proc Cost	0.0	0.0	0.0	0.0	0.0	83.8	170.4	210.2	293.1	289.9	1965.8	3013.4	
Flyaway U/C							13.1	10.1	9.2	8.6	8.5		
Wpn Sys Proc U/C							14.4	11.3	10.9	10.0	9.4		

The Improved Cargo Helicopter (ICH) will be a modification to the current CH-47D helicopter to extend airframe service life, introduce an open electronic architecture that is compatible with the Army XXI digitized battlefield, and reduce Operating and Support (O&S) cost. This heavy lift helicopter program will be based on a remanufacture approach. The airframe will be rebuilt, mission capability improved, and vibrations reduced through airframe stiffening to provide for long term O&S cost reductions. Continued support, coverage, and sustainment of Maneuver, Fire Support, Air Defense, and Survivability mission areas will be provided by the ICH. Its mission is transportation of ground forces, class III/class V supplies, and battle critical cargo in support of all future contingencies. A service life extension program, the ICH will sustain the aging CH-47D fleet and bridge the gap until the development of a follow-on aircraft. It will be fielded as a direct replacement for 300 of the CH-47D fleet.

INDIVIDUAL MODIFICATION																																																																																																																																																																	
MODIFICATION TITLE: Improved Cargo Helicopter										Date	February 2000																																																																																																																																																						
MODELS OF SYSTEMS AFFECTED: CH-47Ds																																																																																																																																																																	
DESCRIPTION / JUSTIFICATION:																																																																																																																																																																	
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Pr Yr	FY 1999			FY 2000			FY 2001			FY 2002			FY 2003																																																																																																																																																				
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INDIVIDUAL MODIFICATION													Date		February 2000					
MODIFICATION TITLE (Cont): Improved Cargo Helicopter TBD																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
PROCUREMENT																				
Recurring Production							7.7		90.0		114.1		157.0		158.8		1174.1		1701.7	
Other Flyaway							41.5		27.8		20.2		35.1		33.8		222.5		380.9	
Training Devices							4.2		10.2		12.6		36.5		33.7		70.3		167.5	
Other Support							4.2		4.4		7.7		8.9		8.5		74.3		108.0	
Installation of Hardware																				
FY 1998 & Prior Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- Kits																				
FY 2001 Eqpt -- Kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
FY 2004 Eqpt -- kits																				
FY 2005 Eqpt -- kits																				
TC Equip-Kits																				
Total Installation							57.6		132.4		154.6		237.5		234.8		1541.2		2358.1	
Total Procurement Cost																				

Exhibit P-40, Budget Item Justification Sheet										Date:	February 2000	
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft			P-1 Item Nomenclature: CH-47 ICH ADVANCE PROCUREMENT (AA0254)									
Program Elements for Code B Items:			Code:			Other Related Program Elements:						
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty												
Gross Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Less PY Adv Proc												
Plus CY Adv Proc						26.2	38.0	55.6	55.6	55.1	424.8	655.3
Net Proc (P-1)						26.2	38.0	55.6	55.6	55.1	424.8	655.3
Initial Spares												
Total Proc Cost						26.2	38.0	55.6	55.6	55.1	424.8	655.3
Flyaway U/C												
Wpn Sys Proc U/C												

The improved Cargo Helicopter (ICH) will be a modification to the current CH-47D helicopter to extend airframe service life, introduce an open electronic architecture that is compatible with the Army XXI digitized battlefield, and reduce Operating and Support (O&S) cost. This heavy lift helicopter program will be based on a remanufacture approach. The airframe will be rebuilt, mission capability improved, and vibrations reduced through airframe stiffening to provide for long term O&S cost reductions. Continued support, coverage, and sustainment of Maneuver, Fire Support, Air Defense, and Survivability mission areas will be provided by the ICH. Its mission is transportation of ground forces, class III/class V supplies, and battle critical cargo in support of all future contingencies. A service life extension program, the ICH will sustain the aging CH-47D fleet and bridge the gap until the development of a follow-on aircraft. It will be fielded as a direct replacement for 300 of the CH-47D fleet.

FY 01 funds Advanced Procurement to support deliveries of avionics and airframe components. Long Lead is required to provide funding for those parts, tooling, test equipment, and materials which are lead time critical to the end item modification. Long lead funding is required to preserve the planned helicopter delivery schedule.

Advance Procurement Requirements Analysis-Funding (P-10A)										First System Award Date:		First System Completion Date:		Date:	
Appropriation / Budget Activity/Serial No:										P-1 Line Item Nonendurance / Weapon System:		CH-47 ICH ADVANCE PROCUREMENT (AA0254)		February 2000	
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft										(\$ in Millions)					
	PLT (mos)	When Rqd (mos)	Pr Yrs	1997	1998	1999	2000	2001	2002	2003	2004	2005	To Comp	Total	
End Item Quantity:															
Avionics	13	14						15.4	23.8	35.2	35.9	35.8	279.3	425.4	
Airframe	15	16						10.8	14.2	20.4	19.7	19.3	145.5	229.9	
Total Advance Procurement								26.2	38.0	55.6	55.6	55.1	424.8	655.3	
Description:															

Advance Procurement Requirements Analysis-Budget Justification (P-10B)									
Appropriation / Budget Activity/Serial No:				P-1 Line Item Nomenclature / Weapon System:			Date:		
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft				CH-47 ICH ADVANCE PROCUREMENT (AA0254)			February 2000		
(\$ in Millions)									
				2000			2001		
PLT (mos)	Quantity Per Assembly	Unit Cost	Qty	Contract Forecast Date	Total Cost Request	Qty	Contract Forecast Date	Total Cost Request	
End Item									
Avionics	13	11				11	Nov 00		
Airframe	15	11				11	Nov 00		
Total Advance Procurement									
Description:									

Advance Procurement Requirements Analysis-Present Value Analysis (P-10C)										Date:	February 2000	
Appropriation / Budget Activity/Serial No:										P-1 Line Item Nomenclature / Weapon System:		
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft										CH-47 CH ADVANCE PROCUREMENT (AA0254)		
(\$ in Millions)												
	Pr Yrs	1997	1998	1999	2000	2001	2002	2003	2004	2005	To Comp	Total
Proposal w/o AP Then Year Cost Constant Year Cost Present Value AP Proposal Then Year Cost Constant Year Cost Present Value AP Savings (Difference) Then Year Cost Constant Year Cost Present Value												
Remarks: Contract not priced without advanced procurement.												

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:		P-1 Item Nomenclature:										UTILITY/CARGO AIRPLANE MODS (AA0270)	
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		Other Related Program Elements:											
Program Elements for Code B Items:		Code:										A	
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	8.5	0.7	6.3	10.0	9.6	11.9	16.0	15.4	9.9	9.9	140.0	238.2	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	8.5	0.7	6.3	10.0	9.6	11.9	16.0	15.4	9.9	9.9	140.0	238.2	
Initial Spares													
Total Proc Cost	8.5	0.7	6.3	10.0	9.6	11.9	16.0	15.4	9.9	9.9	140.0	238.2	
Flyaway U/C													
Wpn Sys Proc U/C													
DESCRIPTION: This modification updates and modernizes the C-12, RC-12, UC-35, C-23, and C-26 aircraft communication, navigation, surveillance and safety equipment to current and evolving international standards. In addition it provides for the procurement and installation of military unique equipment such as Joint Precision Landing System (JPALS) and Joint Tactical Radio System (JTRS) components. These modifications ensure continued worldwide deployment capability, and safe operations into the 21st Century. JUSTIFICATION: The FY 01 funds will be used for communications, navigation, and surveillance equipment that is supportive of future Air Traffic Management requirements. In addition, equipment included in the modifications will enhance the safety of passengers and crew. The upgrade will also permit the Army fixed wing aircraft to operate in compliance with other existing and emerging regulations. During deployments in support of Desert Storm/Desert Shield/Provide Comfort, only selected aircraft with non-standard modifications were capable of being deployed to and within the theater. As requirements for new avionics equipment continue, aircraft delays and airspace exclusion are likely for aircraft not properly equipped. Upgrade of obsolete communication and navigation systems will enhance reliability and maintainability by employing commercial systems thereby improving C-12 availability for mission requirements.													

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:		P-1 Item Nomenclature:										OH-58 MODS (AA0400)	
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		Other Related Program Elements:											
Program Elements for Code B Items:		Code:											
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	321.3	1.2	0.7	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.7	326.8	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	321.3	1.2	0.7	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.7	326.8	
Initial Spares	1.2											1.2	
Total Proc Cost	322.5	1.2	0.7	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.7	328.0	
Flyaway U/C													
Wpn Sys Proc U/C													
DESCRIPTION:													
The OH-58 A&C model helicopters are low silhouette, single rotor helicopter powered by a single gas turbine engine (T63-A-720) used for observation, scout, and command and control. This is a single pilot aircraft with provisions for a second pilot and the capability to carry two passengers or cargo in the rear cargo area. The OH-58C is an upgraded OH-58A model with a more powerful transmission, navigational upgrade and instrumentation. The OH-58A/C program consists of incorporation of the SINGARS-VHF-FM radio, Combat Lighting for Night Vision, an External 3 Micron Engine Oil Filter and Global Positioning Systems.													
JUSTIFICATION:													
The OH-58 A&C fleet will be 389 aircraft through FY01 and range from 335 down to 298 through FY25. It provides for the major source to develop the combat skills portion of initial entry pilots training for Army Aviation, to perform FORSCOM training exercises and to equip the National Guard's Counter Drug Reconnaissance, Aerial Interdiction and Detection mission. FY 01 funding will be used to install modification kits procured in prior years. Funding is also required for safety modifications, in addition to operational improvement modifications required to meet mission requirements until final phaseout. Failure to provide funding will result in the degradation of the aircraft and mission, impacting readiness and combat support capability.													

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:												P-1 Item Nomenclature:	
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft												AIRCRAFT LONG RANGE MODS (AA0560)	
Program Elements for Code B Items:												Other Related Program Elements:	
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	6.1	0.9	0.8	1.1	0.8	0.8	0.7	0.7	0.8	0.8	4.0	17.5	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	6.1	0.9	0.8	1.1	0.8	0.8	0.7	0.7	0.8	0.8	4.0	17.5	
Initial Spares													
Total Proc Cost	6.1	0.9	0.8	1.1	0.8	0.8	0.7	0.7	0.8	0.8	4.0	17.5	
Flyaway U/C													
Wpn Sys Proc U/C													
DESCRIPTION: This modification updates and modernizes the C-20F, C-20E and C-37 aircraft communications, and navigation equipment, enhancing the aircraft's capability for worldwide deployments. In addition, the C-20 and C-37 aircraft will receive additional operational capability with the installation of Joint Precision Landing Systems (JPALS) and Joint Tactical Radio Systems (JTRS). These aircraft support the Army's executive flight detachment at the three star and above level. JUSTIFICATION: FY 01 funds will be used for upgrading C-20F Global Positioning Systems (GPS) and installation of communications equipment needed to support the crew in meeting the demands of the future air navigation system. Funds will be used to meet future avionics requirements resulting from worldwide navigation transition to Global Positioning System (GPS) enroute and approach systems, and Chairman of the Joint Chief of Staff Master Navigation Plan requirements.													

Exhibit P-40, Budget Item Justification Sheet											Date:	February 2000
Appropriation / Budget Activity/Serial No:											P-1 Item Nomenclature:	
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft											LONGBOW (AA6670)	
Program Elements for Code B Items:											Other Related Program Elements:	
Code:												
Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty												
Gross Cost	535.3	389.2	490.9	789.2	744.9	844.9	868.7	796.0	452.4	841.6	7363.2	
Less PY Adv Proc	117.0	16.8	30.4	43.2	35.4	35.0	29.5	29.7	14.2	61.8	449.9	
Plus CY Adv Proc	133.8	30.4	36.9	35.4	35.0	29.5	29.7	14.2	43.1	18.7	449.9	
Net Proc (P-1)	552.1	402.8	497.4	781.4	744.5	839.4	868.9	780.5	481.3	798.5	7363.2	
Initial Spares		7.4	8.1	8.1	13.1	19.8	26.6	15.5	15.2	49.8	180.4	
Total Proc Cost	552.1	410.2	505.5	789.5	757.6	859.2	895.5	796.0	496.5	848.3	7543.6	
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: The Longbow Weapon System (AH-64D) consists of a modified AH-64 airframe, a Fire Control Radar (FCR) mission kit and a Longbow HELLFIRE missile. Three hundred twenty AH-64Ds will incorporate the General Electric T700-GE-701C engines for improved performance when carrying the FCR mission kits. Those AH-64D aircraft fielded without the FCR mission kits will have the T700-GE-701 engines, but can accept the FCR mission kit with T700-GE-701C engines. The Longbow Weapon System will provide the AH-64 with automatic target detection, classification, prioritization and a true fire-and-forget engagement capability, greatly increasing weapon system effectiveness and aircraft survivability. The weapon system will be employable day or night, in adverse weather and in obscuration. The weapon system will effectively engage and destroy advanced threat armor on the AirLand Battlefield of the late 1990s and into the next century. To be effective and survive on this future battlefield, the attack helicopter team will rapidly engage multiple targets with minimum exposure time, and deploy a system that is inherently resistant to threat countermeasures (CMs).

JUSTIFICATION:
 FY 01 funds buy 60 aircraft/44 FCRs, including associated support equipment, tooling, GFE, and training devices. Funding contains digitization requirements, including procurement of Digital Map capability required for Force XXI Battle Command Bridge & below (FBCB2) situational awareness (\$12.1M in FY01). The 18 October 95 Acquisition Decision Memorandum authorized Longbow Apache to proceed into production and award of single year contract not to exceed quantity of 18 aircraft in FY96. A Multi-Year II Contract (FY01-FY05) will be signed in FY 00. Airframe quantities and funding reflect a multi-year (MY) scenario. Multiyear contracts for the FCR mission kit were signed in Nov 97. Quantities and funding reflect this multiyear scenario. 530 AH-64A Apaches will be remanufactured to the common AH-64D configuration with 320 being equipped with the FCR kits and 701C engines.

Initial spares includes FCR components

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No.		P-1 Item Nomenclature:											
AIRCRAFT PROCUREMENT /Modification of Aircraft / 12105682		Apache Longbow Mods											
Program Elements for Code B Items:		Other Related Program Elements:											
Code:													
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty	24	24	44	66	74	60	66	72	72	28		530	
Gross Cost	332.8	282.8	365.9	474.9	631.1	596.8	697.6	751.4	728.9	410.6	402.8	5675.6	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	332.8	282.8	365.9	474.9	631.1	596.8	697.6	751.4	728.9	410.6	402.8	5675.6	
Initial Spares													
Total Proc Cost	332.8	282.8	365.9	474.9	631.1	596.8	697.6	751.4	728.9	410.6	402.8	5675.6	
Flyaway U/C	15.9	9.1	6.5	6.2	6.5	7.7	7.8	7.9	8.5	12.8		8.6	
Won Sys Proc U/C	17.0	12.0	8.9	7.6	9.0	10.4	11.0	10.8	10.5	15.2		11.3	

DESCRIPTION:
The Longbow Weapon System (AH-64D) consists of a modified AH-64 airframe, a Fire Control Radar (FCR) mission kit and a Longbow HELLFIRE missile. Three hundred twenty AH-64Ds will incorporate the General Electric T700-GE-701C engines for improved performance when carrying the FCR mission kits. Those AH-64D aircraft fielded without the FCR mission kits will have the T700-GE-701 engines, but can accept the FCR mission kit with T700-GE-701C engines. The Longbow Weapon System will provide the AH-64 with automatic target detection, classification, prioritization and a true fire-and-forget engagement capability, greatly increasing weapon system effectiveness and aircraft survivability. The weapon system will be employable day or night, in adverse weather and in obscuration. The weapon system will effectively engage and destroy advanced threat armor on the Air Land Battlefield of the late 1990s and into the next century. To be effective and survive on this future battlefield, the attack helicopter team will rapidly engage multiple targets with minimum exposure time, and deploy a system that is inherently resistant to threat countermeasures (CMs).

JUSTIFICATION:
FY 01 funds buy 60 aircraft, including associated support equipment, tooling, GFE, and training. 530 AH-64A Apaches will be remanufactured to the common AH-64D configuration with 320 being equipped with the FCR kits and 701C engines. FY01 funding also buys Digital Map capability required for Force XXI Battle Command Bridge & below (FBCB2) situational awareness (\$12.1M).

*Unit costs are annual procurement unit costs including advanced procurement.

Exhibit P-43, Simulator and Training Device Justification

Exhibit P-43, Simulator and Training Device Justification											Date:	February 2000	
Appropriation / Budget Activity/Serial No. AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft				P-1 Item Nomenclature LONGBOW (AA6670)				Other Related Program Elements:			IOC Date:		
Training Device by Type	Site	Delivery Date	Ready for Training Date	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005		
LCT	Ft. Hood/Multiple	Sep-99	Oct-99	20753	10351	29795	32475	50544	119851	79120			
LCTS	Ft. Hood	Sep-00	Oct-00		23248								
MAVWEST(L-7)	Ft. Eustis	Sep-99	Oct-99	25507		26941	14392	28784					
AEDST(L-6)	Ft. Eustis	Sep-99	Oct-99	30799	5745	18210	9000	37408					
TESS	CTC/Home Station	Jul-99	Aug-99	4583	7502	11212	22288	9800	4600	400	400		
CLS					5038	4083	6430	10019	11924	14061	14370		
Total				81642	51884	90241	84585	136555	136375	93581	14770		

TRAINING SYSTEM DESCRIPTION:The Longbow Training Device Suite (TDS) includes the following: Longbow Crew Trainer (LCT), FY 96 start year (37 total through POM, 5 in EPP for a total of 42). Longbow Collective Training System (LCTS), FY 99 start year (1 total): Tactical Engagement Simulation System (TESS) "A" and "B" Kit, FY 98 start year (1/aircraft); Multiplex Avionics, Visionics, Weapons and Electrical Systems Trainer (MAVWEST), FY 97 start year (10 total); and Airframe, Engine, and Drivetrain Systems Trainer (AEDST), FY 97 start year (12 total). The cornerstone of the TDS is the LCT which is a dual-seat, pilot and co-pilot gunner (CPG) sustainment training device. The basis of issue is one device per operational battalion at selected MACOM locations (based upon Longbow Apache unit density), four at the USA Aviation Center (USAAVNC), and two at the Western Area Aviation Training Site (WAATS). The LCT will be deployed to meet the Aircraft Configuration of the gaining unit. Development and production of the LCT will precede development of the maintainer devices and will establish the technical baseline for the MAVWEST. The LCT will provide a transportable training and sustainment capability to the field. The LCT and the LCTS will be networkable through Distributed Interactive Simulation (DIS) protocols and interfaces and will be capable of interoperability with the Combined Arms Tactical Trainer (CATT) systems. TESS is composed of a TESS air component (consisting of an A & B kit), and a TESS ground component. TESS Air A kit consists of software and tactical displays and controls embedded on the aircraft to provide a cockpit interface to the "Plug and Play" TESS Air B kit. The TESS air component will simulate all on-board weapons engagements, and together with the TESS ground component provides a real time casualty assessment for force-on-force collective training at the Combat Training Centers and at home station. Funding will provide for 530 TESS Air A kits, and 8 Bn sets consisting of 24 TESS Air B kits and 1 TESS ground component. The MAVWEST and AEDST are maintainer training devices for the US Aviation Logistics School (USAAL), Ft. Eustis.

Exhibit P-40, Budget Item Justification Sheet											Date:	February 2000
Appropriation / Budget Activity/Serial No:		P-1 Item Nomenclature:										
AIRCRAFT PROCUREMENT / Modification of Aircraft / 12105682		Apache Longbow FCR										
Program Elements for Code B Items:		Other Related Program Elements:										
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty	10	10	21	40	45	44	57	14			79	320
Gross Cost	85.5	89.6	94.6	98.3	114.9	112.6	112.3	87.8	37.4	27.5	377.0	1237.5
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	85.5	89.6	94.6	98.3	114.9	112.6	112.3	87.8	37.4	27.5	377.0	1237.5
Initial Spares												
Total Proc Cost	85.5	89.6	94.6	98.3	114.9	112.6	112.3	87.8	37.4	27.5	377.0	1237.5
Flyaway U/C	12.7	8.5	4.8	2.7	2.8	2.8	2.1	6.3			5.0	4.4
Wpnt Sys Proc U/C	12.7	10.0	4.8	2.7	2.8	2.8	2.1	6.3			5.0	4.4
DESCRIPTION: The Longbow Weapon System (AH-64D) consists of a modified AH-64 airframe, a Fire Control Radar (FCR) mission kit and a Longbow HELLFIRE missile. Three hundred twenty AH-64Ds will incorporate the General Electric T700-GE-701C engines for improved performance when carrying the FCR mission kits. Those AH-64D aircraft fielded without the FCR mission kits will have the T700-GE-701 engines installed, but can accept the FCR mission kit with T700-GE-701C engines. The Longbow Weapon System will provide the AH-64 with automatic target detection, classification, prioritization and a true fire-and-forget engagement capability, greatly increasing weapon system effectiveness and aircraft survivability. The weapon system will be employable day or night, in adverse weather and in obscuration. The weapon system will effectively engage and destroy advanced threat armor on the Airland Battlefield of the late 1990s and into the next century. To be effective and survive on this future battlefield, the attack helicopter team will rapidly engage multiple targets with minimum exposure time, and deploy a system that is inherently resistant to threat countermeasures (CMs).												
JUSTIFICATION: FY 01 funds buy 44 FCRs. FCR quantities & funding reflect multiyear procurements for FY 98-02. 530 AH-64A Apaches will be remanufactured to the common AH-64D configuration with 320 being equipped with the FCR kits and 701C engines. *Unit costs are annual procurement unit costs including advanced procurement.												

INDIVIDUAL MODIFICATION																																																																																																																						
MODIFICATION TITLE: Longbow Apache Mods NA														Date																																																																																																								
February 2000																																																																																																																						
MODELS OF SYSTEMS AFFECTED: Itemize names of systems in this text box.																																																																																																																						
DESCRIPTION / JUSTIFICATION:																																																																																																																						
The Longbow Weapon System (AH-64D) consists of a modified AH-64A airframe, a Fire Control Radar (FCR) mission kit and a Longbow Hellfire missile. The AH-64 aircraft will be modified with those changes necessary to effectively and efficiently integrate the Fire Control Radar. These changes consist of increased electrical power, expanded forward avionics bays, increased cooling, upgraded processors, Digital Map capability, MANPRINT crew station and 701C engines. These upgrades will significantly enhance warfighting capability and battlefield survivability by providing for advanced digitized avionics and the employment of true fire and forget engagement capability.																																																																																																																						
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Milestone 1B (DAB) Jul 89, Milestone II (DAB) Dec 90, Milestone III (DAB) Oct 95, Multiyear Lot 1 contract award Aug 96, First Production Delivery Mar 97, First Unit Equipped Jul 98 IOC Accomplished Nov 98. MYII Contract Award Mar 00.																																																																																																																						
Installation Schedule: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Pr Yr</th> <th colspan="4">FY 1999</th> <th colspan="4">FY 2000</th> <th colspan="4">FY 2001</th> <th colspan="4">FY 2002</th> <th colspan="4">FY 2003</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> </tr> </thead> <tbody> <tr> <td>Totals</td> <td>1</td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>Inputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>Outputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> </tbody> </table>															Pr Yr	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Totals	1																				Inputs																					Outputs																				
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INDIVIDUAL MODIFICATION																				
MODIFICATION TITLE (Cont):										Longbow Apache Mods NA										
FINANCIAL PLAN: (\$ in Millions)																				
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL		
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
92	602.2	66	334.3	74	364.6	60	325.3	66	353.7	72	389.2	72	380.9	28	187.4			530	2937.6	
Quantity																				
Recurring																				
Other Flyaway																				
Training Devices																				
Other Support																				
Second Gen FLIR																				

INDIVIDUAL MODIFICATION																																																																							
MODIFICATION TITLE: Apache Longbow FCR NA												Date	February 2000																																																										
MODELS OF SYSTEMS AFFECTED: Itemize names of systems in this text box.																																																																							
DESCRIPTION / JUSTIFICATION:																																																																							
Longbow Fire Control Radar (FCR) is a millimeter wave target acquisition system developed for integration on the Apache. FCR provides three tactical modes of operation. Ground Targeting Mode (GTM), Air Targeting Mode (ATM), and Terrain Profile Mode (TPM). In GTM, the FCR provides the capability to rapidly scan up to approximately 50 square kilometers of the battlefield using selectable scan widths which are directionally controllable by the crew. In this mode, the FCR detects, locates, classifies, and prioritizes moving and stationary targets. Targets are classified as air defense units, track vehicles, wheel vehicles, helicopters, fixed wing aircraft, or unknown. It has the capability to detect stationary targets out to a range of six kilometers and moving targets out to eight kilometers. In the ATM, the FCR detects, classifies and prioritizes airborne targets. TPM provides terrain avoidance information to the crew for navigation during periods of reduced visibility. FCR does all the above day or night and during periods of reduced visibility caused by atmospheric conditions and/or battlefield obscuration. In both targeting modes, the FCR provides rapid target acquisition and engagement while reducing exposure and providing multiple target engagement capability when coupled with the fire-and-forget Longbow Hellfire Missile. The FCR is a fully integrated system on the AH-64D which provides enhanced situational awareness, survivability, and lethality.																																																																							
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Milestone 1B (DAB) Jul 89 Milestone II (DAB) Dec 90 Milestone III (DAB) Oct 95 Lot 1 contract award Mar 96 First Production Delivery Mar 97.																																																																							
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INDIVIDUAL MODIFICATION																			February 2000	
MODIFICATION TITLE (Cont): Apache Longbow FCR NA																			Date	
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Quantity	41	254.5	40	98.3	45	114.9	44	112.6	57	112.3	14	80.9					79	310.6	320	1084.1
Recurring											6.9	37.4						66.4		138.2
Other flyaway																				15.1
Other		15.1																		
Installation of Hardware																				
FY 1998 & Prior Eqpt – Kits																				
FY 1999 Eqpt – Kits																				
FY 2000 Eqpt – Kits																				
FY 2001 Eqpt – Kits																				
FY 2002 Eqpt – kits																				
FY 2003 Eqpt – kits																				
FY 2004 Eqpt – kits																				
FY 2005 Eqpt – kits																				
TC Equip-Kits																				
Total Installment																				
Total Procurement Cost		269.6		98.3		114.9		112.6		112.3		87.8		37.4		27.5		377.0		1237.4

FY 2000 / FY 2001 BUDGET PRODUCTION SCHEDULE										Apache Longbow										February 2000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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										O	C	O	N	D	E	C	N	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M	A	P	R	Y	J	A	M

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
P-1 Item Nomenclature:												LONGBOW (ADV PROC) (AA6670)	
P-1 Item Nomenclature:													
Other Related Program Elements:													
Code:													
Program Elements for Code B Items:													
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Less PY Adv Proc													
Plus CY Adv Proc	133.8	30.4	36.9	43.2	35.4	35.0	29.5	29.7	14.2	43.1	18.7	449.9	
Net Proc (P-1)	133.8	30.4	36.9	43.2	35.4	35.0	29.5	29.7	14.2	43.1	18.7	449.9	
Initial Spares													
Total Proc Cost	133.8	30.4	36.9	43.2	35.4	35.0	29.5	29.7	14.2	43.1	18.7	449.9	
Flyaway U/C													
Wpn Sys Proc U/C													

DESCRIPTION:

The Longbow program encompasses modifications to 530 AH-64A Apaches as well as upgrades to the aircraft systems for the AH-64D series to efficiently and effectively integrate the Fire Control Radar (FCR) and radar frequency (RF) missile. It provides an adverse weather fire-and-forget missile capability that increases the lethality and survivability. The Longbow Apache also retains the capability to fire the Semi-Active Laser Hellfire. The design enhancements increase operational capability of the crew and provide increased survivability and lethality while complying with Congressional direction to standardize the fleet to a common configuration.

JUSTIFICATION:

Five hundred thirty (530) AH-64A Apaches will be remanufactured to the common AH-64D configuration with 320 being equipped with the FCR kits and 701C engines. FY 01 funds Advance Procurement to support deliveries of airframes and FCRs. Long Lead funding is required to provide funding for those parts, tooling, test equipment, and materials which are lead time critical to the end item. Long lead funding is required to preserve the planned helicopter delivery schedule.

Advance Procurement Requirements Analysis-Funding (P-10A)														
Appropriation / Budget Activity/Serial No:					First System Award Date:					First System Completion Date:				
										Date: February 2000				
					P-1 Line Item Nomenclature / Weapon System:									
					(\$ in Millions)									
	PLT (mos)	When Rqd (mos)	Pr Yrs	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	To Comp	Total
End Item Quantity:														
Aircraft			24	24	44	66	74	60	66	72	72	28		530
FCR			10	10	21	40	45	44	57	14			79	320
Airframe	30	N/A	81.6	25.1	26.4	32.2	24.4	26.4	29.5	29.7	14.2			289.5
GFE - FCR Kit	30	29	52.2	5.3	10.5	11.0	11.0	8.6				43.1	18.7	160.4
Total Advance Procurement			133.8	30.4	36.9	43.2	35.4	35.0	29.5	29.7	14.2	43.1	18.7	449.9
Description:														

Advance Procurement Requirements Analysis-Budget Justification (P-10B)									
Appropriation / Budget Activity/Serial No:				P-1 Line Item Nomenclature / Weapon System:			Date:		
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft				LONGBOW (ADV PROC) (AA6670)			February 2000		
				(\$ in Millions)					
				2000			2001		
End Item	PLT (mos)	Quantity Per Assembly	Unit Cost	Qty	Contract Forecast Date	Total Cost Request	Qty	Contract Forecast Date	Total Cost Request
Airframe	30	Various Components	N/A	60	Dec 99	24.4	66	Dec 00	26.4
GFE - FCR Kit	30	Various Components	N/A	44	Nov 99	11.0	57	Nov 00	8.6
Total Advance Procurement						35.4			35.0
Description: Multiyear airframe contract awarded Aug 96. Above "Contract Forecast Date" for airframe represents "Funding Action" dates for Lots VI and VII. Multiyear FCR contract awarded Nov 97. Above "Contract Forecast Date" represents "Funding Action" dates for Lots VI and VII.									

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:		P-1 Item Nomenclature:											
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		UH-1 MODS (AB0602)											
Program Elements for Code B Items:		Other Related Program Elements:											
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	338.9	6.2	2.6	3.8	4.3	4.3	3.2	3.2	3.4	3.4	0.0	373.4	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	338.9	6.2	2.6	3.8	4.3	4.3	3.2	3.2	3.4	3.4	0.0	373.4	
Initial Spares													
Total Proc Cost	338.9	6.2	2.6	3.8	4.3	4.3	3.2	3.2	3.4	3.4	0.0	373.4	
Flyaway U/C													
Wpn Sys Proc U/C													

DESCRIPTION: The UH-1 helicopter is used for transportation of personnel, equipment and supplies, command & control, and medical evacuation. The UH-1 requires sustainment upgrades to ensure that it can operate on the modern battlefield and be logistically supportable through the year 2010. There are two models, the UH-1H and the UH-1V (MEDEVAC), most of which are located in National Guard units.

JUSTIFICATION: FY 01 funding will be used to procure and install navigation and communication avionics which are required because the currently installed avionics are quickly becoming logistically nonsupportable. Installation of modification kits is limited to those aircraft that will remain in the force structure through the year 2010.

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:		P-1 Item Nomenclature:											
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		UH-60 MODS (AA0480)											
Program Elements for Code 6 Items:		Other Related Program Elements:											
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	437.3	12.4	28.7	22.7	13.0	3.0	38.8	54.1	99.5	164.4	0.0	873.7	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	437.3	12.4	28.7	22.7	13.0	3.0	38.8	54.1	99.5	164.4	0.0	873.7	
Initial Spares													
Total Proc Cost	437.3	12.4	28.7	22.7	13.0	3.0	38.8	54.1	99.5	164.4	0.0	873.7	
Flyaway U/C													
Wpn Sys Proc U/C													

DESCRIPTION:
The UH-60A/L/Q is a twin engine, single rotor helicopter that is used in the performance of the air assault, air cavalry and aeromedical evacuation missions. It is designed to carry a crew of four plus eleven combat-equipped troops or an external load up to 9,000 pounds. It performs the mission of transporting troops and equipment into combat, resupplying the troops while in combat and performing aeromedical evacuation, repositioning of reserves, and command and control. The UH-60A/L/Q is a major contributor across the continuum of military operations, i.e., civil disaster relief, drug intervention, national and humanitarian assistance.

JUSTIFICATION:
The modifications that will occur during FY01 are the procurement and installation of the Battery/Power Light Relocate and the Night Vision Goggles (NVG) Lighting Lower Console for approximately 1500 aircraft.

Note: Received \$1.2 million in the FY 99 Kosovo Supplemental for four airborne AN/ASC-15C(V)2 Command and Control (C2) Consoles for Blackhawk helicopters.

Exhibit P-40M Budget Item Justification Sheet													Date	February 2000
Appropriation / Budget Activity/Serial No.			P-1 Item Nomenclature										UH-60 MODS (AA0480)	
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft														
Program Elements for Code B Items			Code	Other Related Program Elements										
Description			Fiscal Years											
OSIP NO.	Classification		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	TC	Total		
Ext Stores Sup Sys (ESSS) Aux Fuel Monitoring Sys (AFMS)														
1-94-01-1948	Safety	16.9	11.8	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.4		
Halon Changeout (No P3a Set)														
1-92-01-1945	Legislative	0.1	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6		
Battery/Power Light Relocate														
1-94-01-1953	RM	0.3	2.0	5.5	2.6	9.1	3.4	0.0	0.0	0.0	0.0	22.9		
NVG Lighting Lower Console														
1-90-01-1933	Operational	1.9	4.9	4.8	0.4	2.3	0.0	0.0	0.0	0.0	0.0	14.3		
Major UH-60AVL Modification Program (No P3a Set)														
TBD	Operational	0.0	0.0	0.0	0.0	0.0	40.3	73.5	140.5	0.0	0.0	254.3		
UH-60Q Medevac (No P3a Set)														
TBD1	Operational	9.4	0.0	0.0	0.0	27.4	10.4	19.3	18.9	0.0	0.0	85.4		
Fire Hawk (No P3a Set)														
TBD2	Operational	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0		
UH-60L Safety/Operational Modifications (No P3a Set)														
TBD3	Safety/Operational	0.0	0.0	0.0	0.0	0.0	0.0	6.7	5.0	0.0	0.0	11.7		
Minor Modification Programs (No P3a Set)														
TBD4	Operational	0.9	1.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4		
Totals			31.5	22.7	13.0	3.0	38.8	54.1	99.5	164.4	0.0	427.0		

INDIVIDUAL MODIFICATION																
Date														February 2000		
MODIFICATION TITLE: Ext Stores Sup Sys (ESSS) Aux Fuel Monitoring Sys (AFMS) 1-94-01-1948																
MODELS OF SYSTEMS AFFECTED: UH-60A/L Black Hawk																
DESCRIPTION / JUSTIFICATION: The Auxiliary Fuel Monitoring System (AFMS) shall provide the pilots with a fuel quantity display for each installed auxiliary fuel tank. Each tank will have its own fuel probe. The system will monitor external fuel for imbalance conditions that result in aircraft lateral center-of-gravity changes that exceed a certain designated value. If an imbalance is detected, the system will activate a light on the AFMS panel, the aux fuel segment light on the caution/advisory panel, and the master warning panel. Aircrews will have the capability to directly read the weight of all the auxiliary fuel that may be in each of the External Stores Support System (ESSS)/Extended Range Fuel System (ERFS) and store locations. This safety modification will continue to assure that a fully capable aircraft is available to support the combat mission requirement. Gauging will improve aircraft management of auxiliary fuel for everyday mission use of the system.																
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:																
Installation Schedule:																
		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003						
Pr Yr	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Totals	90	100	150	200	200	100	94									
Inputs	50	100	100	100	100	100	125	150	150	59						
Outputs																
		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009				
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1
Totals	934															
Inputs																
Outputs																
METHOD OF IMPLEMENTATION: OLR Teams																
Contract Dates: FY 1999 Jan 99																
Delivery Date: FY 1999 Mar 99																
ADMINISTRATIVE LEADTIME: 3 Months																
PRODUCTION LEADTIME: 3 Months																
Production Schedule: FY 2001																
Production Schedule: FY 2001																

INDIVIDUAL MODIFICATION														Date		February 2000				
MODIFICATION TITLE (Cont):																				
Ext Stores Sup Sys (ESSS) Aux Fuel Monitoring Sys (AFMS) 1-94-01-1948																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity	634	14.6	300	6.1															934	20.7
Installation Kits																				
Installation Kits, Nonrecurring Equipment		1.5																		1.5
Equipment, Nonrecurring Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1998 & Prior Eq-634 Kits	90	0.8	544	4.7															634	5.5
FY 1999 Eqpt --300 Kits			106	1.0	194	1.7													300	2.7
FY 2000 Eqpt -- Kits																				
FY 2001 Eqpt -- Kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
FY 2004 Eqpt -- kits																				
FY 2005 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment	90	0.8	650	5.7	194	1.7													934	8.2
Total Procurement Cost		16.9		11.8		1.7														30.4

INDIVIDUAL MODIFICATION																			Date		February 2000							
MODIFICATION TITLE (Cont):																			Battery/Power Light Relocate 1-94-01-1953									
FINANCIAL PLAN: (\$ in Millions)																												
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL									
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$								
RDT&E																												
PROCUREMENT																												
Kit Quantity			250	2.0	575	5.0	100	1.0	528	5.3									1,453	13.3								
Installation Kits																												
Installation Kits, Nonrecurring Equipment		0.3																		0.3								
Equipment, Nonrecurring Engineering Change Orders																												
Data																												
Training Equipment																												
Support Equipment																												
Other																												
Interim Contractor Support																												
Installation of Hardware																												
FY 1998 & Prior Eqpt -- Kits																												
FY 1999 Eqpt -- 250 Kits					100	0.5	150	0.8											250	1.3								
FY 2000 Eqpt -- 575 Kits							150	0.8	425	2.9								575	3.7									
FY 2001 Eqpt -- 100 Kits									100	0.6								100	0.6									
FY 2002 Eqpt -- 528 Kits									50	0.3	478	3.4						528	3.7									
FY 2003 Eqpt -- Kits																												
FY 2004 Eqpt -- Kits																												
FY 2005 Eqpt -- Kits																												
TC Equip-Kits																												
Total Installation					100	0.5	300	1.6	575	3.8	478	3.4						1,453	9.3									
Total Procurement Cost		0.3		2.0		5.5		2.6		9.1		3.4							22.9									

INDIVIDUAL MODIFICATION												Date	February 2000
MODIFICATION TITLE: NVG Lighting Lower Console 1-90-01-1933													
MODELS OF SYSTEMS AFFECTED: UH-60AVL Black Hawk													
DESCRIPTION / JUSTIFICATION:													
This is a safety related requirement resulting from incident report findings stipulating the lack of the lower console lighting as a present factor in the incident. This safety related improvement will improve cockpit lighting which will increase the capability of the night vision goggles and eliminate the pilot's/co-pilot's need to transition from goggles to no-goggles (heads down) in order to see and operate the radio control heads. Until this is accomplished, the radios and equipment in the lower console must remain unlighted. Existing cockpit lighting and relighted radio control panels will be upgraded to be in conformance with DOD Spec MIL-L-85762 and compatible with ANVIS-6 goggles. The proposed cockpit lighting upgrade will improve night operations capability.													
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:													
Installation Schedule:													
Pr Yr		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003			
Totals		1	2	3	4	1	2	3	4	1	2	3	4
Inputs		200	120	120	100	100	100	100	100	25	25	50	75
Outputs		200	100	100	100	75	75	75	75	75	75	75	28
		FY 2004		FY 2005		FY 2006		FY 2007		To		Totals	
Inputs		1	2	3	4	1	2	3	4	1	2	3	4
Outputs													
										Complete		1453	
												1453	
METHOD OF IMPLEMENTATION: OLR Teams													
Contract Dates: FY 1999 Nov 98													
Delivery Date: FY 1999 Feb 99													
ADMINISTRATIVE LEADTIME: 2 Months													
PRODUCTION LEADTIME: 3 Months													
FY 2000 Nov 99													
FY 2000 Feb 00													
FY 2001 Nov 00													
FY 2001 Feb 01													

INDIVIDUAL MODIFICATION														Date		February 2000			
MODIFICATION TITLE (Cont): NVG Lighting Lower Console 1-90-01-1933																			
FINANCIAL PLAN: (\$ in Millions)																			
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
200	1.3	600	3.3	450	3.5			203	1.5									1,453	9.6
RDT&E																			
PROCUREMENT																			
Kit Quantity																			
Installation Kits																			
Installation Kits, Nonrecurring Equipment																			
Equipment, Nonrecurring																			
Engineering Change Orders																			
Data																			
Training Equipment																			
Support Equipment																			
Other																			
Interim Contractor Support																			
Installation of Hardware																			
200	0.6	480	1.6	120	0.4	150	0.4	20	0.1									200	0.6
FY 1998 & Prior Eq-200 Kits																			
FY 1999 Eqpt -- 600 Kits																			
FY 2000 Eqpt -- 450 Kits																			
FY 2001 Eqpt -- Kits																			
FY 2002 Eqpt -- 203 Kits																			
FY 2003 Eqpt -- Kits																			
FY 2004 Eqpt -- Kits																			
FY 2005 Eqpt -- Kits																			
TC Equip-Kits																			
200	0.6	480	1.6	400	1.3	150	0.4	223	0.8									1,453	4.7
Total Installation																			
Total Procurement Cost																			

Exhibit P-40, Budget Item Justification Sheet											Date:	February 2000
Appropriation / Budget Activity/Serial No.		P-1 Item Nomenclature:										
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		KIOWA WARRIOR (AZ2200)										
Program Elements for Code B Items:		Other Related Program Elements:										
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty												
Gross Cost	1295.3	196.9	51.0	48.7	41.9	41.8	42.3	42.3	31.4	31.4	195.1	2018.1
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	1295.3	196.9	51.0	48.7	41.9	41.8	42.3	42.3	31.4	31.4	195.1	2018.1
Initial Spares	179.9	1.4										181.3
Total Proc Cost	1475.2	198.3	51.0	48.7	41.9	41.8	42.3	42.3	31.4	31.4	195.1	2199.4
Flwyway U/C												
Wpn Sys Proc U/C												
DESCRIPTION: The OH-58D Kiowa Warrior is a two-seat, single-engine, observation helicopter with four main rotor blades and a thermal imaging system and laser range finder/designator in a Mast Mounted Sight situated above the main rotor system. The aircraft operates autonomously at standoff ranges providing armed reconnaissance, command and control, and target acquisition/designation for Apache helicopters and other airborne weapons platforms in day, night, and adverse-weather conditions. Commencing in FY91, fielded aircraft were retrofit with Air-to-Air Stinger and Air-to-Ground weapons; in-line production incorporation began with the last six aircraft of the FY89 procurement. Multi-Purpose Light Helicopter kits provide rapid deployment capability. A Control Display System processor modification replaced three processors with two Joint Integrated Avionics Working Group standard 80960 processors. Some Crew Station Mission Equipment Training (CSMET) Devices have been procured to support flight crew training. Efforts have been initiated to combat the encroaching obsolescence of the Mast Mounted Sight and to incorporate the capabilities of a Switchable Eye-Safe Laser Rangefinder Designator (SELRD). The Safety Enhancement Program (SEP) was initiated in FY96 to incorporate R3 engines, crashworthy crew seats, a supplemental restraint system, digitization, and improved weapons interface. The SEP improves recognition and identification of emergency situations; reduces pilot workload during emergency maneuvers; significantly improves the crashworthiness of the airframe thus improving crew survivability; improves engine reliability, reducing the probability of engine failure and exposure to emergency autorotations; and adds digitization capabilities. Partial SEP improvements had been incorporated into the later lots of Bell Helicopter's remanufacture/retrofit modification lines; those aircraft will complete SEP modifications through field retrofit activities. Other fielded Kiowa Warrior aircraft are being SEP modified via a combination of efforts on the contractor's SEP modification line and through field retrofit. JUSTIFICATION: Modification efforts allow the Kiowa Warrior to safely serve as the Army's night, armed reconnaissance aviation capability until RAH-66 fielding begins and to complement Comanche throughout its projected life with gradual displacement. The FY01 program continues the SEP.												

INDIVIDUAL MODIFICATION												Date	February 2000
MODIFICATION TITLE: Safety Enhancement Program TBD 4													
MODELS OF SYSTEMS AFFECTED: OH-58D Kiowa Warrior													
DESCRIPTION / JUSTIFICATION:													
The Safety Enhancement Program (SEP) incorporates multiple improvements to resolve safety issues and to equip the airframe to perform as a digitized platform interfacing with the tactical internet. The R3 Engine increases reliability and control responsiveness and overcomes the rotor droop anomaly by providing faster response time to power demands. The accompanying Improved Master Controller Processor Unit (IMCPU) provides 100% growth capability for memory and throughput while reducing aircraft empty weight and operating and support costs. IMCPU will enable Improved Data Modem, Battlefield Combat Identification System, Improved Navigation System/Global Positioning System, Digital Map, etc. SEP Lot 4 and beyond will incorporate IMCPUs with Joint Variable Message Format (JVMF) capability; this will support fielding to First Digitized Division (FDD) and First Digitized Corps (FDC). Energy Attenuating seats are being incorporated for crew safety in case of vertical and horizontal impacts. Air bags will increase crew protection in all modes of flight. A total of 270 of the 387-aircraft fleet will receive these safety modifications; 77 of these aircraft have been partially SEP equipped in the Bell Helicopter remanufacture and retrofit lines; additional SEP equipment will be applied to them via field retrofit. The remaining aircraft will receive SEP modifications at the contractor's facility and will have the seats and air bags installed as field retrofits. Installation Schedule data below not provided. Majority of aircraft will be partially block modified at Bell Helicopter Textron facilities; however, not all aircraft will receive the complete complement of modifications at that facility. Some aircraft will receive portions of the modification efforts via field retrofit; and similarly, not all field retrofit aircraft will receive all field retrofit modifications. Installation data on following page separately identifies quantities and dollars for the number of aircraft modified in each Bell Helicopter Textron lot plus quantities and dollars for the individual modification kit installations.													
Installation Schedule:													
Pr Yr		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003			
Totals		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
Outputs													
Totals													
1		2	3	4	1	2	3	4	1	2	3	4	
Inputs													
Outputs													
METHOD OF IMPLEMENTATION: Kr Line & Fid Retrofi ADMINISTRATIVE LEADTIME: 4 Months PRODUCTION LEADTIME: 11 Months													
Contract Dates: FY 1999 Feb 99 FY 2000 Mar 00 FY 2001 Jan 01													
Delivery Date: FY 1999 Jan 00 FY 2000 Feb 01 FY 2001 Dec 01													

INDIVIDUAL MODIFICATION																			
Date																			
February 2000																			
MODIFICATION TITLE (Cont):																			
Safety Enhancement Program TBD 4																			
FINANCIAL PLAN: (\$ in Millions)																			
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																			
PROCUREMENT																			
28	10.7	28	2.8	22		22		21		23		20		29		117	190.7	310	190.7
Aircraft Modified - Bell																			
Hardware Nonrecurring																			
Hardware Recurring:																			
(Contracts do not break out)																			
28	31.7	14.0 (Contracts include installation)																	
28		28		22	3.1	22	4.4	21	4.2	23	4.8	20	3.9	29	4.6			193	45.7
28		28		22	0.3	22	0.4	21	0.3	23	0.4	20	0.3	29	0.5			193	25.0
28		28																56	2.2
106	4.8			51	2.9	85	5.0	55	3.2	9	0.6	72	2.2					306	16.5
Seats for Field Installs(A/B)																			
Airbags for Field Installs																			
Govt-Furnished Equip (GFE):																			
69	19.6	28	4.3	18	4.2	18	4.3	18	4.3	20	4.9	20	5.0					191	46.6
105	45.7	20	5.9	32	11.5	15	5.7	17	6.8	9	3.8							198	79.4
R3 Engines/Containers																			
Other GFE																			
Engineering Change Orders																			
Project Management/Admin																			
Aircraft Prep																			
Fielding																			
Training/Training Devices																			
Other																			
28	2.1				0.9		1.0		1.3		1.4		1.1		1.7				11.1
Installation of Hardware																			
FY 1998 & Prior Eqpt-28 A/C																			
FY 1999 Eqpt - 28 Line A/C																			
FY 2000 Eqpt - 22 Line A/C																			
FY 2000 Eqpt - 27 Fld Instl																			
FY 2001 Eqpt - 22 Line A/C																			
FY 2001 Eqpt - 116 Fld Instl																			
FY 2002 Eqpt - 21 Line A/C																			
FY 2002 Eqpt - 139 Fld Instl																			
FY 2003 Eqpt - 23 Line A/C																			
FY 2003 Eqpt - 226 Fld Instl																			
FY 2004 Eqpt - 20 Line A/C																			
FY 2004 Eqpt - 120 Fld Instl																			
FY 2005 Eqpt - 29 Line A/C																			
FY 2005 Eqpt - 62 Fld Instl																			
TC Equip- 117																			
28		28		49	4.9	138	5.5	160	5.5	249	6.6	140	5.1	91	7.1			883	34.7
Total Installation																			
Total Procurement Cost																			

Exhibit P-40, Budget Item Justification Sheet										Date:	February 2000
Appropriation / Budget Activity/Serial No:		P-1 Item Nomenclature:		EH-60 QUICKFIX MODS (AB3000)							
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		Other Related Program Elements:									
Program Elements for Code B Items:		Code:	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty											
Gross Cost	83.4	13.8	36.5	4.9	0.0	0.0	0.0	0.0	0.0	0.0	138.6
Less PY Adv Proc											
Plus CY Adv Proc											
Net Proc (P-1)	83.4	13.8	36.5	4.9	0.0	0.0	0.0	0.0	0.0	0.0	138.6
Initial Spares	71.2	2.3									73.5
Total Proc Cost	154.6	16.1	36.5	4.9	0.0	0.0	0.0	0.0	0.0	0.0	212.1
Flyaway U/C											
Wpnt Sys Proc U/C											

This modification line funded the Prophet Heliborne efforts. This program has been terminated and redirected to Prophet UAV.

JUSTIFICATION: No FY01 planned program.

INDIVIDUAL MODIFICATION															Date	February 2000																																																																			
MODIFICATION TITLE: Quickfix Upgrades 1-02-07-0001																																																																																			
MODELS OF SYSTEMS AFFECTED: Quickfix, EH-60A, AN/ALQ-151(V)2																																																																																			
DESCRIPTION / JUSTIFICATION: Due to the Prophet Heliborne restructure, funding was no longer required. Funding was reprogrammed to support the fielding of the Guardrail Common Sensor System 2 program.																																																																																			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:																																																																																			
Installation Schedule:																																																																																			
Pr Yr		FY 1999			FY 2000			FY 2001			FY 2002			FY 2003																																																																					
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3																																																																			
Totals																																																																																			
Inputs																																																																																			
Outputs																																																																																			
Totals		FY 2004			FY 2005			FY 2006			FY 2007			To Complete																																																																					
		1	2	3	4	1	2	3	4	1	2	3	4																																																																						
Inputs																																																																																			
Outputs																																																																																			
METHOD OF IMPLEMENTATION:																																																																																			
FY 1999				Enter Date				FY 2000				Enter Date				FY 2001				Enter Date				FY 2002				Enter Date				FY 2003				Enter Date				FY 2004				Enter Date				FY 2005				Enter Date				FY 2006				Enter Date				FY 2007				Enter Date				FY 2008				Enter Date							
Contract Dates:				FY 1999				Enter Date				FY 2000				Enter Date				FY 2001				Enter Date				FY 2002				Enter Date				FY 2003				Enter Date				FY 2004				Enter Date				FY 2005				Enter Date				FY 2006				Enter Date				FY 2007				Enter Date				FY 2008				Enter Date			
Delivery Date:				FY 1999				Enter Date				FY 2000				Enter Date				FY 2001				Enter Date				FY 2002				Enter Date				FY 2003				Enter Date				FY 2004				Enter Date				FY 2005				Enter Date				FY 2006				Enter Date				FY 2007				Enter Date				FY 2008				Enter Date			

INDIVIDUAL MODIFICATION														Date		February 2000				
MODIFICATION TITLE (Cont): Quickfix Upgrades 1-02-07-0001																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring Equipment																				
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
																				4.9
Installation of Hardware																				
FY 1998 & Prior Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- Kits																				
FY 2001 Eqpt -- Kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
FY 2004 Eqpt -- kits																				
FY 2005 Eqpt -- kits																				
TC Equip-Kits																				
Total Installment																				4.9
Total Procurement Cost																				4.9

Exhibit P-40, Budget Item Justification Sheet											Date:	February 2000	
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft											P-1 Item Nomenclature: AIRBORNE AVIONICS (AA0700)		
Program Elements for Code B Items:											Other Related Program Elements:		
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	161.3	58.3	41.7	56.3	45.5	60.0	78.0	68.2	52.4	76.8	42.9	741.4	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	161.3	58.3	41.7	56.3	45.5	60.0	78.0	68.2	52.4	76.8	42.9	741.4	
Initial Spares													
Total Proc Cost	161.3	58.3	41.7	56.3	45.5	60.0	78.0	68.2	52.4	76.8	42.9	741.4	
Flyaway U/C													
Wpn Sys Proc U/C													

Description: The Airborne Avionics budget line includes the Global Positioning System (GPS), the Improved Data Modem (IDM) and the Aviation Mission Planning System (AMPS). The GPS, IDM and AMPS are three of the aviation systems required to support the digitization of the battlefield. The GPS provides Army aviation with extremely accurate and secure navigation capability, assists in situational awareness, and prevention of fratricide. GPS is installed in two configurations based on mission profile, operational requirements, and avionics architecture of the aircraft. The Doppler GPS Navigation System (DGNS)/AN/ASN-128B is used for the utility and cargo helicopters. The Embedded GPS Inertial Navigation System (EGI) is integrated into the Scout/Attack fleet of helicopters. A Pre-Planned Product Improvement to the DGNS and EGI will begin in FY01 to integrate a GPS Receiver Applications Module-Selective Availability Anti-Spoofing Module (GRAM-SASM). This interchangeable module will allow the Army to meet NAVWAR and civil airspace regulatory requirements.

The IDM is the key to digitizing Army Aviation. It is the centerpiece of Aviation's connectivity with the Tactical Internet (TI). This hardware/software solution allows Army Aviation interoperability with other weapon systems, the TI, and Fire Support Internet. The IDM provides a common Aviation platform solution for processing Situational Awareness and Joint Variable Message Format messages. IDM will be installed on the AH-64D, OH-58D, CH-47F, SOA, and UH-60Q/L+ aircraft.

AMPS provides critical Command and Control (C2) connectivity for Army Aviation. Without AMPS, there is no automated extraction of critical C2 information from the Maneuver Control System (MCS) for use in mission planning at Aviation brigade and below. AMPS is also the common data loader for initializing the avionics of all modernized platforms, including the AH-64A Apache Modernization, AH-64D Longbow Apache, CH-47D/F Chinook, OH-58D Kiowa Warrior, RAH-66 Comanche, and UH-60A/L+Q Blackhawk.

Justification: The FY01 funding provides for the installation of 250 DGNS on the UH-60A/L and CH-47D aircraft, completing the basic DGNS installations on the Army's cargo/utility fleet. In addition, FY01 provides the initial funding for the EGI P31 non-recurring aircraft integration for the AH-64A/D aircraft. FY01 funding also provides for the procurement of 36 IDM -303 boxes and the retrofitting of an additional 33 IDM -302 boxes to IDM -303 boxes. The IDM improves Army Aviation's

Exhibit P-40C Budget Item Justification Sheet			Date	February 2000
Appropriation / Budget Activity/Serial No. AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft		P-1 Item Nomenclature AIRBORNE AVIONICS (AA0700)		
Program Elements for Code B Items	Code	Other Related Program Elements		
interoperability, lethality, and operational tempo through the exchange of fast and accurate data-burst communications via the TI thereby providing the seamless capability to communicate across the digital battlefield. Funding for AMPS will provide for continuation of system hardware procurement as well as software upgrades. AMPS provides the capability to electronically disseminate mission and battle plans from brigade commander all the way to individual aviation warfighting platforms, including initialization of the avionics systems of the modernized fleet.				

Exhibit P-40M Budget Item Justification Sheet													Date	February 2000
Appropriation / Budget Activity/Serial No.			P-1 Item Nomenclature										AIRBORNE AVIONICS (AA0700)	
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft														
Program Elements for Code B Items			Code		Other Related Program Elements									
Description			Fiscal Years											
OSIP NO.	Classification		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	TC	Total		
Embedded GPS Inertial Navigation System (EGI) (No P3a Set)														
TBD 1	Legislative		34.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.5		
Doppler GPS Navigation System (DGNS) (AN/ASN-128B)														
TBD 2	Legislative		57.8	18.8	15.2	2.7	0.0	0.0	0.0	0.0	0.0	94.5		
Global Positioning System (GPS) [AN/ASN-149] (No P3a Set)														
TBD 3	Legislative		2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1		
Improved Data Modem (IDM)														
TBD 4	Oper/Log		39.5	27.6	16.5	32.5	42.6	53.7	35.7	46.9	30.3	325.3		
Aviation Mission Planning System														
1-95-01-2185	Oper/Log		29.2	9.9	9.6	9.0	7.1	0.0	0.0	0.0	0.0	64.8		
Embedded GPS Inertial Navigation System (EGI) PPI														
TBD 1-1	Legislative		0.0	0.0	4.2	11.4	18.8	8.6	9.9	14.6	9.1	76.6		
Doppler GPS Navigation System (DGNS) (AN/ASN-128B) PPI														
TBD 2-2	Legislative		0.0	0.0	0.0	4.4	9.5	5.9	6.8	15.3	3.5	45.4		
Totals														
			163.1	56.3	45.5	60.0	78.0	68.2	52.4	76.8	42.9	643.2		

INDIVIDUAL MODIFICATION																																																																																																																			
										Date	February 2000																																																																																																								
MODIFICATION TITLE: Doppler GPS Navigation System (DGNS) (AN/ASN-128B) TBD 2																																																																																																																			
MODELS OF SYSTEMS AFFECTED: Blackhawk (UH-60 A/L), Chinook (CH-47D)																																																																																																																			
DESCRIPTION / JUSTIFICATION: This program modification of the UH-60A/L and CH-47D aircraft is required to complete fielding of an integrated state of the art Global Positioning System (GPS) - based navigation system. The requirement is to enhance aircraft navigation and warfighting capability to meet the Joint Chief of Staff Master Navigation Plan. GPS is one of the six aviation systems required for Digitization of the Battlefield. The UH-60A/L cost includes support equipment, a Command Instrument Processor (CIP), which must be used in conjunction with the DGNS/AN-ASN-128B and in lieu of the current analog version. In FY 01 the total DGNS quantities procured and installed: CH-47D - 430, and UH-60A/L - 1344.																																																																																																																			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Planned Aug 93 Aug 95 Mar 99 Accomplished Aug 93 Aug 95 Aug 99																																																																																																																			
Installation Schedule: <table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.8em;"> <thead> <tr> <th rowspan="2">Pr Yr</th> <th colspan="4">FY 1999</th> <th colspan="4">FY 2000</th> <th colspan="4">FY 2001</th> <th colspan="4">FY 2002</th> <th colspan="4">FY 2003</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> </tr> </thead> <tbody> <tr> <td>Totals</td> <td>766</td><td>100</td><td>100</td><td>100</td> <td>83</td><td>100</td><td>100</td><td>100</td> <td>75</td><td>84</td><td>83</td><td>83</td> <td>83</td><td>83</td><td>84</td><td>83</td> <td>83</td><td></td><td></td><td></td> </tr> <tr> <td>Inputs</td> <td>646</td><td>120</td><td>100</td><td>100</td> <td>100</td><td>83</td><td>100</td><td>100</td> <td>100</td><td>100</td><td>75</td><td>84</td> <td>83</td><td>83</td><td>84</td><td>83</td> <td>83</td><td></td><td></td><td></td> </tr> <tr> <td>Outputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> </tbody> </table>												Pr Yr	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Totals	766	100	100	100	83	100	100	100	75	84	83	83	83	83	84	83	83				Inputs	646	120	100	100	100	83	100	100	100	100	75	84	83	83	84	83	83				Outputs																				
Pr Yr	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003																																																																																																		
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																																																																																															
Totals	766	100	100	100	83	100	100	100	75	84	83	83	83	83	84	83	83																																																																																																		
Inputs	646	120	100	100	100	83	100	100	100	100	75	84	83	83	84	83	83																																																																																																		
Outputs																																																																																																																			
<table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.8em;"> <thead> <tr> <th rowspan="2">Pr Yr</th> <th colspan="4">FY 2004</th> <th colspan="4">FY 2005</th> <th colspan="4">FY 2006</th> <th colspan="4">FY 2007</th> <th rowspan="2">Totals</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> </tr> </thead> <tbody> <tr> <td>Inputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td>1774</td> </tr> <tr> <td>Outputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td>1774</td> </tr> </tbody> </table>												Pr Yr	FY 2004				FY 2005				FY 2006				FY 2007				Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Inputs																	1774	Outputs																	1774																																		
Pr Yr	FY 2004				FY 2005				FY 2006				FY 2007				Totals																																																																																																		
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																																																																																																			
Inputs																	1774																																																																																																		
Outputs																	1774																																																																																																		
METHOD OF IMPLEMENTATION: Contractor Teams Contract Dates: FY 1999 Jan99 Delivery Date: FY 1999 Sep 99																																																																																																																			
ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 7 Months FY 2000 Jan 00 FY 2001 Sep 00																																																																																																																			

MODIFICATION TITLE (Cont):														Doppler GPS Navigation System (DGNS) (AN/ASN-128B) TBD 2														INDIVIDUAL MODIFICATION				February 2000	
FINANCIAL PLAN: (\$ in Millions)																																	
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL															
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$														
RDT&E																																	
PROCUREMENT																																	
Kit Quantity	1149	25.5	375	8.3	250	6.3												1774	40.1														
Installation Kits		6.2	1.1			1.4													8.7														
Installation Kits, Nonrecurring Equipment		0.8																	0.8														
Equipment, Nonrecurring		3.5		0.7															4.2														
Engineering Change Orders		0.7																	0.7														
Data																																	
Training Equipment																																	
Support Equipment	564	8.2	238	3.3	188	2.8												990	14.3														
Other (Inc PM Mgt & Matrix Spt)		4.9		1.6		0.9		0.2											7.6														
Interim Contractor Support																																	
Installation of Hardware																																	
FY 1998 & Prior Eqpt -- Kits	766	8.0	383	3.8	375	3.8												1149	11.8														
FY 1999 Eqpt -- Kits																		375	3.8														
FY 2000 Eqpt -- Kits							250	2.5										250	2.5														
FY 2001 Eqpt -- Kits																																	
FY 2002 Eqpt -- kits																																	
FY 2003 Eqpt -- kits																																	
FY 2004 Eqpt -- kits																																	
FY 2005 Eqpt -- kits																																	
TC Equip-Kits																																	
Total Installation	766	8.0	383	3.8	375	3.8	250	2.5										1774	18.1														
Total Procurement Cost		57.8		18.8		15.2		2.7											94.5														

INDIVIDUAL MODIFICATION														Date		February 2000	
MODIFICATION TITLE: Embedded GPS Inertial Navigation System (EGI) PPI TBD 1-1																	
MODELS OF SYSTEMS AFFECTED: Kiowa Warrior (OH-58D), Apache A (AH-64A) Longbow (AH-64D)																	
DESCRIPTION / JUSTIFICATION:																	
GPS (EGI) is one of the aviation systems required for Digitization of the Battlefield. FY 01 starts the aircraft integration of the GPS EGI Preplanned Product Improvement (P3I) interchangeable module, GRAM-SAASM, in accordance with NAVWAR and civil airspace regulatory requirements for the APACHE (AH-64A), LONGBOW (AH-64D) aircraft. In FY 01 the non-recurring funding provides for the AH-64A and AH-64D aircraft integration and testing. The Kit cost will vary depending on aircraft configuration. The procurement of the kit modification will start in FY 02 for field retrofit on the AH-64A and AH-64D. The remaining EGI equipped aircraft, KIOWA Warrior (OH-58D), SOA's, will start field retrofit in FY03. Only the Longbow GFE modules (172) will exclude installation kits and installation cost.																	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:																	
Contract Award (ECP)						<u>Planned</u>						<u>Accomplished</u>					
Production Contract Award						Nov 01						Apr 02					
Installation Schedule:																	
Inputs		Outputs		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003					
Totals		1 2 3 4		1 2 3 4		1 2 3 4		1 2 3 4		1 2 3 4		1 2 3 4		1 2 3 4		1 2 3 4	

INDIVIDUAL MODIFICATION																			Date		February 2000							
MODIFICATION TITLE (Cont):																			Embedded GPS Inertial Navigation System (EGi) PPI TBD 1-1									
FINANCIAL PLAN: (\$ in Millions)																												
RDT&E	FY 1998 and Prior	FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL										
		Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$									
PROCUREMENT																												
Kit Quantity								146	5.6	195	4.0	236	5.2	376	8.3	174	4.7	1127	27.8									
Installation Kits									0.4		0.4		0.5		1.0		0.5		2.8									
Installation Kits, Nonrecurring						10.0			11.0		3.0		3.0						27.0									
Equipment																												
Equipment, Nonrecurring									0.4						3.7				4.1									
Engineering Change Orders									0.8										5.7									
Data																												
Training Equipment																												
Support Equipment																												
Other (Inc PM Mgt & Matrix Spt)						0.5			0.6		0.4		0.3		0.5		0.1		2.6									
Interim Contractor Support																												
Installation of Hardware																												
FY 1998 & Prior Eqpt -- Kits																												
FY 1999 Eqpt -- Kits																												
FY 2000 Eqpt -- Kits																												
FY 2001 Eqpt -- Kits																												
FY 2002 Eqpt -- 114 kits										114	0.8		0.9					114	0.8									
FY 2003 Eqpt -- 123 kits												123						123	0.9									
FY 2004 Eqpt - 164 kits														164	1.1			164	1.1									
FY 2005 Eqpt -- 348 kits																348	2.6	348	2.6									
TC Equip- 174 Kits																174	1.2	174	1.2									
Total Installment										114	0.8	123	0.9	164	1.1	522	3.8	923	6.6									
Total Procurement Cost									18.8		8.6		9.9		14.6		9.1		76.6									

INDIVIDUAL MODIFICATION																																																																																																
MODIFICATION TITLE: Doppler GPS Navigation System (DGNS) (AN/ASN-128B) PPI TBD 2-2												Date																																																																																				
MODELS OF SYSTEMS AFFECTED: Blackhawk (UH-60 A/L), Chinook (CH-47D)																																																																																																
DESCRIPTION / JUSTIFICATION:																																																																																																
GPS (DGNS) is one of the six aviation systems required for Digitization of the Battlefield. FY01 starts the Pre-Planned Product Improvement for the ASN-128B/DGNS nonrecurring aircraft integration on the UH-60A/L aircraft. This modification is a joint service initiative which will provide a common interchangeable module, GPS Receiver Applications Module Selective Availability Anti-Spoofing Module GRAM-SAAASM. The AN/ASN-128B/DGNS Pre-Planned Product Improvement will provide for open, upgradable architecture and meet the requirements of NAVWAR and civil airspace regulations for the UH-60 A/L and CH-47D aircraft fleets.																																																																																																
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Contract Award (ECP) Production Contract Award <u>Planned</u> Feb 00 Feb 02 <u>Accomplished</u>																																																																																																
Installation Schedule:																																																																																																
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Pr Yr	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003																																																																															
Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																																																																												
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FY 2004				FY 2005				FY 2006				FY 2007				Totals																																																																																
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete																																																																																
40	40	40	40	50	50	50	50	124	124	125	125	125				1058																																																																																
50	40	40	40	50	50	50	50	124	124	125	125	125				1058																																																																																
METHOD OF IMPLEMENTATION: Contractor Team Contract Dates: FY 1999 FY 2000 FY 2001 FY 2006 FY 2007 Delivery Date: FY 1999 FY 2000 FY 2001 FY 2006 FY 2007 ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 6 Months																																																																																																

INDIVIDUAL MODIFICATION														Date		February 2000				
MODIFICATION TITLE (Cont): Doppler GPS Navigation System (DGNS) (AN/ASN-128B) PPI TBD 2-2																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RD&E																				
PROCUREMENT																				
Kit Quantity									200	4.8	160	3.8	200	4.8	498	11.9			1897	25.3
Installation Kits									0.6	0.6		0.5		0.6		1.5				3.2
Installation Kits, Nonrecurring Equipment						3.0			3.0											6.0
Equipment, Nonrecurring							1.2		0.7											1.9
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment							0.2		0.4		0.2			0.3		0.5				1.6
Other (Inc PM ADMIN/MAT SPT)																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1998 & Prior Eqpt – Kits																				
FY 1999 Eqpt – Kits																				
FY 2000 Eqpt – Kits																				
FY 2001 Eqpt – Kits																				
FY 2002 Eqpt –200 kits											200	1.4		1.1					200	1.4
FY 2003 Eqpt –160 kits													160	1.1					160	1.1
FY 2004 Eqpt - 200 kits															200	1.4			200	1.4
FY 2005 Eqpt –498 kits																	498	3.5	498	3.5
TC Equip- Kits																				
Total Installation											200	1.4	160	1.1	200	1.4	498	3.5	1058	7.4
Total Procurement Cost							4.4		9.5		5.9		6.8		15.3		3.5			45.4

INDIVIDUAL MODIFICATION																																																																																																																																																																											
MODIFICATION TITLE: Improved Data Modem (IDM) TBD 4											Date																																																																																																																																																																
MODELS OF SYSTEMS AFFECTED: IDM MD-1295/A; Aircraft: Longbow (AH-64D), Kiowa Warrior (OH-58D), Special Operations Aircraft (MH-47E/MH-60K), CH-47F, UH-60Q/L+																																																																																																																																																																											
DESCRIPTION / JUSTIFICATION:																																																																																																																																																																											
The IDM is Army Aviation's direct response to the need for Digitization of the Battlefield. With the IDM, Field Commanders gain the capability for enhanced command and control, situational awareness through digital mapping of friendly and enemy positions, and modernized operations in joint service digitized environments. The IDM modification to incorporate Embedded Battle Command minimizes changes to platform architecture, capitalizes on software reuse, and reduces platform software lifecycle costs. IDMs for Longbow, CH-47F, SOA, and UH-60Q/L+ will be incorporated in production. IDMs for fielded Kiowa Warrior aircraft will be installed by the Kiowa Warrior PM during implementation of the Safety Enhancement Program (SEP) at the contractor's facility. Special Operations Aircraft (SOA) logistics contractors will install the IDMs at the contractor's facility for SOA platforms. This will result in no installation costs for incorporation of EBC into IDM.																																																																																																																																																																											
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Full Rate Production Contract Division Capstone Exercise - Limited C2 First Digitized Corps <u>Planned</u> Dec 00 Apr 01 FY04 <u>Accomplished</u>																																																																																																																																																																											
Installation Schedule: <table border="1"> <thead> <tr> <th>Pr Yr</th> <th colspan="4">FY 1999</th> <th colspan="4">FY 2000</th> <th colspan="4">FY 2001</th> <th colspan="4">FY 2002</th> <th colspan="4">FY 2003</th> </tr> </thead> <tbody> <tr> <td>Totals</td> <td>1</td><td>2</td><td>3</td><td>4</td> <td>1</td><td>2</td><td>3</td><td>4</td> <td>1</td><td>2</td><td>3</td><td>4</td> <td>1</td><td>2</td><td>3</td><td>4</td> <td>1</td><td>2</td><td>3</td><td>4</td> </tr> <tr> <td>Inputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>Outputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th></th> <th colspan="4">FY 2004</th> <th colspan="4">FY 2005</th> <th colspan="4">FY 2006</th> <th colspan="4">FY 2007</th> <th colspan="2">Totals</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2</td><td>3</td><td>4</td><td></td> <td>1</td><td>2</td><td>3</td><td>4</td> <td>1</td><td>2</td><td>3</td><td>4</td> <td>1</td><td>2</td><td>3</td><td>4</td> <td>Complete</td> <td></td> </tr> <tr> <td>Inputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td> <td></td> </tr> <tr> <td>Outputs</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td> <td></td> </tr> </tbody> </table>												Pr Yr	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Inputs																					Outputs																						FY 2004				FY 2005				FY 2006				FY 2007				Totals		1	2	3	4		1	2	3	4	1	2	3	4	1	2	3	4	Complete		Inputs																			Outputs																		
Pr Yr	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003																																																																																																																																																										
Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																																																																																																																																																							
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1	2	3	4		1	2	3	4	1	2	3	4	1	2	3	4	Complete																																																																																																																																																										
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METHOD OF IMPLEMENTATION: <table border="0"> <tr> <td>Contract Dates:</td> <td>FY 1999</td> <td colspan="2">ADMINISTRATIVE LEADTIME:</td> <td>FY 2000</td> <td colspan="2">PRODUCTION LEADTIME:</td> <td>FY 2001</td> </tr> <tr> <td>Delivery Date:</td> <td>FY 1999</td> <td colspan="2"></td> <td>FY 2000</td> <td colspan="2"></td> <td>FY 2001</td> </tr> </table>												Contract Dates:	FY 1999	ADMINISTRATIVE LEADTIME:		FY 2000	PRODUCTION LEADTIME:		FY 2001	Delivery Date:	FY 1999			FY 2000			FY 2001																																																																																																																																																
Contract Dates:	FY 1999	ADMINISTRATIVE LEADTIME:		FY 2000	PRODUCTION LEADTIME:		FY 2001																																																																																																																																																																				
Delivery Date:	FY 1999			FY 2000			FY 2001																																																																																																																																																																				

INDIVIDUAL MODIFICATION																		
Improved Data Modern (IDM) TBD 4																		
FINANCIAL PLAN: (\$ in Millions)																		
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E				1.9		7.2												9.1
PROCUREMENT																		
Kit Quantity	260	8.8			36	2.1	106	6.3	220	13.3	164	10.1	183	11.5	182	11.9	1151	64.0
Installation Kits																		
Installation Kits, Nonrecurring		4.1																4.1
Equipment		0.1																0.1
Equipment, Nonrecurring		10.9																37.1
Modifications																		32.3
Engineering Change Orders																		6.2
Data		2.0																0.8
Training Equipment																		
Support Equipment		0.1																0.1
Other (Incl PM Mgt/Matrix Spt)		9.1																19.8
Interim Contractor Support																		
Fielding		0.7																17.0
System Test & Evaluation		0.4																0.7
Aircraft Integration		3.3																143.1
Installation of Hardware																		
FY 1998 & Prior Eqpt -- Kits																		
FY 1999 Eqpt -- Kits																		
FY 2000 Eqpt -- Kits																		
FY 2001 Eqpt -- Kits																		
FY 2002 Eqpt -- kits																		
FY 2003 Eqpt -- kits																		
FY 2004 Eqpt -- kits																		
FY 2005 Eqpt -- kits																		
TC Equip-Kits																		
Total Installment		39.5		27.6		16.5		32.5		42.6		53.7		35.7		46.9	30.3	325.3
Total Procurement Cost																		

INDIVIDUAL MODIFICATION														
MODIFICATION TITLE: Aviation Mission Planning System 1-95-01-2185														Date
MODELS OF SYSTEMS AFFECTED: AH-64A Modernization, AH-64D, UH-60A/L/Q, CH-47D/F, AH-1F, RAH-66, UH-1H, and OH-58D														
DESCRIPTION / JUSTIFICATION:														
The AMPS is a mission planning/battle-synchronization tool that automates aviation mission planning tasks. The AMPS includes tactical command and control, mission planning, and mission management. It interfaces with the Maneuver Control system (MCS) and associated networks which will furnish the aviation commander with continuous situational awareness, allowing the commander to rapidly adjust mission plans. Importantly, this system generates mission data in either hard copy and electronic formats which is loaded on the aircraft platforms, initializing the communication, navigation, and situational awareness systems of the modernized fleet aircraft. Since the airframes have the data receptacles/busses required to interface with AMPS there is no installation cost/schedule.														
<u>Planned</u> <u>Accomplished</u>														
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:														
Contract Award IOTE														
Feb 00 Jan 01														
Installation Schedule:														
		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003				
Pr Yr		1	2	3	4	1	2	3	4	1	2	3	4	
Totals														
Inputs														
Outputs														
		FY 2004		FY 2005		FY 2006		FY 2007		To Complete		Totals		
1		2	3	4	1	2	3	4	1	2	3	4		
Inputs														
Outputs														
METHOD OF IMPLEMENTATION:														
Contract Dates:														
Delivery Date:														
ADMINISTRATIVE LEADTIME:														
PRODUCTION LEADTIME:														
FY 1999 FY 1999														
FY 2000 FY 2000														
FY 2001 FY 2001														

INDIVIDUAL MODIFICATION																			Date		February 2000					
Aviation Mission Planning System 1-95-01-2185																										
MODIFICATION TITLE (Cont):																										
FINANCIAL PLAN: (\$ in Millions)																										
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TOTAL									
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$								
RDT&E																										
PROCUREMENT																										
Kit Quantity	496	14.5	128	3.1	86	2.4											710	20.0								
Installation Kits																										
Installation Kits, Nonrecurring Equipment		4.4		1.3		1.9		3.6		2.5								13.7								
Equipment, Nonrecurring																										
Engineering Change Orders		7.9		4.5		4.6		4.7		4.0								25.7								
Data																										
Training Equipment																										
Support Equipment																										
Other (Inc PM Mgt/Matrix Spt)		2.4		0.5		0.5		0.5		0.3								4.2								
Interim Contractor Support																										
Fielding				0.5		0.2		0.2		0.3								1.2								
Installation of Hardware																										
FY 1998 & Prior Eqpt -- Kits																										
FY 1999 Eqpt -- Kits																										
FY 2000 Eqpt -- Kits																										
FY 2001 Eqpt -- Kits																										
FY 2002 Eqpt -- kits																										
FY 2003 Eqpt -- kits																										
FY 2004 Eqpt -- kits																										
FY 2005 Eqpt -- kits																										
TC Equip-Kits																										
Total Installment		29.2		9.9		9.6		9.0		7.1								64.8								
Total Procurement Cost																										

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:												P-1 Item Nomenclature:	
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft												ASE MODS (SIRFC) (AA0720)	
Program Elements for Code B Items:												Other Related Program Elements:	
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	126.0	27.4	24.4	5.4	11.7	4.5	14.3	4.8	4.9	2.2	0.0	225.6	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	126.0	27.4	24.4	5.4	11.7	4.5	14.3	4.8	4.9	2.2	0.0	225.6	
Initial Spares													
Total Proc Cost	126.0	27.4	24.4	5.4	11.7	4.5	14.3	4.8	4.9	2.2	0.0	225.6	
Flyaway U/C													
Wpn Sys Proc U/C													

DESCRIPTION: AA0720 is a summary for the Aircraft Survivability Equipment Trainer IV (ASET IV) AN/ALQ-211, Suite of Integrated Radio Frequency Countermeasures (SIRFC), and the Advanced Threat Infrared Countermeasures (ATIRCM). ASE modifications provides funding for Aircraft Survivability Equipment (ASE) upgrades by incorporation of latest state-of-the-art technology needed to meet current and emerging threats. Modular upgrades are applied in lieu of new developments to obtain the most cost effective improved systems. Modifications to current systems will sustain and protect the forces, conduct precision strikes, and dominate the maneuver battle. Installing ASE items on aircraft systems improve their threat defeating capabilities. This budget item rolls up four modification efforts that test, procure and install A-Kits on ASET IV and Army airframes.

JUSTIFICATION:
 FY00 and FY01 funding is required to procure AN/ALQ-211, Suite of Integrated Radio Frequency Countermeasures (SIRFC) for the Special Operations Aircraft (SOA). The SOA requires additional capabilities to detect and defeat air and ground radar frequency (RF) missiles and to provide situational awareness to the pilot. The improvements needed will be satisfied by SIRFC. FY00-01 funds will also support nonrecurring engineering for the integration program. The SIRFC system brings the latest and most sophisticated state-of-the-art technology available for the US Army aircraft to survive on the modern digital battlefield.

Note: Received \$.6 million in FY 99 Kosovo supplemental to procure 50 AN/ALQ-144 Countermeasures Sets and 50 AN/AVR-2A Laser Detecting Sets.

Exhibit P-40M Budget Item Justification Sheet												Date	February 2000
Appropriation / Budget Activity/Serial No.				P-1 Item Nomenclature								ASE MODS (SIRFC) (AA0720)	
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft													
Program Elements for Code B Items				Code		Other Related Program Elements							
Description		Fiscal Years											
OSIP NO.	Classification	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	TC	Total		
Laser Detecting Set AN/AVR-2A(V)/AH-64 (No P3a Set)													
1-92-01-2182	Unclassified	30.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.6		
AN/ALQ-211 Suite of Integrated Radio Frequency CMS													
1-92-01-2187	Unclassified	127.0	5.4	11.7	4.5	14.3	4.8	4.9	2.2	0.0	174.8		
Advanced Threat Infrared Countermeasures (ATIRCM) (No P3a Set)													
TBD	Unclassified	20.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.2		
Totals													
		177.8	5.4	11.7	4.5	14.3	4.8	4.9	2.2	0.0	225.6		

INDIVIDUAL MODIFICATION																																																																																																	
MODIFICATION TITLE: AN/ALQ-211 Suite of Integrated Radio Frequency CMS 1-92-01-2187													Date	February 2000																																																																																			
MODELS OF SYSTEMS AFFECTED: AH-64D, MH-47D/L, MH-60K/L																																																																																																	
DESCRIPTION / JUSTIFICATION:																																																																																																	
The AN/ALQ-211, Suite of Integrated Radio Frequency Countermeasures (SIRFC) is the latest technology, state of the art, radar warning and radar jamming system that will protect Army Aircraft against newer, more capable threat air defense systems employing the latest and proliferated improvements in millimeter wave, pulse doppler, and multi-spectral radar and infrared technologies. The SIRFC consists of the Advanced Threat Warning Receiver (ATRWR) and the Advanced Threat Radar Jammer (ATRJ). The SIRFC will replace the current ASE equipment, AN/APR-39, AN/ALQ-136 and AN/ALQ-162. SIRFC is an Aircraft Survivability Equipment (ASE) project with OSD oversight and high joint interest (the AFSOC has selected SIRFC to be its bus controller and sensor fusion processor for the CV-22). It has application to other Air Force and Navy aircraft. The SIRFC system is necessary to the survival of the AH-64A/D, MH-47E/D, MH-60K/L, CH-47D, UH-60A/L, and EH-60 aircraft. The current requirement is for SIRFC systems to equip all AH-64D and MH-4760 SOA aircraft, and portions of the Army UH-60 and CH-47 aircraft.																																																																																																	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Engineering Change Proposal (ECP) Development Award - 3QFY96 (APACHE) Type Classification Approval - 4QFY00 (APACHE) Integration Development Approval (SOA) Production Contract Award - 3Q FY01 (SOA) Production Hardware Delivery - 3Q FY03 First Kit Applied - 3Q FY03																																																																																																	
Installation Schedule: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Pr Yr</th> <th colspan="3">FY 1999</th> <th colspan="3">FY 2000</th> <th colspan="3">FY 2001</th> <th colspan="3">FY 2002</th> <th colspan="3">FY 2003</th> </tr> </thead> <tbody> <tr> <td>Totals</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Inputs</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Outputs</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>1</td> </tr> </tbody> </table>															Pr Yr	FY 1999			FY 2000			FY 2001			FY 2002			FY 2003			Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Inputs																	Outputs															1	1																
Pr Yr	FY 1999			FY 2000			FY 2001			FY 2002			FY 2003																																																																																				
Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																																																																																	
Inputs																																																																																																	
Outputs															1	1																																																																																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th colspan="3">FY 2004</th> <th colspan="3">FY 2005</th> <th colspan="3">FY 2006</th> <th colspan="3">FY 2007</th> <th colspan="3">Totals</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Inputs</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Outputs</td> <td>1</td> <td></td> <td></td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td>26</td> </tr> <tr> <td></td> <td>1</td> <td></td> <td></td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td>26</td> </tr> </tbody> </table>																FY 2004			FY 2005			FY 2006			FY 2007			Totals			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Inputs																	Outputs	1			3	3	3	3	3	3	3	3					26		1			3	3	3	3	3	3	3	3					26
	FY 2004			FY 2005			FY 2006			FY 2007			Totals																																																																																				
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																																																																																		
Inputs																																																																																																	
Outputs	1			3	3	3	3	3	3	3	3					26																																																																																	
	1			3	3	3	3	3	3	3	3					26																																																																																	
METHOD OF IMPLEMENTATION: Contract Dates: FY 1999 FY 2000 FY 2001 FY 2001 FY 2001 FY 2001 Delivery Date: FY 1999 FY 2000 FY 2000 FY 2000 FY 2000 FY 2000 ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 18 Months																																																																																																	

AN/ALQ-211 Suite of Integrated Radio Frequency CMS 1-92-01-2187																			
INDIVIDUAL MODIFICATION																			
Date																			
February 2000																			
MODIFICATION TITLE (Cont):																			
FINANCIAL PLAN: (\$ in Millions)																			
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																			
PROCUREMENT																			
Kit Quantity				1		0.3		1		12		3.8		12		3.9		26	
Installation Kits						0.3												8.3	
Installation Kits, Nonrecurring		5.1		9.8		3.0		12.2										157.1	
Equipment																			
Equipment, Nonrecurring																			
Engineering Change Orders																			
Data																			
Training Equipment																			
Support Equipment																			
Program Management		0.3		0.6		0.3		0.7		0.3		0.3		0.2				2.7	
Contractor Logistics Support				1.3		0.9		1.1		0.5		0.5		0.2				4.5	
Installation of Hardware																			
FY 1998 & Prior Eqpt -- Kits																			
FY 1999 Eqpt -- Kits																			
FY 2000 Eqpt -- Kits																			
FY 2001 Eqpt -- Kits																			
FY 2002 Eqpt -- kits										1		0.2						1	
FY 2003 Eqpt -- kits																		1	
FY 2004 Eqpt -- kits																		1	
FY 2005 Eqpt -- kits														12		1.8		12	
TC Equip-Kits																		12	
Total Installation		127.0								14.3		4.8		12		1.8		26	
Total Procurement Cost				5.4		11.7		4.5				4.9		12		2.2		174.8	

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000		
Appropriation / Budget Activity/Serial No:												P-1 Item Nomenclature:			
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft												ASE MODS (ATIRCM) (A40722)			
Program Elements for Code B Items:												Code:		Other Related Program Elements:	
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog			
Proc Qty															
Gross Cost	0.0	0.0	0.0	0.0	4.9	0.0	12.0	12.0	21.1	31.0	199.5	280.5			
Less PY Adv Proc															
Plus CY Adv Proc															
Net Proc (P-1)	0.0	0.0	0.0	0.0	4.9	0.0	12.0	12.0	21.1	31.0	199.5	280.5			
Initial Spares															
Total Proc Cost	0.0	0.0	0.0	0.0	4.9	0.0	12.0	12.0	21.1	31.0	199.5	280.5			
Flyaway U/C															
Wpn Sys Proc U/C															
DESCRIPTION: The ATIRCM/CMWS is a U.S. Army tri-service program to develop, test, and integrate defensive infrared (IR) countermeasures capabilities into existing, current generation host platforms for more effective protection against a greater number of IR guided missile threats than afforded by currently fielded IR countermeasures. It is the next generation of infrared countermeasures for use on rotary and fixed wing aircraft. It is applicable to Army, Air Force, and Navy aircraft. The system consists of Common Missile Warning System (CMWS), Advanced Threat Infrared Jammer (ATIRJ), Advanced Threat Infrared Countermeasure Munitions (AIRCMM), and Electronic Control Unit (ECU). It is designated to detect when the aircraft is being engaged by a threat missile, and provide appropriate countermeasures to cause the missile to miss the aircraft. Countermeasures include laser jamming and dispending decoys. The CMWS component system is a joint U.S. Navy, U.S. Marine Corps, and U.S. Air Force program to develop, test, and integrate common missile warning on tactical aircraft and rotorcraft for IR guided missile threat warning. The ATIRCM/CMWS is the core systems of the U.S. Army's modular Suite of Integrated Infrared Countermeasures (SIIRCM). The total objective for the ATIRCM/CMWS in support of Army aircraft is 1047. JUSTIFICATION: The Army, as the lead service, has the responsibility of providing active, directional countermeasures jamming and advanced dispending capability utilizing both existing flare decoys. The ATIRCM/CMWS will replace the existing AN/ALQ-156 or AN/AAR-47 missile approach detectors, AN/ALQ-144A countermeasure sets, and/or the M-130 general purpose dispensers, depending on the host platform configurations. For the Navy and the Air Force, no existing equivalent systems exist.															

Exhibit P-40M Budget Item Justification Sheet

Date _____

February 2000

Appropriation / Budget Activity/Serial No.

AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft

P-1 Item Nomenclature

ASE MODS (ATIRCM) (AA0722)

Program Elements for Code B Items

Code

Other Related Program Elements

Description

Fiscal Years

OSIP NO.

Classification

FY 1998

FY 2000

2001

FY 2022

FY 2004

TC

Total

Advanced Threat Infrared Countermeasures (ATIRCM)

TBD	Unclassified
-----	--------------

4.9

12.0

21.1

199.5

280.5

INDIVIDUAL MODIFICATION														Date		February 2000			
MODIFICATION TITLE (Cont):																			
Advanced Threat Infrared Countermeasures (ATIRCM) TBD																			
FINANCIAL PLAN: (\$ in Millions)																			
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																			
PROCUREMENT																			
Kit Quantity																			
Installation Kits																			
Installation Kits, Nonrecurring Equipment																			
Equipment, Nonrecurring																			
Engineering Change Orders																			
Data																			
Training Equipment																			
Support Equipment																			
Other																			
Interim Contractor Support																			
Installation of Hardware																			
FY 1998 & Prior Eqpt -- Kits																			
FY 1999 Eqpt -- Kits																			
FY 2000 Eqpt -- Kits																			
FY 2001 Eqpt -- Kits																			
FY 2002 Eqpt -- 3 kits																			
FY 2003 Eqpt --11 kits																			
FY 2004 Eqpt -- 33 kits																			
FY 2005 Eqpt -- 83 kits																			
TC Equip-460 Kits																			
Total Installation																			
Total Procurement Cost																			

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:												P-1 Item Nomenclature:	
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft												GATM (AA0701)	
Program Elements for Code B Items:												Other Related Program Elements:	
Code:													
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	0.0	0.0	0.0	0.0	7.0	10.1	54.2	70.2	70.1	70.1	101.2	382.9	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	0.0	0.0	0.0	0.0	7.0	10.1	54.2	70.2	70.1	70.1	101.2	382.9	
Initial Spares													
Total Proc Cost	0.0	0.0	0.0	0.0	7.0	10.1	54.2	70.2	70.1	70.1	101.2	382.9	
Flyaway U/C													
Wpn Sys Proc U/C													
Description: Global Air Traffic Management is the military equivalent of the International Civil Aviation architecture known as Communications, Navigation, Surveillance and Air Traffic Management (CNS/ATM) programs. Current ground based navigation aids will be phased out of service as the world transitions to digital, data (non-voice), and space based navigation systems. Military aircraft will face flight restrictions (altitude and location dependent) if not GATM equipped. GATM requirements will be met with a variety of communication, navigation, and surveillance equipment, entailing the upgrade of existing equipment and procurement of new equipment for both rotary and fixed wing aircraft. Justification: FY01 funding will procure GATM equipment for C-20, C-12, and RC-12 (Fixed Wing aircraft), and Protected Instrument Landing System (P-ILS) non-recurring engineering and modification of existing systems, AN/ARN-147 and AN/ARN-123 (Rotary Wing aircraft). The P-ILS impacts 271 Army helicopters (CH-47, UH-60A/L, and SOF) currently in Europe. Also, all US helicopters rotating to Europe must be equipped with P-ILS in order to execute precision approaches using the Instrument Landing System. Therefore, a contingency stockage of 70 units will be P-ILS capable to support deployments to Europe. Additionally, Europe mandates a Mode-S transponder for IFR flight after Jan 03 and for VFR flight after Jan 05. Rotary Wing Mode-S transponder procurement begins in FY 02 and installations continue through FY 07. For Fixed Wing, elimination of obsolete communication and navigation systems will enhance reliability and maintainability by employing commercial systems, thereby improving aircraft availability for mission requirements.													

INDIVIDUAL MODIFICATION																					
MODIFICATION TITLE: Global Air Traffic Management(GATM) - Fixed Wing GATM-FW										Date	February 2000										
MODELS OF SYSTEMS AFFECTED: C-12 series; RC-12 series; C-23; C-26; C-37; C-20F, E; and UC-35																					
DESCRIPTION / JUSTIFICATION:																					
Description: This effort will update and modernize communication, navigation, and surveillance equipment to future federal and current international regulatory requirements, allow worldwide deployments and continue safe operations into the 21st Century. Justification: As currently equipped, aircraft are not suitable for worldwide deployment nor capable of using modern navigation and air traffic control facilities. There is a variety of equipment that will be required by GATM including: datalink technology, SATCOM, communication management units, Electronic Flight Information System, surveillance equipments, radios, and navigation equipment and multi-mode receivers. GATM requirements are evolving and will require additional systems in the near future. The kit quantities reflected on the next page represent a wide variety of avionics kits with different mixes each fiscal year. Additionally, kit configurations vary based on the aircraft onto which they will be installed. Consequently, kit unit cost will vary significantly from year to year and from platform to platform.																					
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:																					
Contract Award				Planned Jan 00		PI		Accomplishments													
Installation Schedule:																					
Inputs Outputs	Pr Yr	FY 1999			FY 2000			FY 2001			FY 2002			FY 2003							
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
	16	17	17	17	14	14	15	15	3	3	4	4	5	6	7	12	14	14			
Inputs Outputs	FY 2004		FY 2005			FY 2006			FY 2007			To		Totals							
	1	2	3	4	1	2	3	4	1	2	3	4	Complete								
	16	16	17	17	14	14	15	15	1	2	3	4			215						
METHOD OF IMPLEMENTATION:												ADMINISTRATIVE LEADTIME: 3 Months						PRODUCTION LEADTIME: 3 Months			
Contract Dates:		FY 1999		Enter Date		FY 2000		Jan 00		FY 2001		Jan 01									
Delivery Date:		FY 1999		Enter Date		FY 2000		Jun 00		FY 2001		Jun 01									

INDIVIDUAL MODIFICATION																				February 2000	
Global Air Traffic Management(GATM) - Fixed Wing GATM-FW																				Date	
MODIFICATION TITLE (Cont):																					
FINANCIAL PLAN: (\$ in Millions)																					
FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL			
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
RDT&E																					
PROCUREMENT																					
Kit Quantity																					
Installation Kits																					
Installation Kits, Nonrecurring Equipment																					
Equipment, Nonrecurring																					
Engineering Change Orders																					
Data																					
Training Equipment																					
Support Equipment																					
Other																					
Interim Contractor Support																					
Installation of Hardware																					
FY 1998 & Prior Eqpt -- Kits																					
FY 1999 Eqpt -- Kits																					
FY 2000 Eqpt -- 2 Kits																					
FY 2001 Eqpt -- 10 K'its																					
FY 2002 Eqpt -- 25 kits																					
FY 2003 Eqpt -- 54 kits																					
FY 2004 Eqpt -- 66 kits																					
FY 2005 Eqpt -- 58 kits																					
TC Equip- 276 Kits																					
Total Installment																					
Total Procurement Cost																					

INDIVIDUAL MODIFICATION																																																																																													
MODIFICATION TITLE: Global Air Traffic Management - Rotary Wing GATM-RW											Date																																																																																		
MODELS OF SYSTEMS AFFECTED: CH-47D, UH-60A/L+Q/X, EH-60, LUH-1, AMH-6, AH-64A/D, OH-58D, MH-60L/K, MH-47D/E, and CH-47D/F																																																																																													
DESCRIPTION / JUSTIFICATION:																																																																																													
High priority requirements funded will address communications and surveillance equipment necessary for airspace access for rotary wing aircraft operations (peace time and war-time missions) in Europe. The FY01/02 funding will procure P-ILS (AN/ARN-147 and AN-ARN-123) to take care of all required aircraft in Europe (271 helicopters). This affects CH-47D, UH-60A/L, and SOF aircraft only, the aircraft currently equipped with ILS. Their will be 70 additional P-ILS procurement modifications (plus spares) to equip aircraft as they are deployed to Europe. Mode-S transponders will be required for all IFR flights in Europe after 1 January, 2003. Funding will complete the non-recurring engineering efforts for UH-60, EH-60 and CH-47. Funding will also procure and install Mode-S transponders for the CH-47, UH-60 and EH-60.																																																																																													
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: <u>Planned</u> <u>Planned</u> <u>Accomplished</u> <u>Accomplished</u> Pfod Contract Award (P-ILS) Jan 01 Prod Contract Award (Mode-S) Apr 02																																																																																													
Installation Schedule:																																																																																													
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METHOD OF IMPLEMENTATION: OLR Team Contract Dates: Jan 01 FY 1999 Enter Date ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 6 Months Delivery Date: Oct 01 FY 1999 Enter Date FY 2000 Enter Date FY 2001 Enter Date FY 2001 Enter Date																																																																																													

INDIVIDUAL MODIFICATION														Date		February 2000				
Global Air Traffic Management - Rotary Wing GATM-RW																				
MODIFICATION TITLE (Cont):																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1998 and Prior		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity							341	2.8	220	12.6	132	6.9	419	24.0	323	18.6		7.4	1566	72.3
Installation Kits										2.5	0.7			3.9	3.1			1.4		11.6
Installation Kits, Nonrecurring Equipment							0.1			11.9	16.5			6.5				2.0		37.0
Equipment, Nonrecurring Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other - PM Admin & Marx Spt								0.3		1.2	1.0			1.4	1.4		0.6			5.9
Interim Contractor Support																				
Installation of Hardware																				
FY 1998 & Prior Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- Kits																				
FY 2001 Eqpt --271 Kits									271	0.3									271	0.3
FY 2002 Eqpt --220 kits											220	2.1							220	2.1
FY 2003 Eqpt -- 132 kits													132	1.1					132	1.1
FY 2004 Eqpt -- 419 kits															419	4.3			419	4.3
FY 2005 Eqpt -- 323 kits																	323	3.1	323	3.1
TC Equip- 131 Kits																	131	1.2	131	1.2
Total Installation									271	0.3	220	2.1	132	1.1	419	4.3	454	4.3	1496	12.1
Total Procurement Cost								3.2		28.5	27.2		36.9		27.4		15.7			138.9

Exhibit P-40, Budget Item Justification Sheet											Date:	February 2000
Appropriation / Budget Activity/Serial No:											P-1 Item Nomenclature:	
AIRCRAFT PROCUREMENT / 2 / Modification of Aircraft											MODIFICATIONS < \$5.0M (AA0725)	
Program Elements for Code B Items:											Other Related Program Elements:	
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty												
Gross Cost	27.2	1.8	1.7	1.4	2.6	0.0	0.0	0.0	0.0	0.0	0.0	34.6
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	27.2	1.8	1.7	1.4	2.6	0.0	0.0	0.0	0.0	0.0	0.0	34.6
Initial Spares												
Total Proc Cost	27.2	1.8	1.7	1.4	2.6	0.0	0.0	0.0	0.0	0.0	0.0	34.6
Flyaway U/C												
Wpn Sys Proc U/C												
DESCRIPTION: This modification line updates and modernizes aircraft communication, navigation, surveillance, and safety equipment to current international standards, allowing worldwide deployments, and upgrade capability for continued safe operations into the 21st Century. This line will update the C-23, and other Fixed Wing aircraft to meet future avionics requirements resulting from worldwide navigation transition to Global Positioning System and the Chairman of the Joint Chief of Staff Master Navigation Plan requirements. JUSTIFICATION: Funds for FY 01 are required for the Army's Fixed Wing aircraft to remain current and have unrestricted access to the rapidly changing Air Traffic Management airspace. Worldwide deployments using modern navigation, communications and surveillance equipment is required by evolving international regulations. During deployments in support of Desert Storm/Desert Shield/Provide Comfort, only selected aircraft with non-standard modifications were capable of being deployed to and within the theater. Elimination of obsolete communication and navigation systems will enhance reliability and maintainability by employing current commercial systems thereby improving aircraft availability and cockpit standardization.												

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:												P-1 Item Nomenclature:	
AIRCRAFT PROCUREMENT / 3 / Spares and Repair Part												SPARE PARTS (AIR) (AA0950)	
Program Elements for Code B Items:												Other Related Program Elements:	
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	0.0	0.0	18.8	27.5	15.9	15.2	23.8	38.7	23.3	23.0	0.0	186.1	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	0.0	0.0	18.8	27.5	15.9	15.2	23.8	38.7	23.3	23.0	0.0	186.1	
Initial Spares													
Total Proc Cost	0.0	0.0	18.8	27.5	15.9	15.2	23.8	38.7	23.3	23.0	0.0	186.1	
Flyaway U/C													
Wpn Sys Proc U/C													
DESCRIPTION: Provides for procurement of spares to support initial fielding of new or modified end items.													
JUSTIFICATION: The funds in this account procure depot level repairable (DLR) secondary items from the Supply Management, Army activity of the Army Working Capital Fund. To provide initial support, funds are normally required in the same year that end items are fielded. Initial spares breakout:													
		<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>									
UH-60		3481											
Quickfix		768											
Guardrail		1819	5802										
Avionics		4078	1998	2027									
ASE		581											
Longbow		<u>16759</u>	<u>8134</u>	<u>13140</u>									
Total		27486	15934	15167									

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:												P-1 Item Nomenclature:	
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities												AIRCRAFT SURVIVABILITY EQUIPMENT (AZ3504)	
Program Elements for Code B Items:												Other Related Program Elements:	
Code:													
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	916.0	0.3	8.0	11.0	15.3	0.0	32.3	13.3	13.2	16.0	0.0	1025.4	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	916.0	0.3	8.0	10.4	15.3	0.0	32.3	13.3	13.2	16.0	0.0	1024.8	
Initial Spares													
Total Proc Cost	916.0	0.3	8.0	10.4	15.3	0.0	32.3	13.3	13.2	16.0	0.0	1024.8	
Flyaway U/C													
Wpn Sys Proc U/C													

DESCRIPTION: A3504 is a summary rollout for ASET IV, AZ3506, AN/AVR-2, AZ3508 and AN/ALQ-211, Suite of Integrated Radio Frequency Countermeasures (SIRFC).

The Aircraft Survivability Equipment Trainer IV (ASET IV) is a ground based, mobile aviation threat emitter simulation and training system, which enables aircrews to recognize surface-to-air-missiles (SAM) and anti-aircraft artillery (AAA) threats in order to employ the correct aircraft threat avoidance tactics. Eight systems have been produced and are being upgraded to simulate the most current SAM and AAA threats, as well as to locate, identify, and track aircraft at night through the use of night vision cameras. The AN/AVR-2A, AZ3508, is a passive threat laser warning system that alerts the aircrew that they are being targeted by threat forces allowing the aircrew to engage the target or maneuvers to break the targeting. The SIRFC, AZ3508, consists of the Advanced Threat Warning Receiver (ATWR) and the Advanced Threat Radar Jammer (ATRJ). The SIRFC will replace the current the Aircraft Survivability Equipment (ASE) AN/APR-39, AN/APR-144, AN/ALQ-136 and AN/ALQ-162. SIRFC is an ASE project with OSD oversight and high joint interest. The Air Force Special Operations Command has selected SIRFC to be its bus controller and sensor fusion processor for the CV-22. It has application to other Air Force and Navy aircraft.

JUSTIFICATION:

The SIRFC system is required to enhance the survivability Army aircraft against the newer, more capable threat air defense systems employing the latest and proliferated improvements in millimeter wave, pulse Doppler, and multi-spectral radar. The current requirement is for SIRFC systems to equip all Army aircraft (3156 SIRFC systems). FY00 funding provides for project management, ASET IV nonrecurring engineering and system upgrades and AN/AVR-2A acquisition and fielding.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				P-1 Line Item Nomenclature: AIRCRAFT SURVIVABILITY EQUIPMENT (AZ3504)				Weapon System Type:		Date: February 2000	
Aircraft Cost Elements		FY 98		FY 99		FY 00		FY 01					
ID	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
1. AZ3506 - ASE WARNING RECEIVERS													
AN/TPQ-45 ASE Trainer IV (ASET IV) Nonrecurring Engineering & Upgrades Project Management Support & Fielding of ASE Systems													
SUBTOTAL					6742		6772	11640					
					1298		628	613					
					8040		7400	12253					
2. AZ3508 - ASE RADAR CM													
Suite of Integrated Radio Freq CMS (SIRFC) B-Kit for SOA Nonrecurring Engineering Project Management													
SUBTOTAL					2820		86						
					216		86						
					3036								
AN/AVR-2 Laser Warning System acquisition and fielding Project Management													
SUBTOTAL							2794	147					
							2941						
TOTAL					8040		10436	15280					

Exhibit P-5a, Budget Procurement History and Planning										Date:
Appropriation / Budget Activity/Serial No:			Weapon System Type:			P-1 Line Item Nomenclature:				
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			AIRCRAFT SURVIVABILITY EQUIPMENT (AZ3504)							
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY	Unit Cost \$000	Specs Avail Now?	Date Revisn Avail	RFP Issue Date
Fiscal Years										
AN/TPQ-45 ASET IV Mod Kits FY 99 FY 00**	Sierra Technologies, Inc	Option Option	AMCOM, Huntsville, AL AMCOM, Huntsville, AL	Sep-98 Apr-00	Feb-00 Oct-01			Yes Yes	No No	
AN/ALQ-211, Suite of Integrated Radio Frequency CMS FY01*	ITT Corp, Clifton, NJ	C/FFP	CECOM, Ft. Monmouth, NJ	Aug-01	Mar-03			Yes	N/A	
REMARKS: * Contract award is contingent upon receipt of CV-22 funds as directed for Commander-in-Chief Special Operations Command. ** Upgrades for 8 Radio Frequency Surface -Air-to-Ground Missiles to eight ASET IV's and upgrade of FLIR Cameras.										

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:												P-1 Item Nomenclature:	
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities												AVIONICS SUPPORT EQUIPMENT (AZ3000)	
Program Elements for Code B Items:												Other Related Program Elements:	
Code:													
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty	2076	34										2110	
Gross Cost	115.7	9.9	2.6	2.5	8.9	0.0	0.0	0.0	0.0	0.0	0.0	139.6	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	115.7	9.9	2.6	2.5	8.9	0.0	0.0	0.0	0.0	0.0	0.0	139.6	
Initial Spares	4.4											4.4	
Total Proc Cost	120.1	9.9	2.6	2.5	8.9	0.0	0.0	0.0	0.0	0.0	0.0	144.0	
Flyaway U/C	0.047	0.287	0.000	0.000								0.055	
Wpn Sys Proc U/C	0.056	0.291	0.000	0.000								0.062	
DESCRIPTION: AN/AVS-6, Aviators' Night Vision Imaging System (ANVIS) is a binocular, helmet mounted system for Aviation crew members. The original ANVIS was procured, with third generation image intensification, over the period of FY82-FY93. Since that time, substantial improvements have been made in image intensification (I2) technology and fourth generation image intensification is now available. Fourth generation I2 provides a 60% improvement in visual acuity at low light level and a 60% improvement in range performance as compared with currently fielded AN/AVS-6 systems. The AN/AVS-6(V) 3 is an enhanced night vision goggle with fourth generation image intensification designed for aviation use, to include nap-of-the-earth mission, down to overcast starlight conditions. The increased range performance results in improved safety of flight, thereby expanding the conditions under which nighttime operations can be conducted effectively. Heads Up Display (HUD) AN/AVS-7 is a system which works in conjunction with the Aviator's Night Vision Imaging System (ANVIS) AN/AVS-6. The ANVIS/HUD collects critical flight information from aircraft sensors/cockpit displays and converts this information into visual imagery that is overlaid on the imagery viewed through the night vision goggles. This system allows continuous heads up flight by the pilot without needing to look inward at the instrument panel. This provides significant operational and safety enhancements to night vision goggle flight. The HUD is made up of two subsystems, an aircraft integration kit (brackets, wiring harness, etc.) [A Kit] and an interface box, control panels and two optical displays per aircraft [B Kit]. The entire System weight ranges from 32 to 40 pounds per aircraft. The display unit head weight is approximately 140 grams. HUD is being installed on the CH-47D and UH-60 helicopters. JUSTIFICATION: There are no FY 2001 funds.													

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				P-1 Line Item Nomenclature: ANVIS/HUD (K35601)				Weapon System Type:		Date: February 2000	
Cost Elements		FY 98		FY 99		FY 00		FY 01					
		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
AN/AVS-6(V)3	A							6850	963	7			
Installation				2018				500					
Flat Panel Upgrade								400					
Fielding				337				394					
Government Engineering				59				233					
Project Management				134				473					
Gross P-1 End Cost				2548				8850					
Less: Prior Year Adv Proc				2548				8850					
Net P-1 Full Funding Cost													
All ANVIS/HUD systems for the Army have been procured. Army funding in FY99 was required to install those systems.													
TOTAL				2548				8850					

Exhibit P-5a, Budget Procurement History and Planning										Date: February 2000											
Appropriation / Budget Activity/Serial No:			Weapon System Type:		P-1 Line Item Nomenclature:																
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities					ANVISHUD (K35601)																
WBS Cost Elements:			Contract Method and Type		Location of PCO		Award Date		Date of First Delivery		QTY Each		Unit Cost \$000		Specs Avail Now?		Date Revisn Avail		RFP Issue Date		
Fiscal Years			Contractor and Location																		
AN/AVS-6(V)3			LITTON, TEMPE, AZ		CECOM		Jan-00		Nov-00		578		7		YES						
FY 00			ITT, ROANOKE, VA		CECOM		Jan-00		Nov-00		385		7		YES						
FY 00																					
REMARKS:																					

Exhibit P-40, Budget Item Justification Sheet										Date:	
Appropriation / Budget Activity/Serial No:										February 2000	
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities										COMMON GROUND EQUIPMENT (AZ3100)	
P-1 Item Nomenclature:											
Program Elements for Code B Items:											
Other Related Program Elements:											
Code:											
Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty											
Gross Cost	459.8	21.8	21.8	20.0	11.9	16.5	16.5	17.4	17.4	0.0	623.6
Less PY Adv Proc											
Plus CY Adv Proc											
Net Proc (P-1)	459.8	21.8	21.8	20.0	11.9	16.5	16.5	17.4	17.4	0.0	623.6
Initial Spares											
Total Proc Cost	459.8	21.8	21.8	20.0	11.9	16.5	16.5	17.4	17.4	0.0	623.6
Flyaway U/C											
Wpn Sys Proc U/C											

DESCRIPTION:

Aviation Ground Support Equipment (AGSE) is necessary to make an aircraft, or one of its associated systems or subsystems, operational in its intended environments. This includes all equipment required to guide, control, inspect, test, adjust, calibrate, assess, gauge, assemble, disassemble, handle, transport, store, actuate, service, repair and/or overhaul the aircraft system or subsystems. Included are such items as aviation ground power units, hydraulic test stands, etc.

Airfield Support Equipment (Air Traffic Control (ATC) requirements will be met through a vast array of high technology solutions resulting in a highly reliable and safe air traffic control system. The Federal Aviation Administration (FAA) and the DoD are currently modernizing the National Airspace System (NAS) to include upgrading and automating the complete infrastructure, systematically replacing antiquated analog systems (radars, communications switching systems) and installing state of the art digital technology. Army fixed base ATC systems must therefore be fully interoperable with the FAA systems so existing analog systems will be replaced with new generation systems. These include the Voice Communication Switching System (VCSS), the DoD Advanced Automation System (DAAS), the Airfield Status Automation Systems (ASAS) and the Digital Airport Surveillance Radar (DASR). The Fixed Base Precision Approach Radar (FBPAR) provides the Army's primary ground controlled precision approach capability to recover aircraft to fixed base facilities, ensuring safe landing in adverse weather conditions. Ancillary equipment includes a host of generic ground-based navigation aides (Non-Directional Beacons, Distance Measuring Equipment, Instrument Landing Systems), digital radios and wind measuring equipment. These types of ancillary equipment support requirements tailored to specific aviation stationing plans throughout the world.

JUSTIFICATION:

Aviation Ground Support Equipment (AGSE): FY 01 funding will achieve and sustain the operational readiness of all Army aviation field units, which are operating AH-64, UH-60, CH-47, OH-58D and other Army aircraft. Aviation Ground Support Equipment (AGSE) also provides a means to correct safety-of-flight discrepancies which endanger both life and property. With more aircraft being added to the Army inventory, the fielding of new aviation units and the diversification of aviation missions creates an ever increasing requirement for AGSE. The Unit Maintenance Aerial Recovery Kit (UMARK) will provide Aviation Intermediate Maintenance (AVIM) and Aviation Unit Maintenance (AVUM) organizations the capability to quickly rig for aerial recovery, aircraft on the battlefield that cannot be repaired, nonflyable aircraft undergoing maintenance, heavily damaged aircraft, and crash damaged aircraft. AVIM Shop Set Complexes provide a transportable aviation intermediate and limited depot level maintenance capability in force projection or contingency operations. Containerization and Modernization Program (CAMP) provides "one lift" 50% deployability of AVIM Shop Set Complexes using organic vehicles operated by aircraft mechanics thus meeting the requirement to conduct split operations in a developing theater. International Standardization Organization (ISO) one-side expandable shelters house AVIM Shop Sets Complexes. ISO shelters provide the capability for maritime shipboard movement through commercial ports and are compatible with military/commercial roll-on/roll-off (RO/RO) ships and military/commercial ground transportation.

Exhibit P-5, Weapon Aircraft Cost Analysis			Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				P-1 Line Item Nomenclature: COMMON GROUND EQUIPMENT (AZ3100)				Weapon System Type:		Date: February 2000	
Aircraft Cost Elements			FY 98		FY 99		FY 00		FY 01					
ID			TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
cd			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)					12,782				10,634			11,926		
AIRFIELD SUPPORT EQUIPMENT (AZ1710)					9,055				9,443			-		
TOTAL					21,837				20,077			11,926		

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:												P-1 Item Nomenclature:	
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities												AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)	
Program Elements for Code B Items:												Other Related Program Elements:	
Code:		Code:											
Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog		
Proc Qty													
Gross Cost	338.6	17.2	14.3	12.8	10.8	11.9	15.6	16.4	16.4	0.0	469.6		
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	338.6	17.2	14.3	12.7	10.6	11.9	15.6	16.4	16.4	0.0	469.4		
Initial Spares													
Total Proc Cost	338.6	17.2	14.3	12.7	10.6	11.9	15.6	16.4	16.4	0.0	469.4		
Flyaway U/C													
Wpn Sys Proc U/C													

DESCRIPTION: Aviation Ground Support Equipment (AGSE) is necessary to make an aircraft, or one of its associated systems or subsystems, operational in its intended environments. This includes all equipment required to guide, control, inspect, test, adjust, calibrate, assess, gauge, assemble, disassemble, handle, transport, store, actuate, service, repair and/or overhaul the aircraft system or subsystems. Included are such items as aviation ground power units, hydraulic test stands, etc.

JUSTIFICATION: FY 01 funding will achieve and sustain the operational readiness of all Army aviation field units, which are operating AH-64, UH-60, CH-47, OH-58D and other Army aircraft. Aviation Ground Support Equipment (AGSE) also provides a means to correct safety-of-flight discrepancies which endanger both life and property. With more aircraft being added to the Army inventory, the fielding of new aviation units and the diversification of aviation missions creates an ever increasing requirement for AGSE. The Unit Maintenance Aerial Recovery Kit (UMARK) will provide Aviation Intermediate Maintenance (AVIM) and Aviation Unit Maintenance (AVUM) organizations the capability to quickly rig for aerial recovery, aircraft on the battlefield that cannot be repaired, nonflyable aircraft undergoing maintenance, heavily damaged aircraft, and crash damaged aircraft. AVIM Shop Set Complexes provide a transportable aviation intermediate and limited depot level maintenance capability in force projection or contingency operations. Containerization and Modernization Program (CAMP) provides "one lift" 50% deployability of AVIM Shop Set Complexes using organic vehicles operated by aircraft mechanics thus meeting the requirement to conduct split operations in a developing theater. International Standardization Organization (ISO) one-side expandable shelters house AVIM Shop Sets Complexes. ISO shelters provide the capability for maritime shipboard movement through commercial ports and are compatible with military/commercial roll-on/roll-off (RO/RO) ships and military/commercial ground transportation.

Exhibit P-5, Weapon Aircraft Cost Analysis			Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				P-1 Line Item Nomenclature: AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)				Weapon System Type:		Date: February 2000	
Aircraft Cost Elements			FY 98			FY 99			FY 00			FY 01		
	ID	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
Nondestructive Test Equipment(NDTE) Fielding Accessories	A					62 65								
Flexible Engine Diagnostic System(FEDS) (A08701) Fielding Production Engineering Depot Workload Cost Increase	A					7 45 1,652			7					
Shop Equipment Contact Maintenance (SECM) Fielding ASIOE	A					2 1,070								
Aircraft Vibration Analyzer (AVA) Hardware Upgrade	A								1,662					
Generic Aircraft Nitrogen Generator (GANG) Hardware Fielding Program Management Support	A								2,430 30 50	54	45			
New Aviation Tool Set (NATS) Hardware Fielding Program Management Support	A					1,479 32	834	2						
Aviation Ground Power Unit (AGPU) MWO Upgrade	A					500			546					
AVIM Shop Sets Hardware Fielding	A					5,799 18	7	828	1,740 20	2	870	3,480 20	4	870

Exhibit P-5a, Budget Procurement History and Planning												
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				Weapon System Type:		P-1 Line Item Nomenclature: AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)						
WBS Cost Elements: Fiscal Years		Contractor and Location		Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost \$000	Specs Avail Now?	Date Revisn Avail	RFP Issue Date
Generic Aircraft Nitrogen Generator (GANG) FY 00		TBS		C/FP	Kelly Air Force Base	Jan-00	Jan-01	54	45	Yes	No	
New Aviation Tool Set (NATS) FY 98		Rock Island Arsenal (RIA)		MIPR	AMCOM	Feb-98	Sep-98	11733	* 1	Yes	No	
FY 99		RIA		MIPR	AMCOM	Dec-98	Jul-99	834	* 2	Yes	No	
AVIM Shop Sets FY 99		Rock Island Arsenal (RIA)		MIPR	AMCOM	Jan-99	Jun-99	7	828	Yes	No	
FY 00		RIA		MIPR	AMCOM	Jan-00	Jun-00	2	870	Yes	No	
FY 01		RIA		MIPR	AMCOM	Jan-01	Jun-01	4	870	Yes	No	
ISO Shelters FY 99		USA Soldier and Biological		MIPR	AMCOM	Apr-99	Jun-99	21	60	Yes	No	
FY 00		Chemical Command		MIPR	AMCOM	Jan-00	Apr-00	19	70	Yes	No	
FY 01		Natick, MA		MIPR	AMCOM	Jan-01	Apr-01	41	70	Yes	No	
Containerization and Modernization Program (CAMP) Shop Sets FY 01		Rock Island Arsenal		MIPR	AMCOM	Jan-01	Aug-01	2	900	Yes	No	
Unit Maintenance Aerial Recovery Kit (UMARK) FY 00		TBS		C/FP	AMCOM	Jun-00	Jun-01	32	45	Yes	No	
FY 01		TBS		C/FP-O	AMCOM	Jan-01	Jan-02	83	45	Yes	No	
Fuel Quantity Gauge Tester FY00		TBS		C/FP	Kelly Air Force Base	Jan-00	Jul-00	32	7	Yes	No	
Helicopter External Lift Enhancer FY00		TBS		C/FP	AMCOM	Dec-00	Sep-01	22	45	Yes	N0	
REMARKS: * More than one type of New Aviation Tool Set is being procured, so unit prices are an average.												

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities												P-1 Item Nomenclature: AIRFIELD SUPPORT EQUIPMENT (AZ1710)	
Program Elements for Code B Items:												Other Related Program Elements:	
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	121.1	3.3	7.5	9.1	9.4	0.0	0.0	0.0	0.0	0.0	0.0	150.4	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	121.1	3.3	7.5	9.1	9.4							150.4	
Initial Spares													
Total Proc Cost	121.1	3.3	7.5	9.1	9.4	0.0	0.0	0.0	0.0	0.0	0.0	150.4	
Flyaway U/C													
Wpn Sys Proc U/C													
DESCRIPTION: Airfield Support Equipment (Fixed Base Air Traffic Control (ATC)) requirements will be met through a vast array of high technology solutions resulting in a highly reliable and safe air traffic control system. The Federal Aviation Administration (FAA) and the DoD are currently modernizing the National Airspace System (NAS) to include upgrading and automating the complete infrastructure, systematically replacing antiquated analog systems (radars, communications switching systems) and installing state of the art digital technology. Army fixed base ATC systems must therefore be fully interoperable with the FAA systems so existing analog systems will be replaced with new generation systems. These include the Voice Communication Switching System (VCSS), the DoD Advanced Automation System (DAAS), the Airfield Status Automation Systems (ASAS) and the Digital Airport Surveillance Radar (DASR). The Fixed Base Precision Approach Radar (FBPAR) provides the Army's primary ground controlled precision approach capability to recover aircraft to fixed base facilities, ensuring safe landing in adverse weather conditions. Ancillary equipment includes a host of generic ground-based navigation aides (Non-Directional Beacons, Distance Measuring Equipment, Instrument Landing Systems), digital radios and wind measuring equipment. These types of ancillary equipment support requirements tailored to specific aviation stationing plans throughout the world.													

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				P-1 Line Item Nomenclature: AIRFIELD SUPPORT EQUIPMENT (AZ1710)				Weapon System Type:		Date: February 2000	
Aircraft Cost Elements		FY 98		FY 99		FY 00		FY 01					
ID	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
1. Precision Approach Radar Hardware Production Start Up Costs Interim Contractor Support Engineer, Furnish, & Install (EF&I) Fielding Testing Other Costs					4,366 1,081 250 154 217	2	2,183	5,808	3	1,936			
2. Voice Communication Switching System (VCSS) Hardware Engineer, Furnish, & Install (EF&I) Fielding Other Costs					1,081 467 33	5	216	472 291 12	3	157			
3. DoD Advanced Automation System (DAAS) Hardware Interim Contractor Support Engineer, Furnish, & Install (EF&I) Fielding								200					
4. Airfield Status Automation System (ASAS) Hardware Interim Contractor Support Engineer, Furnish, & Install (EF&I) Fielding													
5. Digital Airport Surveillance Radar (DASR) Site Surveys 5. Ancillary Equipment					206			450 50					
6. USAF Air National Guard Tower Equipment					1,200								
TOTAL		-			9,055			9,443			-		

Exhibit P-5a, Budget Procurement History and Planning										Date: February 2000
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			Weapon System Type:		P-1 Line Item Nomenclature: AIRFIELD SUPPORT EQUIPMENT (AZ1710)					
WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost \$000	Specs Avail Now?	Date Revis Avail	RFP Issue Date
1. Precision Approach Radar FY99	Raytheon Cambridge, MA Raytheon Cambridge, MA	C/FP-O	CECOM	Aug-99	Nov-00	2	2,183	Yes	No	
FY 00		C/FP-O	CECOM	Mar-00	Jun-01	3	1,936	Yes	No	
2. Voice Communication Switching System (VCSS) FY99	Federal Aviation Administration (FAA) Federal Aviation Administration (FAA)	MIPR	FAA	Jan-99	Jul-99	5	216	Yes	No	
FY00		MIPR	FAA	Feb-00	Aug-00	3	157	Yes	No	
REMARKS:										

Exhibit P-40, Budget Item Justification Sheet												Date:
Appropriation / Budget Activity/Serial No:												February 2000
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities												P-1 Item Nomenclature:
AIRCRAFT PROCEDURE / 4 / Support Equipment and Facilities												AIRCRAFT INTEGRATED SYSTEMS (AZ3110)
Program Elements for Code B Items:												RDTE 643801 (DB45) and 654801 (DC45)
Code:												Other Related Program Elements:
Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty												
Gross Cost	41.9	11.3	8.0	9.0	17.2	22.2	34.1	56.6	56.5		260.2	
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	41.9	11.3	8.0	9.0	17.2	22.2	34.1	56.6	56.5		260.2	
Initial Spares												
Total Proc Cost	41.9	11.3	8.0	9.0	17.2	22.2	34.1	56.6	56.5		260.2	
Flyaway U/C												
Wpn Sys Proc U/C												

DESCRIPTION: Aircrew Integrated Systems (ACIS) addresses those items of equipment that are used to sustain Army aircrews and troops throughout the flight profile, enhancing mission performance and aircrew survivability during operational missions, training, aircraft crash, and the post crash period prior to rescue. The ACIS items that accomplish the aircrew-aircraft integration functions include aircraft cockpit air bags, chemical/biological protective mask blowers, helicopter oxygen systems, nuclear flash and laser eye protection, helmets, flotation devices, survival kits and equipment, NBC warning, sound attenuation devices, and decontamination and filtration systems. A Nondevelopmental Item demonstration program for Digital Source Collector (flight data and voice recorder) for busbed and non-busbed Army rotary wing aircraft was also funded in this Standard Study Number. Basic Air Warrior ensembles will be procured to integrate aircrew equipment for maximum aircrew effectiveness by increased mission performance and safety, reduction of equipment weight and bulk, and increased tailorability to specific missions, threats, and the various aircraft platforms operated. The results of future development efforts will be applied as product improvements to the basic Air Warrior ensemble production as new technologies evolve.

JUSTIFICATION: Aircraft Procurement, Army (APA) funding for all ACIS programs and projects is included in this budget line item. The FY 00 and FY 01 CABS funding will provide for acquisition of the Cockpit Air Bag System (CABS) for UH-60 Blackhawk helicopters to improve crash survivability and reduce potential injuries and fatalities. The CABS includes aircraft modification that provides for adaptation of CABS to the aircraft, e.g., electrical power, hard points and miscellaneous attachment hardware and CABS common components, including crewmember system modules containing gas generators and the crash sensor and system packaging. Funding will permit incorporation of CABS into the UH-60 Blackhawk aircraft. The FY 00 Digital Source Collector funding will integrate data collection interfaces into the ANVIS HUD. Funding increases during FY 02 and beyond resource the Air Warrior basic ensemble production and aircraft platform integration that commences in FY 02.

Exhibit P-5, Weapon Aircraft Cost Analysis		Appropriation/Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities		P-1 Line Item Nomenclature: AIRCRAFT INTEGRATED SYSTEMS (AZ3110)		Weapon System Type:		Date: February 2000	
Aircraft Cost Elements	ID CD	FY 98		FY 99		FY 00		FY 01	
		TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each
Hardware:									
Cockpit Air Bag System (CABS):									
AH-64 Apache - Inertia Reels		1452	1550	1					
UH-60 Blackhawk - Inertia Reels		421	450	1					
UH-60 Blackhawk - LRIP					6194	177	35	1245	36
UH-60 Blackhawk -Production									35
Digital Source Collector (DSC) interface into ANVIS HUD:									
Hardware									
Helmets - HGU-56/P:					1405	300	5		
National Guard					3137	3853	1		
PRC-112 survival radios & spt equipment					2200	275	8		
Laser Eye Protective Visors					336	1000			
Subtotal Hardware Costs		1873			13272			1245	
ECP, Sys Int. & Admin Costs									
Engineering Change Proposal - CABS:		3200							
UH-60 Blackhawk					1000				
CABS P31 ECPs		1642			1000			1000	
Systems Integration Engineering									
Project Management Administration									
Subtotal ECP, Sys Int, & Admin Costs		975			1295			800	
Support Cost		5817			3295			1800	
Fielding		260			600			445	
Subtotal Support Cost		260			600			445	
TOTAL		7950			17167			3490	

Exhibit P-5a, Budget Procurement History and Planning												
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities					Weapon System Type:			P-1 Line Item Nomenclature: AIRCREW INTEGRATED SYSTEMS (AZ3110)				
Date: February 2000												
WBS Cost Elements: Fiscal Years		Contractor and Location		Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost \$000	Specs Avail Now?	Date Revisn Avail	RFP Issue Date
Cockpit Air Bag System (CABS):												
AH-64 Apache - Inertia Reels FY 98		H. Koch and Sons, Inc Anaheim CA		C/FP	AMCOM, Huntsville, AL	Jun-98	Aug-98	1550	1	Yes		
UH-60 Blackhawk - Inertia Reels FY 98		H. Koch and Sons, Inc Anaheim CA		C/FP	AMCOM, Huntsville, AL	Sep-98	Sep-99	450	1	Yes		
UH-60 Blackhawk - LRIP FY 99		Simula, Inc., Phoenix, AZ		SS/FP	AATD, Ft. Eustis, VA.	Sep-99	May-00	150	32	Yes		
UH-60 Blackhawk -Production FY 00		Simula, Inc., Phoenix, AZ		SS/FP	AATD, Ft. Eustis, VA	Jun-00	Dec-00	177	35	Yes		
FY 01		Unknown		C/FP	AMCOM, Huntsville, AL	Nov-00	Feb-01	36	35	Yes		
Digital Source Collector (DSC):												
DSC integration of data collection interfaces into ANVIS HUD												
FY 00		BAE Systems		SS/FP	PM Night Vision Ft. Belvoir, VA	Mar-00	Sep-00	300	5	Yes		
Helmets - HGU-56/P (National Guard)												
FY 00		DLA Ft. Belvoir, VA		Reqn	DLA Ft. Belvoir, VA	Mar-00	Sep-00	3853	1	Yes		
PRC-112 survival radios & spt eqp, FY 00		CECOM, Ft. Monmouth, NJ		Reqn	CECOM, Ft. Monmouth, NJ	Jun-00	Jun-01	240	8	Yes		
Laser Eye Protective Visors		Various		Various	AMCOM, ACALA	Aug-00	Aug-01	1000		Yes		
REMARKS:					FY99 CABS buy is sole source to Simula, Inc. (RDT&E Developer).							

Exhibit P-40, Budget Item Justification Sheet												Date:
Appropriation / Budget Activity/Serial No:												February 2000
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities												P-1 Item Nomenclature:
AIR TRAFFIC CONTROL (AA0050)												
Program Elements for Code B Items:												
Code:												
Other Related Program Elements:												
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty												
Gross Cost	56.9	13.6	9.6	16.8	8.7	74.1	74.6	70.3	67.6	58.3	0.0	450.5
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	56.9	13.6	9.6	16.8	8.7	74.1	74.6	70.3	67.6	58.3	0.0	450.5
Initial Spares												
Total Proc Cost	56.9	13.6	9.6	16.8	8.7	74.1	74.6	70.3	67.6	58.3	0.0	450.5
Flyaway U/C												
Wpn Sys Proc U/C												
DESCRIPTION: Fixed Base Air Traffic Control requirements will be met through a vast array of high technology solutions resulting in a highly reliable and safe air traffic control system. The Joint DoD/Federal Aviation Administration (FAA) program will modernize the National Airspace System (NAS) to include upgrading and automating the complete infrastructure, systematically replacing antiquated analog systems (radars, communications switching systems) and installing state of the art digital technology. These include the Voice Communication Switching System (VCSS), the DoD Advanced Automation System (DAAS), the Airfield Status Automation Systems (ASAS) and the Digital Airport Surveillance Radar. The Fixed Base Precision Approach Radar (FBPAR) provides the Army's primary ground controlled precision approach capability to recover aircraft to fixed base facilities, ensuring safe landing in adverse weather conditions. Ancillary equipment includes a host of generic ground-based navigation aides (Non-Directional Beacons, Distance Measuring Equipment, Instrument Landing Systems), digital radios and wind measuring equipment. Tactical Air Traffic Control equipment includes Tactical Terminal Control System (TTCS), Air Traffic Navigation Integration and Coordination System (ATNAVICS), and the Tactical Airspace Integration System (TAIS). The TTCS is providing secure, jam-resistant radio communications to remote landing and pickup zones along the forward edge of the battle area. The ATNAVICS will provide all weather instrument flight capabilities to include enroute, terminal and radar precision approach and landing services to all Army, other services, and allied aircraft. The TAIS is a highly mobile airspace synchronization and deconfliction system providing Army Airspace Command and Control (A2C2) and air traffic control capabilities to the First Digitized Division/Corps and the ground maneuver commander on the future digitized battlefield. It will interface with the Army Battle Command System (ABCS) and the Army Tactical Command and Control System (ATCCS) while providing ground commanders with automated A2C2 capability to support all Corp/Division digitization initiatives into the next century.												

Exhibit P-40C Budget Item Justification Sheet			Date February 2000
Appropriation / Budget Activity/Serial No. AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities	P-1 Item Nomenclature AIR TRAFFIC CONTROL (AA0050)		
Program Elements for Code B Items	Code	Other Related Program Elements	
JUSTIFICATION: FY 01 funds will provide the Army the joint service capability to procure specific fixed base Air Traffic Control (ATC) systems required for the Federal Aviation Administration (FAA) modernization and upgrade of the National Airspace System. These systems will save significant Operational and Support (O&S) costs through the replacement of old, obsolete, antiquated analog radars, switches, and automation systems with new, state of the art, highly reliable ATC systems in towers and approach control facilities. Funding will also ensure interoperability between Army and FAA systems. These new fixed base systems will be relatively easy to maintain and will provide commonality for both operational and maintenance training. Commonality and interoperability will ensure jointness among the Services and participating host nations. For tactical ATC this funding will provide for the production of the ATNAVICS, continued upgrades and production of the TAIS. This new family of tactical Air Traffic Control systems will replace current generation equipment that is obsolete and not economically supportable. These systems will be compact, highly mobile, and relatively easy to install, and will be able to keep pace with the fast tempo of the modern battlefield. The continued acquisition of these Air Traffic Control systems will support present and future warfighting capabilities and assist the maneuver commander/Army aviator by providing vast improvements in the areas of secure communications, automated data processing, equipment reliability, survivability, and transportability. NOTE: FY 00 and prior funds for Fixed Base ATC systems were on the Airfield Support Equipment budget line (AZ1710). FY 99 Kosovo supplemental funds of \$1.3M are being reprogrammed to RDTE.			

Exhibit P-5, Weapon Aircraft Cost Analysis			Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: AIR TRAFFIC CONTROL (AA0050)			Weapon System Type:			Date: February 2000			
Aircraft			FY 98			FY 99			FY 00			FY 01			
Cost Elements			ID	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
			CD	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
1. Precision Approach Radar Hardware Production Start Up Costs Interim Contractor Support Engineer, Furnish & Install (EF&I) Fielding Data													5,808	3	1,936
2. Voice Communication Switching System (VCSS) Hardware Interim Contractor Support Engineer, Furnish, & Install (EF&I) Fielding													1,929	12	161
3. DoD Advanced Automation System (DAAS) Hardware Interim Contractor Support Engineer, Furnish, & Install (EF&I) Fielding													5,400	5	1,080
4. Airfield Status Automation System (ASAS) Hardware Engineer, Furnish, & Install (EF&I) Interim Contractor Support Fielding													483		
5. Digital Airport Sureveillance Radar (DASR) Hardware Interim Contractor Support Engineer, Furnish, & Install (EF&I) Fielding													799	5	160
Ancillary Equipment													920		
													1,402		
													75		

Exhibit P-5, Weapon Aircraft Cost Analysis			Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: AIR TRAFFIC CONTROL (AA0050)			Weapon System Type:		Date: February 2000	
Aircraft			FY 98			FY 99			FY 00			FY 01
Cost Elements	ID	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	UnitCost
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000
7. Tactical Terminal Control System (TTCS) (W614) Fielding Other Costs						108						
8. Tactical Airspace Integration System (TAIS) Hardware Production Software Support GFE Testing Fielding Interim Contractor Support Training Other						6,070 4,991 1,182 110 95 362 422	1	6,070	4,857 25 62 274	6	18,000 8,890 4,278 250 240 478 398	3,000
9. Air Traffic Navigation and Integration System (ATNAVICS) Hardware GFE Production Start Up Costs Interim Contractor Support Testing (FAT) Fielding						144 2,059			3,337	1	16,959 1,315 1,458 132 472 103	2,423
Other -FY 99 Kosovo Supplemental being reprogrammed to RDTE						1,300						
TOTALS			-			16,843			8,684		74,144	

Exhibit P-5a, Budget Procurement History and Planning										Date:	February 2000
Appropriation / Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities		Weapon System Type:		P-1 Line Item Nomenclature: AIR TRAFFIC CONTROL (AA0050)							
WBS Cost Elements: Fiscal Years	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date of First Delivery	QTY Each	Unit Cost \$000	Specs Avail Now?	Date Revis Avail	RFP Issue Date	
1. Precision Approach Radar FY 01	Raytheon Cambridge, MA	C/FP-O	CECOM	Jan-01	Apr-02	3	1,936	Yes	No		
2. Voice Communication Switching System (VCSS) FY 01	Federal Aviation Administration (FAA)	MIPR	FAA	Jan-01	Jul-01	12	161	Yes	No		
3. DoD Advanced Automation System (DAAS) FY 01	Federal Aviation Administration (FAA)	MIPR	FAA	Jan-01	Jan-02	5	1,080	Yes	No		
4. Airfield Status Automation System (ASAS) FY 01	NAVY	MIPR	NAVY	Jan-01	Jan-02	5	160	Yes	No		
5. Tactical Airspace InegrationSystem (TAIS) FY 99	Motorola, Huntsville, AL	C/FP	AMCOM	Feb-99	Aug-00	1	6,070	Yes	No		
FY 01	TBD	C/FP	AMCOM	Feb-01	May-02	6	3,000	Yes	No		
6. Air Traffic Navigation and Integration System (ATNAVICS) FY 00	Raytheon Cambridge, MA	C/FP-O	CECOM	Mar-00	Jun-01	1	3,336	Yes	No		
FY 01	Raytheon Cambridge, MA	C/FP-O	CECOM	Jan-01	Apr-02	7	2,423	Yes	No		
REMARKS:											

Exhibit P-40, Budget Item Justification Sheet												Date:	February 2000
Appropriation / Budget Activity/Serial No:												P-1 Item Nomenclature:	
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities												INDUSTRIAL FACILITIES (A23300)	
Program Elements for Code B Items:												Other Related Program Elements:	
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog	
Proc Qty													
Gross Cost	0.0	0.0	2.0	1.5	1.5	1.4	1.6	1.6	2.2	2.2	0.0	13.9	
Less PY Adv Proc													
Plus CY Adv Proc													
Net Proc (P-1)	0.0	0.0	2.0	1.5	1.5	1.4	1.6	1.6	2.2	2.2	0.0	13.9	
Initial Spares													
Total Proc Cost	0.0	0.0	2.0	1.5	1.5	1.4	1.6	1.6	2.2	2.2	0.0	13.9	
Flyaway U/C													
Wpn Sys Proc U/C													
DESCRIPTION: This program provides for the replacement of production test equipment. Funds are used to replace equipment that is old and becoming increasingly difficult to maintain. Instrumentation and equipment to be acquired consists of standard instrumentation recorders, transducers, signal conditioners, encoders, computer systems, and related components in support of Aircraft systems. The program also provides funding for the Value Engineering (VE) program to stimulate activity for reducing manufacturing, acquisition, operation and support costs. JUSTIFICATION: The FY01 request will provide the Aviation Technical Test Center with production support equipment in testing the APACHE, Black Hawk, and other aviation systems. Funding also supports rebuilds, upgrades and equipment rehabilitation of government owned equipment at the Ft. Rucker Test Facilities and value engineering support and training on all aviation systems in production.													

Exhibit P-5, Weapon Aircraft Cost Analysis				Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				P-1 Line Item Nomenclature: INDUSTRIAL FACILITIES (AZ3300)				Weapon System Type:		Date: February 2000	
Aircraft Cost Elements				FY 98		FY 99		FY 00		FY 01					
ID	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	UnitCost
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	\$000
VALUE ENGINEERING PROGRAM PROVIDES FOR THE TRAINING OF AVIATION ENGINEERS IN THE CONCEPTS OF VALUE ENGINEERING FOR VARIOUS ARMY AIRCRAFT. ALSO PAYS FOR THE ADMINISTRATION OF THE VALUE ENGINEERING PROGRAM					836			817			801				
PROVISION OF INDUSTRIAL FACILITIES PROVIDES FOR REPLACEMENT AND UPGRADE TO PRODUCTION ACCEPTANCE TEST EQUIPMENT AND INSTRUMENTATION AT VARIOUS TEST CENTERS.					645			632			618				
TOTAL					1481			1449			1419				

Exhibit P-40, Budget Item Justification Sheet											Date:	
Appropriation / Budget Activity/Serial No:											February 2000	
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities											P-1 Item Nomenclature:	
AIRBORNE COMMUNICATIONS (AA0705)												
Program Elements for Code B Items:												
Code:												
Other Related Program Elements:												
	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Complete	Total Prog
Proc Qty												
Gross Cost	46.6	37.8	45.4	41.9	43.2	0.0	19.7	14.1	11.6	11.6	0.0	271.9
Less PY Adv Proc												
Plus CY Adv Proc												
Net Proc (P-1)	46.6	37.8	45.4	41.9	43.2	0.0	19.7	14.1	11.6	11.6	0.0	271.9
Initial Spares												
Total Proc Cost	46.6	37.8	45.4	41.9	43.2	0.0	19.7	14.1	11.6	11.6	0.0	271.9
Flyaway U/C												
Wpn Sys Proc U/C												

Description:

The AN/ARC-220/VRC-100 High Frequency (HF) Radio Program answers Army Aviation's critical long-standing requirement for a Non-Line-of-Sight (NLOS) communications capability. The HF radio system allows continuous and reliable secure/non-secure communication between Army aircraft flying Nap-of-the-Earth (NOE) maneuvers and at NLOS distances with Aviation Tactical Operations Centers (TOC) and other Army aircraft. The radio incorporates Automatic Link Establishment (ALE) to eliminate manual searches for workable frequencies reducing pilot workload and enhancing communication connectivity. The AN/ARC-220/VRC-100 also provides a frequency hopping capability and is night vision compatible. The AN/ARC-220/VRC-100 provides a position reporting and data capability enhancing situational awareness and command and control.

Justification:

Supports Required Operation Capability (ROC) for NOE Communications dated 7 May 1980 and updated in approved Operational Requirement Document for the NOE Communications System dated 26 February 1994. The AN/ARC-220/VRC-100 answers Non-Line-of-Sight communication deficiency for Apache aircraft as identified by Task Force Hawk. FY02 and out procures 98 Apache A/D, 271 UH-60/EH-60, and 113 OH-58D A-Kits. The AN/ARC-220 supports digitization of the battlefield and enhances Joint Services communications. The AN/ARC-220/VRC-100 communications system supports the five (5) Army modernization objectives; protect and sustain the force, protect the force, win the battlefield information war, conduct precision strikes throughout the battlefield and dominate the maneuver battle.

Exhibit P-5, Weapon Aircraft Cost Analysis			Appropriation/ Budget Activity/Serial No: AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			P-1 Line Item Nomenclature: AIRBORNE COMMUNICATIONS (AA0705)			Weapon System Type:			Date: February 2000		
ID	CD	Aircraft Cost Elements	FY 98			FY 99			FY 00			FY 01		
			TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
		AN/ARC-220 NOE HF RADIO												
		Recurring Costs												
		A. Airborne Radio	11783	506	23	11339	494	23						
		B. VRC-100 Ground Radio	2906	100	29	1969	66	30						
		C. A-Kits	5278	854	6	7900	464	17						
		D. A-Kit Installation	1413			11937								
		SUBTOTAL	21380			33145								
		Non-Recurring Costs												
		A-Kit Integration	14172			1200								
		Other System Test	584			50								
		SUBTOTAL	14756			1250								
		Support Cost												
		Fielding Support	3698			6970								
		Program Management	2070			1818								
		SUBTOTAL	5768			8788								
		TOTAL	41904			43183								
		TOTAL	62609			62609								

Exhibit P-5a, Budget Procurement History and Planning										Date: February 2000											
Appropriation / Budget Activity/Serial No:			P-1 Line Item Nomenclature:																		
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			AIRBORNE COMMUNICATIONS (AA0705)																		
WBS Cost Elements:			Contract Method and Type		Location of PCO		Award Date		Date of First Delivery		QTY Each		Unit Cost \$000		Specs Avail Now?		Date Revis Avail		RFP Issue Date		
Fiscal Years			Contractor and Location																		
AN/ARC-220 HF Airborne Radio			Rockwell International, IA		CECOM		Feb-99		Dec-99		506		23		Yes						
FY99			Rockwell International, IA		CECOM		Feb-00		May-01		494		23		Yes						
FY00			Rockwell International, IA		CECOM																
FY01																					
AN/RC-100 Ground Radio			Rockwell International, IA		CECOM		Feb-99		Dec 99		100		29		Yes						
FY99			Rockwell International, IA		CECOM		Feb-00		Aug-01		66		30		Yes						
FY00			Rockwell International, IA		CECOM																
FY01			Rockwell International, IA		CECOM																
REMARKS:																					

