DEPARTMENT OF THE NAVY
FY 1999 BUDGET ESTIMATE SUBMISSION

JUSTIFICATION OF ESTIMATES
SEPTEMBER 1997

AIRCRAFT PROCUREMENT, NAVY
BUDGET ACTIVITY 5

UNCLASSIFIED

Department of the Navy

FY 1999 Procurement Program

Exhibit P-1

APPROPRIATION: 1506N Aircraft Procurement, Navy

DATE: 10/08/97

LINE NO	ITEM NOMENCLATURE	IDENT CODE	(DOLLARS) FY 1999 UNIT COST	TOA, $ IN MILLIONS FY 1997 QUANTITY	FY 1997 COST	FY 1998 QUANTITY	FY 1998 COST	FY 1999 QUANTITY	FY 1999 COST	SEC
BUDGET ACTIVITY 05: Modification of Aircraft										
Modification of Aircraft										
16	0511 EA-6 Series	A			218.0		86.8		77.1	U
17	0514 AV-8 Series	A			22.2		32.6		46.3	U
18	0519 F-14 Series	A			226.5		290.5		229.5	U
19	0522 Adversary	A			.*		.1		1.3	U
20	0523 ES-3 Series	A			6.7		5.2		5.4	U
21	0525 F-18 Series	A			143.1		156.2		203.3	U
22	0526 H-46 Series	A			34.1		33.5		34.2	U
23	0527 AH-1W Series	A			23.2		34.5		22.9	U
24	0528 H-53 Series	A			58.3		35.7		33.8	U
25	0530 SH-60 Series	A			46.4		74.3		111.5	U
26	0532 H-1 Series	A			18.2		12.9		14.6	U
27	0534 H-3 Series	A			2.6		1.4		.*	U
28	0537 EP-3 Series	A			37.3		4.4		5.5	U
29	0538 P-3 Series	A			216.8		164.9		250.9	U
30	0541 S-3 Series	A			28.9		48.4		71.3	U

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31 0544	E-2 Series	A			27.1		49.1		93.1	U
32 0549	Trainer A/C Series	A			6.4		7.9		7.5	U
33 0556	C-2A	A			-		19.2		20.9	U
34 0560	C-130 Series	A			2.7		12.6		4.2	U
35 0561	FEWSG	A			.6		.5		.6	U
36 0562	Cargo/Transport A/C Series	A			37.3		29.9		23.1	U
37 0564	E-6 Series	A			97.2		96.3		44.2	U
38 0566	Executive Helicopters Series	A			20.6		22.8		11.6	U
39 0567	Special Project Aircraft	A			13.5		16.5		6.4	U
40 0569	T-45 Series	A			5.5		5.4		8.7	U
41 0570	Power Plant Changes	A			15.1		14.0		15.6	U
42 0574	Misc Flight Safety Changes	A			.6		-		-	U
43 0576	Common ECM Equipment	A			61.9		32.9		41.2	U
44 0577	Common Avionics Changes	A			96.4		131.6		116.2	U
TOTAL	Modification of Aircraft				1,467.2		1,420.2		1,500.8	

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **Sept 1997**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
EA-6 Series Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	481.3		42.0	165.4	218.0	86.8	77.1	191.8	193.0	207.3	117.8	157.6	1,938.0

This line item funds modifications to the EA-6 aircraft. The EA-6B Prowler is a four-seat derivative of the A-6 Intruder medium attack aircraft. Among its features are a computer controlled electronic surveillance and control system and high power jamming transmitters in various frequency bands which are contained in pods mounted externally on the five aircraft pylons. The overall goal of the modifications budgeted in FY 1999 is the procurement of a Universal Exciter Upgrade, Electronic Flight Information System (EFIS), Embedded GPS Inertial Navigation System (EGI), and the GPS-3A receiver. OSIP XX-01 is funded in FY-01 to start production of the ICAP III aircraft.

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
19-79	ALQ-99 Pods	238.7	32.6	40.4	107.0	48.7	38.9	46.2	25.3	22.3	12.0	141.5	753.6
32-85	EA-6B Structural Improvements	176.4	0.3	25.0	79.6	10.4	0.7	61.8	28.4	38.5	30.0		451.1
111-87	J-52 Engines				5.0								5.0
42-93	EA-6B Block 89A Avionics	66.3	9.1	100.0	26.4	27.6	37.5	83.9	109.2	99.5	40.5	15.9	615.9
-01	ICAP III								30.0	47.0	35.4		112.4
TOTAL		**481.3**	**42.0**	**165.4**	**218.0**	**86.8**	**77.1**	**191.8**	**193.0**	**207.3**	**117.8**	**157.6**	**1,938.0**

NOTE: Totals may be off due to rounding.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: ALQ-99 PODS (OSIP 19-79)

MODELS OF SYSTEM AFFECTED: EA-6B Series Modifications

TYPE MODIFICATION: Reliability/Mission Capability

DESCRIPTION/JUSTIFICATION:

Hardback Modification/Pod Electromagnetic Interference (EMI). The ALQ-99 Pods-Hardbacks carry two jammer transmitters and one exciter. This modification will improve the hardback's reliability and will ensure proper interface of the upgraded Universal Exciter (UE) and transmitters. The hardbacks have had a long history of EMI problems when operating low band transmitters. The generator control unit and overcurrent sensor in the pod will further improve reliability. UNIVERSAL EXCITER UPGRADE (UEU): The UE has experienced parts obsolescence and unacceptable Mean Time Between Failures (MTBF). The MTBF on the current fleet owned UE is 125 hours. The MTBF expected on the UEU is 250 hours. This improvement is due to the replacement of unreliable analog circuitry with digital components. TRANSMITTER WRAS: In order to provide an improved war fighting capability against modern threat systems, the program will procure AN/ALQ-99 jammer pod WRAs for the ICAP-II and ICAP-III aircraft configurations. Planned procurements include the following: a Low Band Transmitter (LBT) to provide an expanded capability against low frequency radar and communication threats; a Band 9/10 Transmitter to provide an expanded capability against modern high frequency radars; and transmitter improvements to provide capability against radars employing advanced Electronic Counter Countermeasures (ECCM) capabilities. The Joint Tactical Airborne Electronic Warfare Study (JTAEWS) and the Navy's lower cost alternative to ADVCAP report both identified the need for improved war fighting capability in low (LBT) and high (Band 9/10) band frequency ranges. The 12th EA-6B Operational Advisory Group identified the need for a capability against modern radar ECCM capabilities as it's number four priority. MISSION PLANNING SYSTEM: The EA-6B Mission Planning System, AN/TSQ0142, and TAMPS requires software modification in order to operate the Universal Exciter Upgrade and the Low Band Transmitter. JOINT SQUADRON SUPPORT: With the assumption of the EF-111A mission, a requirement exists to provide three sets of deployable intermediate and operational level maintenance vans with associated tooling and support equipment for up to three forward deployed (sea-or land-based) joint strike support squadrons at any one time.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Delivery of UEU Engineering Design Models (EDMs) began in the first quarter of FY-95 with developmental and operational testing completed in the second quarter of FY-96 achieving approval for full production, milestone III in March 1996 and followed by a production contract award. A development contract for the low band transmitter was awarded in September 1996 with testing expected to begin in the second quarter of FY 1999, and AFP expected in the first quarter of FY-00.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment	2,695	181.4	142	29.4	53	26.1	588	54.7	187	34.2	70	26.1	72	29.2	163	19.6	164	20.3	32	11.7	449	141.5	4,615	574.2
Installation Equipment N/R		4.7				0.1		0.7		0.7		0.5		4.8		0.1								11.6
Engineering Change Orders																								
Data		7.9				1.4				0.3		0.4		0.1										10.1
Training Equipment								1.1		0.5		0.5												2.1
Support Equipment		25.5				10.0	3	40.6		4.0		4.7		7.9		3.9		1.5						98.1
ILS		2.1						0.3		0.1		0.4		0.2		0.2								3.3
Other Support		5.5		3.2		1.8		5.3		3.5		2.8		1.5		1.5		0.4		0.3				25.8
Interim Contractor Support																								
Installation Cost *		11.6				1.0		4.2		5.4		3.5		2.5										28.2
TOTAL PROCUREMENT		238.7		32.6		40.4		107.0		48.7		38.9		46.2		25.3		22.3		12.0		141.5		753.4

* - Installation Costs are all attributable to Installation Equipment.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **UEU - ECP#AV-95-031** MODIF: EA-6B Series (OSIP 19-79)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Turn-key**

ADMINISTRATIVE LEADTIME: 4 Months PRODUCTION LEADTIME: 22 Months

CONTRACT DATES: FY 1997: FY 19 Dec-97 FY 1999: Nov-98

DELIVERY DATE: FY 1997: FY 19 Apr-99 FY 1999: Mar-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (119) kit							**22**		**40**		**57**												**119**	
FY 1997 ( ) kits																								
FY 1998 (93) kits											**41**		**52**										**93**	
FY 1999 (70) kits													**32**		**38**								**70**	
FY 2000 (56) kits															**56**								**56**	
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																					214.0		214	
TOTAL							22		40		98		84		94						214.0		552	

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In			6	16			2	20	30	30	30	24	24	24	24	18	18	18	18	18	18				
Out								2	20	30	30	30	24	24	24	24	18	18	18	18	18	18	16	6	

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					214	552
Out					214	552

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **Harback/POD EMI (ECP AV-91-023/024R1)** MODIF: EA-6B Series (OSIP 19-79)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Organic (NSWC, Crane)**

ADMINISTRATIVE LEADTIME: 9 Months PRODUCTION LEADTIME: 13 Months

CONTRACT DATES: FY 1997 Feb-97 FY 199 Nov-97 FY 1999:

DELIVERY DATE: FY 1997 Oct-98 FY 199 Oct-99 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (430) ki	**284**	**6.2**					**126**	**2.4**	**40**	**1.0**													**450**	**9.6**
FY 1997 (123) kits									**123**	**3.0**													**123**	**3.0**
FY 1998 (47) kits											**47**	**1.1**											**47**	**1.1**
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	284	6.2					126	2.4	163	4.0	47	1.1											620	13.7

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	284	39	35	35	17	37	39	45	42	25	15	7													
Out	247	37	39	35	35	17	37	39	45	42	25	15	7												

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						620
Out						620

EA-6B Series Mod

ADDENDUM

OSIP 19-79

INSTALLED EQUIPMENT

	Prior Year	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP AV-91-023												
Hardback Upgrade	**2,192**	**206**		**680**	**266**							**3,344**
Proc. Qty.	*375*	*40*		*123*	*47*							*585*
Proc. Unit Cost	*6*			*6*	*6*							
Installation Cost	*5,499*			2,132	3,495	1,087						12,213
Install Qty	*275*			*100*	*163*	*47*						*585*
ECP AV-91-024R1												
POD EMI Kits	**1,211**	**118**		**373**	**146**							**1,848**
Proc. Qty.	*390*	*40*		*123*	*47*							*600*
Proc. Unit Cost	*3*	*3*		*3*	*3*							
Installation Cost	*718*			247	416	132						1,513
Install Qty	*290*			*100*	*163*	*47*						*600*
(NO ECP/ Production program)												
Band 9/10 Transmitter			**14,384**	**45,895**								**60,279**
Proc. Qty.			*28*	*92*								*120*
Proc. Unit Cost			*514*	*499*								
Installation Cost												
Install Qty												
Band 9/10 Radome				**7,800**								**7,800**
Proc. Qty.				*250*								*250*
Proc. Unit Cost				*31*								
Installation Cost												
Install Qty												
ECP AV-95-031												
Universal Exciter Upgrade	**15,002**	**29,066**	**11,666**		**33,823**	**26,149**	**19,591**				**91,378**	**226,675**
Proc. Qty.	*32*	*62*	*25*		*93*	*70*	*56*				*214*	*552*
Proc. Unit Cost	*469*		*467*		*364*	*374*	*350*				*427*	
Installation Cost ** Commercial Level/"Turn-key" Cost included in procuremen												
Install Qty												
No ECP												
Low Band Transmitter							**9,608**	**11,111**	**11,799**	**11,722**	**41,469**	**85,709**
Proc. Qty.							*16*	*23*	*28*	*32*	*111*	*210*
Proc. Unit Cost							*601*	*483*	*421*	*366*	*374*	
Installation Cost												
Install Qty												
Trip Transmitters												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost	*4,545*											4,545
Install Qty	*125*											*125*
UE Config Upgrade/Band 9E (retrofit spares)												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost	*859*											859
Install Qty												

EA-6B Series Mod

ADDENDUM

OSIP 19-79

INSTALLED EQUIPMENT

	Prior Year	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
RIM (RFI Testing)/UE and UEUs												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost			998	1,736	1,500	2,263	2,497					8,994
Install Qty			*22*	*61*	*75*	*115*	*109*					*382*
Repair Incident to Mod												
ECP AV-91-024R1												
EMI SPARES												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost			40	70		32						142
Install Qty			*45*	*71*		*31*						*147*
Transmitter ECCM								**8,537**	**8,549**		**8,679**	**25,765**
Proc. Qty.								*140*	*136*		*124*	*400*
Proc. Unit Cost								*61*	*63*		*70*	
Installation Cost												
Install Qty												
OTHER INSTALLED EQUIP	**162962**											**162,962**
Proc. Qty.	*1898*											*1,898*
Proc. Unit Cost												
Installation Cost												
Install Qty												
TOTAL Procurement Cost	**181,367**	**29,390**	**26,050**	**54,748**	**34,235**	**26,149**	**29,199**	**19,648**	**20,348**	**11,722**	**141,526**	**574,382**
Proc. Qty.	**2,695**	**142**	**53**	**588**	**187**	**70**	**72**	**163**	**164**	**32**	**449**	***4,615***
Proc. Unit Cost	*67*	*207*	*492*	*93*	*183*	*374*	*406*	*121*	*124*	*366*	*315*	
TOTAL Installation Cost	**11,621**		**1,038**	**4,185**	**5,411**	**3,514**	**2,497**					**28,266**
Total Install Qty.	*690*		*67*	*332*	*401*	*240*	*109*					***1,839***
TOTAL Other Cost	**45,605**	**3,200**	**13,269**	**48,060**	**9,102**	**9,249**	**14,495**	**5,655**	**1,940**	**278**		**150,853**
TOTAL APN-5 COST	**238,593**	**32,590**	**40,357**	**106,993**	**48,748**	**38,912**	**46,191**	**25,303**	**22,288**	**12,000**	**141,526**	**753,501**

* PROCUREMENT ITEMS WITH NO INSTALLATION DOLLARS ARE TURN-KEY (COMMERCIAL LEVEL INSTALS)
THEREFOR, INSTALLATION COSTS INCLUDED W/PROCUREMENT

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: EA-6B Structural Improvements (OSIP 32-85)

MODELS OF SYSTEM AFFECTED: EA-6 Series Modifications

TYPE MODIFICATION: Safety of Flight

DESCRIPTION/JUSTIFICATION:

This Omnibus Operational and Safety Improvement Program covers EA-6B Structural modifications and EA-6B peculiar avionics modifications arising from test/deficiencies and those safety of flight related improvements. Included are: Structural Improvement modifications which includes fixes for areas found to be deficient during aircraft fatigue test; Wing Center Sections (WCS) which replace wings which have either cracked due to stress corrosion or have reached their wing fatigue life limit; Electronic Flight Information Systems (EFIS) which corrects the fleet's number one safety issue for the EA-6B; GPS/MAGR which installs Global Positioning Satellite capability into the EA-6B for the first time and fulfills the DOD requirements to have GPS capability installed into all Navy, Marine Corps and Coast Guard aircraft by October 2000; Structural Data Recording System (SDRS) which will provide a more accurate measurement of Fatigue Life Expenditure (FLE); the Joint Mission Planner which provides for the maintenance of the current EA-6B mission planning system (TEAMS) and its subsequent migration to TAMPS; the USQ-113 radio countermeasures sets which are being procured to reach an inventory objective of 54; and connectivity which includes the ability to receive near real-time intelligence data and to pass HARM targeting data to USAF Block 50 F-16s.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The EFIS system proof of concept was completed the first quarter of FY 1995. The aircraft prototype installation design was completed the third quarter of FY 1995 and installation kit validation and verification was completed second quarter of FY 1996. The GPS/MAGR is in full rate production as a joint program (Air Force Lead). The manufacturer is Rockwell Collins. Other platforms with GPS/MAGR installed include C-2, H-60 and E-2.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	2,662	34.4	127	0.1	15	1.0	396	3.2	27	0.3													3,227	39.0
Installation Kit - Unit Price		*0.0*		*0.0*		*0.0*		*0.0*		*0.0*														
Installation Kits N/R		7.9				5.0		0.9		0.5														14.3
Installation Equipment	577	77.8			711	10.5	551	54.4					12	44.3	6	20.0	8	27.3	6	21.7			1,871	256.0
Installation Equipment N/R		3.1				2.8		2.2		1.1				1.5										10.7
Engineering Change Orders																								
Data		7.1		0.2		2.1		0.9		1.3														11.6
Training Equipment	8	1.1	4		4	0.5				1.1														2.7
Support Equipment		5.2				0.4																		5.6
ILS		1.1				0.1																		1.2
Other Support		18.9				1.9		4.5		3.0		0.4		2.0		1.2		1.3		0.7				33.9
Interim Contractor Support																								
Installation Cost *	222	19.8			10	0.7	129	13.6	132	3.2	27	0.3	12	14.0	6	7.2	8	9.9	6	7.6			552	76.3
TOTAL PROCUREMENT		176.4		0.3		25.0		79.6		10.4		0.7		61.8		28.4		38.5		30.0				451.3

* - Installation Costs include Kits and Installation Equipment (See Addendum for detailed listing).

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EFIS and GPS/MAGR (ECP:NORVA-291R1/292**

MODIFIC EA-6B Structural and Avionics Systems Improvements (OSIP 32-85)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Organic (NADEP)/Contractor**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (127 *) ki	**21**	**1.7**			**10**	**0.6**	**35**	**2.6**	**39**	**3.0**													**105**	**7.9**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	21	1.7			10	0.6	35	2.6	39	3.0													105	7.9

* - 20 were installed under OSIP 42-93; Block 82-89 Upgrade, and two (2) are for trainer updates.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	11	4	16	18	17	17	17	5																	
Out	4	7	12	16	19	19	13	11	4																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						105
Out						105

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **SDRS (ECP: SEI-364-1)**

MODIFIC EA-6B Structural and Avionics Systems Improvements (OSIP 32-85)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1997: FY 1998: Nov-97 FY 1999:

DELIVERY DATE: FY 1997: FY 1998: Apr-98 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (0) kits																								
FY 1997 (0) kits																								
FY 1998 (27) kits									**27**	**0.3**													**27**	**0.3**
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL									27	0.3													27	0.3

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								13	14																
Out								13	14																

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						27
Out						27

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **Wing Center Section**

MODIFIC EA-6B Structural and Avionics Systems Improvements (OSIP 32-85)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Turn-Key**

ADMINISTRATIVE LEADTIME: 5 Months

PRODUCTION LEADTIME: 27 Months

CONTRACT DATES: FY 1997: **Feb-97** FY 1998: FY 1999:

DELIVERY DATE: FY 1997: **May-99** FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (16 *) kit	**16**	**14.6**																					**16**	**14.6**
FY 1997 (10) kits							**10**	**10.5**															**10**	**10.5**
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 (12) kits													**12**	**14.0**									**12**	**14.0**
FY 2001 (6) kits															**6**	**7.2**							**6**	**7.2**
FY 2002 (8) kits																	**8**	**9.9**					**8**	**9.9**
FY 2003 (6) kits																			6	7.6			**6**	**7.6**
To Complete ( ) kits																								
TOTAL	16	14.6					10	10.5					12	14.0	6	7.2	8	9.9	6	7.6			58	63.8

* - Three (3) installed concurrent w/SDLM.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	6						2	3	3	2		4	6											4	4
Out	6						2	2	3	3		2	6	2										2	4

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	4	2	2	2	14	58
Out	4	2	2	2	16	58

EA-6B Series Mod

ADDENDUM

OSIP 32-85

	PRIOR YEAR	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP NSWC-AV-95-035												
AN/USQ-113 Kits			**998**									**998**
Proc. Qty.			15									15
Proc. Unit Cost			67									
Installation Cost ** O LEVEL INSTALLATION												
Install Qty												
ECP: NORVA-289												
Power Compensator Kits		**55**										55
Proc. Qty.		*127*										127
Proc. Unit Cost		*0*										
Installation Cost ** O LEVEL INSTALLATION												
Install Qty												
ECP: AV-97-036												
Connectivity Kits				**2,750**								**2,750**
Proc. Qty.				125								125
Proc. Unit Cost				22								
Installation Cost ** O LEVEL INSTALLATION												
Install Qty				22								22
ECP: NORVA-182R2												
Band 10 Receiver Kits	**632**			**221**								**853**
Proc. Qty.	*106*			21								127
Proc. Unit Cost	*6*			11								
Installation Cost	45											45
Install Qty	*2*			21								23
Remainder = O-Level												
SDRS Kits/ECP: SEI-364-1					**254**							**254**
Proc. Qty.					27							27
Proc. Unit Cost					9							
Installation Cost						336						336
Install Qty						27						27
ECP: NORVA-291r1/292												
EFIS/GPS KITS	**6961**											**6,961**
Proc. Qty.	*127*											127
Proc. Unit Cost	*55*											
Installation Cost	1676		594	2,606	3,033							7,909
Install Qty	*21*		10	35	39							105
125 PLANES + TRAINERS												
Structual Mod Kits (ECP JAX 300 &299)				217								**217**
Proc. Qty.				250								250
Proc. Unit Cost				1								
Installation Cost												
Install Qty												
(Contractor Field Mod Team)												

EA-6B Series Mod

ADDENDUM

OSIP 32-85

	PRIOR YEAR	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
TEAMS Upgrade Kits	**17464**											**17,464**
Proc. Qty.	*47*											47
Proc. Unit Cost	*372*											
Installation Cost	2004		57									2,061
Install Qty	*38*											38
(Contractor Field Mod Team)												
OTHER PY KITS	**9329**											**9,329**
Proc. Qty.	*2382*											2,382
Proc. Unit Cost	*4*											
Installation Cost												
Install Qty	*10*											10
PREDOMINATELY O-LEVEL INSTALLATIONS												
TOTAL KITS:												
TOTAL Procurement Cost	**34,386**	**55**	**998**	**3,188**	**254**							**38,881**
Proc. Qty.	**2,662**	**127**	**15**	**396**	**27**							3,227
TOTAL Installation Cost	**3725**		**651**	**2606**	**3033**	**336**						10,351
Total Install Qty.	*71*		10	78	39	27						225
Wing Center Section (Equip)	**54434**			**30,136**			**44,319**	**20,039**	**27,343**	**21,722**		**197,993**
Proc. Qty.	*16*			10			12	6	8	6		58
Proc. Unit Cost	*3,402*			3,014			3,693	3,340	3,418	3,620		
Installation Cost	14564			10,495			14,006	7,160	9,857	7,557		63,639
Install Qty	*16* *			10			12	6	6	5		55
* 3 CWS were installed with SDLM funds												
AN/USQ113 Equipment	**7203**		**8,672**	**8,741**								**24,616**
Proc. Qty.	*131*		30	24								185
Proc. Unit Cost			289	364								
Installation Cost ** O level Installation												
Install Qty												
Mini Airborne Tactical Terminal				**8,109**								**8,109**
Proc. Qty.				54								54
Proc. Unit Cost				150								
Installation Cost ** O level Installation												
Install Qty												
Equipment Wiring			**91**									**91**
Proc. Qty.			126									126
Proc. Unit Cost			1									
Installation Cost ** O level Installation												
Install Qty												
USQ-113 Bracket Buyout			**300**									**300**
Proc. Qty.			102									102
Proc. Unit Cost			3									
Installation Cost												
Install Qty												

EA-6B Series Mod

OSIP 32-85

ADDENDUM

	PRIOR YEAR	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
USQ-113 Brackets			**291**									**291**
Proc. Qty.			97									97
Proc. Unit Cost			3									
Installation Cost												
Install Qty												
Radio CM Set (USQ-113)			**579**									**579**
Proc. Qty.			22									22
Proc. Unit Cost			26									
Installation Cost				318	155							473
Install Qty				16	7							23
Radio CM Set EMI (USQ-113)			**141**									**141**
Proc. Qty.			24									24
Proc. Unit Cost			6									
Installation Cost				46	21							67
Install Qty				17	7							24
Improved Data Modem				**2,059**								**2,059**
Proc. Qty.				54								54
Proc. Unit Cost				38								
Installation Cost												
Install Qty												
ARC-210 Radios				**1,709**								**1,709**
Proc. Qty.				48								48
Proc. Unit Cost				36								
Installation Cost												
Install Qty												
SATCOM Antenna				**1,630**								**1,630**
Proc. Qty.				125								125
Proc. Unit Cost				13								
Installation Cost												
Install Qty												
Connectivity Remote Fill Device				**100**								**100**
Proc. Qty.				125								125
Proc. Unit Cost				1								
Installation Cost												
Install Qty												
Connectivity/Laptop controller				**1,408**								**1,408**
Proc. Qty.				108								108
Proc. Unit Cost				13								
Installation Cost												
Install Qty												
Operational Tester				**525**								**525**
Proc. Qty.				3								3
Proc. Unit Cost				175								

EA-6B Series Mod

ADDENDUM

OSIP 32-85

	PRIOR YEAR	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
Installation Cost												
Install Qty												
VHF/UHF Comm RCVR			**130**									**130**
Proc. Qty.			21									21
Proc. Unit Cost			6									
Installation Cost												
Joint Mission Planner			**264**									**264**
Proc. Qty.												
Proc. Unit Cost												
Installation Cost												
DSDC	**350**											**350**
Proc. Qty. (Instock items/leftover from A-6	*150*											150
Proc. Unit Cost												
Installation Cost	131											131
Install Qty	*135*											135
MISC INSTALL EQUIP COSTS:	15,853		53									15,906
MISC INSTALL EQUIP QTY'S:	280		289									569
MISC INSTALLATION COSTS:	1,382			1								1,383
TOTAL Install Equip Cost	**77,840**		**10,521**	**54,417**			**44,319**	**20,039**	**27,343**	**21,722**		**256,201**
Proc. Qty.	**577**		**711**	**551**			**12**	**6**	**8**	**6**		1,871
TOTAL Installation Cost	**16,077**			**10,860**	**176**		**14,006**	**7,160**	**9,857**	**7,557**		**65,693**
Total Install Qty.	*151*			43	14		12	6	6	5		237
GRAND TOTAL INSTALL COST	**19,802**		**651**	**13,466**	**3,209**	**336**	**14,006**	**7,160**	**9,857**	**7,557**		**76,044**
GRAND TOTAL INSTALL QTY	**222**		**10**	**121**	**53**	**27**	**12**	**6**	**6**	**5**		**462**
GRAND TOTAL OTHER COST	**44,368**	**251**	**13,848**	**11,729**	**6,983**	**357**	**3,438**	**1,222**	**1,281**	**697**		**84,174**
GRAND TOTAL APN-5	**176,396**	**306**	**25,020**	**79,612**	**10,446**	**693**	**61,763**	**28,421**	**38,481**	**29,976**		**451,114**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: J52 Engines (OSIP 111-87)

MODELS OF SYSTEM AFFECTED: EA-6B Series Modification

TYPE MODIFICATION: Safety of Flight

DESCRIPTION/JUSTIFICATION:

J-52 Improved Turbine Exhaust Case (TEC). Based on historical data analysis the J52 P408A will experience six uncontained turbine blade fractures resulting in the loss of three aircraft before the retirement of the EA-6B. To reduce this risk a Component Improvement Program study was undertaken, the result of which is an improved turbine exhaust case that provides Low Pressure Turbine (LPT) containment and other durability improvements. The LPT TECs will be replaced on an attrition basis, incurring no additional installation costs. The current LPT TEC is also the highest cost driver on the J52 P408A, a factor that will also be remedied by the improved TEC.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Development of the Improved Turbine Exhaust Case began in FY95 using engine CIP and contractor funds. Testing and ECP approval will be completed in the fourth quarter of FY97 followed by a production contract award.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		0.4				1.0		0.1																1.5
PROCUREMENT																								
Installation Kits							33	3.5															33	3.5
Installation Kit - Unit Price								*0.1*																
Installation Kits N/R								0.3																0.3
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data								0.1																0.1
Training Equipment																								
Support Equipment								0.9																0.9
ILS								0.1																0.1
Other Support								0.1																0.1
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT								5.0																5.0

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EA-6B Series**

MODIFICATION TITLE: J52 Engines (OSIP 111-87)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Depot Level Installation on attrition basis**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1997: Aug-97 FY 1998: FY 1999:

DELIVERY DATE: FY 1997: Sep-98 FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 (33) kits									**2**		**31**												**33**	
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL									2		31												33	

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In									2	10	10	11													
Out									2	10	10	11													

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						33
Out						33

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Block 89A Avionics (OSIP 42-93)

MODELS OF SYSTEM AFFECTED: EA-6 Series Modifications

TYPE MODIFICATION: Safety of Flight/ Reliability

DESCRIPTION/JUSTIFICATION:

This omnibus Operational and Safety Improvement Program covers EA-6B ICAP II Block 89 Avionics systems modifications to install required communications, navigation, and miniaturized technology improvements. Block 82 aircraft will be baselined to the Block 89 configuration for incorporation of these improvements providing one configuration of EA-6B aircraft reducing support costs. The avionics common systems upgrade includes incorporation of: 1. ARC-210 UHF/VHF radio to replace the ARC-182 UHF/VHF radio 2. The Embedded GPS Inertial Navigation System (EGI) is to provide an upgraded navigation capability and replace the current ASM-50 AHARS which has very poor reliability. 3. The EFIS system which was installed under a separate ECP will be integrated with the EGI system. This OSIP provides an EFIS interface box. It will be interfaced with the 1553 data bus system to provide additional navigation data to the air crew. 4> The AYK-14 (XN-4) computer will be upgraded with the Very High Speed Integrated Circuit (VHSIC) technology. The XN-* computer design will retain the outer shell of the XN-4 chassis and incorporate a new backplane that accommodates the VHSIC Processor Module (VPM) and replaces the Serial Interface Module-A (SIM-A) cards with Discrete and Serial Modules (DSM). 5. Mission Planning System: The EA-6b mission planner, the AN/TSQ-142, and transitioning to the TAMPS provides operational flight programs, maps, EW libraries, jammer techniques, HARM data as well as performs data reduction. The Block 89A avionics improvement requires modification to the AN/TSQ-142 in order to operate the Block 89A Upgrade. 6. Block 82 to 89 Upgrade: Twenty block 82 aircraft will be upgraded to the block 89 standard configuration by adding a fire extinguishing system, fuel discharge improvements, a yaw rate indicator, ARC-182 and 199 radios, additional caution lights, tailpipe improvements, antenna disconnect improvements and a Computer Interface Unit/Encoder. 7. Misc. Avionics: Additional miscellaneous procurements of avionics, such as ARC-199 Radios and Computer Interface Units (CIU) are required as part of the Block 89A and Block 82/89 programs.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ARC-210 UHF/VHF radio is a common avionics system to be installed in all Navy aircraft. The radio has undergone OPEVAL in another platform. The EA-6B has been approved for installation. The EFIS system was installed and tested in FY 1996 in the ICAP-II aircraft and will require minimal upgrade FOT&E for the required interface and incorporation of EGI data. The EGI has been developed by the Air Force for used in their aircraft and will have undergone OPEVAL prior to installation in EA-6B aircraft. The EA-6B will do FOT&E testing in FY 1998. The AYK-14 (XN-*) computer utilizes modules that are common avionics to Navy inventory. The computer uses the same chassis as the XN-4, and has an architecture similar to that tested in the Advanced AYK-14 Program. Therefore, it is anticipated that very little additional qualifications will be required. SQT for the software upgrade avionics and mission planner will be performed in FY 1998.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits					20	59.5			8	5.6	18	12.8	32	41.7	33	44.0	20	32.7			9	7.1	140	203.4
Installation Kit - Unit Price						*3.0*				*0.7*		*0.7*		*1.3*		*1.3*		*1.6*						
Installation Kits N/R	4	45.4				2.6		3.4		2.4				1.7				0.4						55.9
Installation Equipment	10	1.3	4	0.5	20	11.5	2	0.2	8	0.9	18	2.0	32	16.0	33	16.2	20	13.4			9	1.1	156	63.1
Installation Equipment N/R		0.6		1.6		0.7						0.9												3.8
Engineering Change Orders																								
Data		1.8				4.1				1.1		0.6												7.6
Training Equipment		4.4		0.2				5.9		3.6		0.2												14.3
Support Equipment		1.3				2.0		9.3		2.6		7.3		8.6		8.9		10.3		10.7				61.0
ILS		0.3						0.2		0.3				0.7		0.7								2.2
Other Support		11.0		6.8		15.5		7.4		11.1		7.3		6.4		6.3		9.4		5.7				86.9
Interim Contractor Support																								
Installation Cost		0.1				4.1					8	6.3	18	8.8	32	33.1	33	33.3	20	24.0	9	7.9	120	117.6
TOTAL PROCUREMENT		66.3		9.1		100.0		26.4		27.6		37.5		83.9		109.2		99.5		40.5		16.0		615.8

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EA-6B ICAP Block 89A UPDATE**

MODIFICATION TITLE: Block 89A Avionics Improvements (Osip 42-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Commercial**

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1997: FY 1998: Nov-97 FY 1999: Nov-98

DELIVERY DATE: FY 1997: FY 1998: Oct-98 FY 1999: Oct-99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (4) kits*	**4**	**34.2**																					**4**	**34.2**
FY 1997 ( ) kits																								
FY 1998 (8) kits											**8.0**	**6.3**											**8**	**6.3**
FY 1999 (18) kits													**18**	**8.8**									**18**	**8.8**
FY 2000 (32) kits															**32**	**33.1**							**32**	**33.1**
FY 2001 (33) kits																	**33**	**33.3**					**33**	**33.3**
FY 2002 (20) kits																			**20**	**23.9**			**20**	**23.9**
FY 2003 ( ) kits																								
To Complete (9) kits																					9.0	7.9	9	7.9
TOTAL	4	34.2									8	6.3	18	8.8	32	33.1	33	33.3	20	23.9	9.0	7.9	124	147.5

* Validation/Verification Kits (install kit N/R)

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2		2							2	2	2	2	3	6	6	3	8	8	8	8	8	9	8	8
Out			2		2						2	2	2	2	3	6	6	3	8	8	8	8	8	9	8

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	8	8	4		9	124
Out	8	8	8	4	9	124

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EA-6B ICAP Block 82-89 UPDATE**

MODIFICATION TITLE: Block 89A Avionics Improvements (Osip 42-93)

INSTALLATION INFORMATION:

Method of Implementation: **Commercial - Turnkey**

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 12 Months

FY 1997: _____ FY 1998: _____ FY 1999: Nov-98

FY 1997: _____ FY 1998: _____ FY 1999: Oct-99

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (20) kits							**2**		**18**														**20**	
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL							2		18														20	

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					2	6	6	6																	
Out						2	6	6	6																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						20
Out						20

EA-6B Series Mod

ADDENDUM

OSIP 42-93

ECP: NAWC-WD-B89A-001

	PRIOR YEAR	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
Block 82 to 89A							**30,006**	**32,083**	**28,937**			**91,026**
Proc. Qty.							16	17	15			*48*
Proc. Unit Cost							1,875	1,887	1,929			
Installation Cost								23,140	25,132	21,588		69,860
Install Qty								16	17	15		*48*
Block 82 to 89			**59,450**									**59,450**
Proc. Qty.			20									*20*
Proc. Unit Cost			2,973									
Installation Cost			4,000									4,000
Install Qty												
***Turn key Procurement**												
Block 89 to 89A					**5,581**	**12,843**	**11,663**	**11,922**	**3,808**		**7,163**	**52,980**
Proc. Qty.					8	18	16	16	5		*9*	*72*
Proc. Unit Cost					698	714	729	745	762		*796*	
Installation Cost	100		76			6,306	8,785	9,946	8,177	2,332	7,950	43,672
Install Qty						8	18	16	16	5	*9*	*72*
ARC-199 RADIO CIU												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost				3	2	2	2	2	1			12
Install Qty												
Total Kits			**59,450**		**5,581**	**12,843**	**41,669**	**44,005**	**32,745**		**7,163**	**203,456**
Proc. Qty.			20		8	18	32	33	20		*9*	*140*
Installation Cost	100		4,076	3	2	6,308	8,787	33,088	33,310	23,920	*7,950*	*117,544*
Install Qty						8	18	32	33	20	*9*	*120*
GRAND TOTAL OTHER COST	66,171	9,062	36,519	26,351	22,006	18,301	33,417	32,154	33,491	16,531	810	
GRAND TOTAL APN-5	**66,271**	**9,062**	**100,045**	**26,354**	**27,589**	**37,452**	**83,873**	**109,247**	**99,546**	**40,451**	**15,923**	**615,813**

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
AV-8B Series Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	57.4		21.4	14.1	22.2	32.6	46.3	60.5	49.7	49.8	45.1	44.1	443.2

This line item funds modifications to AV-8B aircraft. The AV-8B is a single engine, single crew member aircraft capable of vertical/short take-off and landing (V/STOL) operations. The AV-8B meets the Marine Corps requirements for a light attack aircraft to provide responsive offensive air power that can operate austere forward bases in direct support of ground forces. The overall goal of the modifications budgeted in FY 1999 is to include incorporation of Global Positioning Systems for improved navigational capabilities; improved digital communications with the addition of the Automatic Target Hand-Off System; incorporation of the ARC-210 radio which provides UHF capability for CV based TACAIR, VHF FM for close air support and maritime channels; structure safety improvements in a new stabilator center section; replacement of power cable MIL-W-81381 wire with MIL-W-22759 wire; and development of Operational Safety improvements to landing gear and supporting airframe structure. These modifications are primarily safety related and must be incorporated in all configuration AV-8B aircraft as quickly as practical; therefore, they are being implemented independently from the remanufacture program, which converts day attack aircraft to the night attack configuration with radar.

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
1-91	Omnibus O&S Improvements	5.8	5.6	7.1	10.3	13.1	13.3	10.5	7.2	2.9	4.7	1.7	82.1
17-92	GPS	22.8		0.6	0.5	1.0							25.0
21-92	Auto. Target Hand-Off System	11.7	4.1	1.1	1.9	1.8	2.9	2.7	1.8	1.3			29.5
23-92	AN/ARC-210(V) EP Radio	1.9	1.6	0.3	0.2	3.6	0.7	1.8	1.5	1.3	0.7		13.5
34-93	Horizonal Stabilator Fatigue Impr.	10.0	3.2	1.6	1.3	0.5	0.5						17.2
35-93	Power Cable Ass'y Replacement	3.4	1.9	1.3									6.5
16-94	Aircraft Life Extension Program	1.8	4.3	1.2	3.2	2.1	11.2	5.8	8.4	7.1	5.3	22.2	72.6
32-94	CEEDS		0.7	*									0.7
3-96	KAPTON Wire Replacement			0.8	4.7	10.6	4.9	8.6	8.8	6.7	1.3		46.3
6-99	JDAM						1.6	5.9	7.8	8.0	8.1	2.1	33.5
7-99	Survivability & Vulnerability						9.4	23.4	9.4	18.8	21.3	17.6	99.8
8-99	Flight Incident Recorder						0.7	0.7	0.7	0.8	0.8	0.6	4.4
23-99	Mission Planning						1.1	1.1	4.1	3.0	3.0		12.2
TOTAL		**57.4**	**21.4**	**14.1**	**22.2**	**32.6**	**46.3**	**60.5**	**49.7**	**49.8**	**45.1**	**44.1**	**443.2**

* Indicates values less than 51K
Note: Totals may not add due to rounding.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: OMNIBUS Operational & Safety Improvements (OSIP 1-91)

MODELS OF SYSTEM AFFECTED: AV-8B TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The AV-8B is experiencing safety problems in the operation of the engine controls, the inlet guide vane controller, nose wheel steering, and the flap electronic controller. Current operation and design of existing components associated with the engine components (DECU & high JPT indication), the IGV controller, Nose Wheel Steering, and the Flap Electronic Controller module have all demonstrated failures which are safety related. The prime contractors (Engine/Rolls-Royce, Airframe/McDonnell Dougla have identified corrections for these deficiencies. These corrections are addressed by ECPs 251, 254,255,256, and 257 which will implement the required hardware and software changes, and will rectify the safety problems currently being experienced. In addition, the AV-8B weapon system program is still in the process of retrofitting approved improvements, deficiencies corrections, and warranty driven changes for those aircraft out of warranty. This Operational and Safety Improvement Program will bring all aircraft up to full production standard.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Design for IGVC, & NWS was completed third quarter FY 1997. NWS DT will be completed by December 1997. IGVC DT was completed in fourth quarter FY97. JPT & DECU designs were completed third quarter FY 1996 and validation testing was completed third quarter FY 1997. The Digital Flap Controller design will be completed first quarter FY 1998 and DT completed third quarter FY 1998. All of these ECPs will be first installed and tested in "in-production " aircraft.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								0.0
PROCUREMENT																								
Installation Kits		3.1		3.5		3.0		1.2		3.2		4.6		4.7		1.3		*		3.2		0.9		28.6
Installation Kit - Unit Price																								
Installation Kits N/R				0.9		2.1		0.2		0.1		0.1												3.4
Installation Equipment		*								5.7		6.7		3.2		2.5								18.1
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.4		0.4		0.8		0.4		0.9				*		*								2.8
Training Equipment		0.3				0.1		6.4		1.8		0.2		0.1										8.8
Support Equipment		0.9		0.3				0.4				0.1												1.8
ILS		0.4		0.6																				1.0
Other Support						1.2		1.6																2.8
Interim Contractor Support																								
Installation Cost		0.7				*		0.1		1.4		1.6		2.5		3.3		2.9		1.5		0.8		14.7
TOTAL PROCUREMENT		**5.8**		**5.6**		**7.1**		**10.3**		**13.1**		**13.3**		**10.5**		**7.2**		**2.9**		**4.7**		**1.7**		**82.1**

Note: Totals may not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **TAV-8B, AV-8B**

MODIFICATION TITLE: OMNIBUS Operational & Safety Improvements (OSIP 1-91)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation will be accomplished by organizational, intermediate and depot level maintenance**

ADMINISTRATIVE LEADTIME: _____ Months

PRODUCTION LEADTIME: _____ Months

CONTRACT DATES: FY 1997: _____ FY 1998: _____ FY 1999: _____

DELIVERY DATE: FY 1997: _____ FY 1998: _____ FY 1999: _____

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (+) kits		**0.7**				*		**0.1**																**0.8**
FY 1997 (+) kits										**1.4**														**1.4**
FY 1998 (+) kits												**1.6**												**1.6**
FY 1999 (+) kits														**2.5**										**2.5**
FY 2000 (+) kits																**3.3**								**3.3**
FY 2001 (+) kits																		**2.9**						**2.9**
FY 2002 (+) kits																				**1.5**				**1.5**
FY 2003 (+) kits																						0.8		**0.8**
To Complete (+) kits																								
TOTAL		0.7				*		0.1		1.4		1.6		2.5		3.3		2.9		1.5		0.8		14.7

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0																								
Out	0																								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	0
Out					0	0

+ See Addendum

T/AV-8B Series Mod
OSIP 01-91

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
MDA-251/NWS Kit			101		628	936	956	755				3,376
Proc. Qty.			4		24	35	35	27				125
Proc. Unit Cost			25		26	27	27	28				
Installation Cost					226	110	469	620	635	330		2,390
Install Qty					4	6	27	35	35	18		125
MDA-254/IGVC Airframe Kit			5		32	49	49	40				175
Proc. Qty.			4		24	35	35	27				125
Proc. Unit Cost			1		1	1	1	1				
Installation Cost					332	341	1,564	2,075	2,122	1,119		7,553
Install Qty					4	6	27	35	35	18		125
RR3759/IGVC Engine Kit					2,339	3,096	3,161	2,492				11,088
Proc. Qty.					27	35	35	27				124
Proc. Unit Cost					87	88	90	92				
Installation Cost					1	5	14	19	20	10		69
Install Qty					1	11	34	44	44	22		156
MDA-255R1/DFC Kit				2	81	90						173
Proc. Qty.				2	78	84						164
Proc. Unit Cost				1	1	1						
Installation Cost					6							6
Install Qty					2							2
MDA-256/JPT Indicator Kit			35									35
Proc. Qty.			139									139
Proc. Unit Cost			0									
Installation Cost												
Install Qty												
MDA-257/DECU Power Kit			9									9
Proc. Qty.			99									99
Proc. Unit Cost			0									
Installation Cost												
Install Qty												
Lucas-660/GTS/APU Upgrade				371	532	555						1,458
Proc. Qty. Rework				74	120	119						313
Proc. Unit Cost (No Kits)				5	4	5						
Installation Cost												
Install Qty												

T/AV-8B Series Mod
OSIP 01-91

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
Lucas 580/Exhaust Duct Rework				28								28
Proc. Qty.												
Proc. Unit Cost (No Kits												
Installation Cost												
Install Qty												
JSSA-01/C 1.0 OFP			425	756								1,181
Proc. Qty.			70	84								154
Proc. Unit Cost			6	9								
Installation Cost												
Install Qty												
CHPT-11R1/DSU Modification			468									468
Proc. Qty.			98									98
Proc. Unit Cost			5									
Installation Cost												
Install Qty												
MDA-085/Seat Thrusters												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost				46								46
Install Qty				15								15
MDA-126C4/LG Handle Mod			1,653									1,653
Proc. Qty.			249									249
Proc. Unit Cost (No Kits)			7									
Installation Cost												
Install Qty												
MDA-199/Night Attack Enhance												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost			18	39	101							158
Install Qty			1	5	15							21
MDA-269/Frame 12 Stiffner					63	200						263
Proc. Qty.					11	37						48
Proc. Unit Cost					6	5						
Installation Cost					190	597						787
Install Qty					11	37						48

T/AV-8B Series Mod
OSIP 01-91

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
MDA-248/PLAU Kits					56	1,117	1,536	529		1,307	900	5,445
Proc. Qty.					2	56	48	14		37	25	182
Proc. Unit Cost					28	20	32	38		35	36	
Installation Cost						72	420	620	153		776	2,041
Install Qty						2	56	48	14		62	182
MDA-TBD/Canopy Latch Kits					1,600	1,635	2,172			1,908		7,315
Proc. Qty.					33	33	43			36		145
Proc. Unit Cost					48	50	51			53		
Installation Cost												
Install Qty												
MDA-273/Bellcrank Kit			279									279
Proc. Qty.			178									178
Proc. Unit Cost			2									
Installation Cost												
Install Qty												
MDA-246/TAV Canopy					94							94
Proc. Qty.					18							18
Proc. Unit Cost					5							
Installation Cost					91							91
Install Qty					18							18
MDA-271/LERX				3	112							115
Proc. Qty.				1	52							53
Proc. Unit Cost				3	2							
Installation Cost					143	39						182
Install Qty					86	23						109
MDA-217/Emergency Battery		1,212										1,212
Proc. Qty.		58										58
Proc. Unit Cost		21										
Installation Cost					391	339						730
Install Qty					40	18						58
PRIOR YEAR VARIOUS	3,684	3,967										7,651
Proc. Qty.	Multiple Kits											
Proc. Unit Cost	Multiple Kits											
Installation Cost	586	77										663
Install Qty	Multiple Kits											
TOTAL Procurement Cost	4,896	5,179	2,975	1,160	5,537	7,678	7,874	3,816		3,215	900	34,367
TOTAL Proc. Qty.	Multiple Kits	Multiple Kits	841	161	389	434	196	95		73	25	2,272
TOTAL Installation Cost	586	77	18	85	1,481	1,503	2,467	3,334	2,930	1,459	776	14,053
Total Install Qty.	Multiple Kits	Multiple Kits	1	20	181	103	144	162	128	58	62	859
Total Buy/Install Cost	5,482	5,256	2,993	1,245	7,018	9,181	10,341	7,150	2,930	4,674	1,676	48,420
Other Costs	318	333	4,151	9,014	6,058	4,075	136	37				30,335
Total Cost	5,800	5,589	7,144	10,259	13,076	13,256	10,477	7,187	2,930	4,674	1,676	78,755

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: GLOBAL POSITIONING SYSTEM (OSIP 17-92)

MODELS OF SYSTEM AFFECTED: AV-8B TYPE MODIFICATION: GPS

DESCRIPTION/JUSTIFICATION:

The directed incorporation of GPS on the AV-8B presents a significant challenge due to the paucity of available airframe space. This issue can be resolved by removing the AN/ARN -118 and replacing it with the miniaturized airborne GPS receiver and the mini-TACAN. Acquisition of non development item (NDI) hardware provides the most cost effective approach to the GPS installation without incurring an additional weight penalty . Successful Close Air Support operations require accurate and reliable navigational systems during all phases of the mission to insure precise target location and fire control solutions. Day and night operations worldwide amplify the need for a navigational system with a high degree of accuracy like the GPS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/APN-153 (Mini TACAN) is an NDI item put in production by USATRADOC during FY 1989. The Miniaturized Airborne GPS Receiver (MAGR) is a separately funded item. Development and Operational Testing are complete and GPS functions were included in the Night Attack Operational Flight Program (OFP) released in January 1995. The Day Attack/TAV-8B OFP was released in April 1997 and the Combined Radar/Night Attack OFP was also released in April 1997.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E Element #64214N		1.1																						1.1
PROCUREMENT																								
Installation Kits	175	10.1																					175	10.1
Installation Kit - Unit Price		*0.1*																						0.1
Installation Kits N/R		1.5																						1.5
Installation Equipment		4.9																						4.9
Installation Equipment N/R		2.1																						2.1
Engineering Change Orders																								
Data		0.2																						0.2
Training Equipment		0.3				0.1				*														0.4
Support Equipment		*				0.5																		0.5
ILS		0.2																						0.2
Other Support		3.2																						3.2
Interim Contractor Support																								
Installation Cost	60	0.5			2	0.1	63	0.5	50	1.0													175	2.1
TOTAL PROCUREMENT		**22.8**				**0.6**		**0.5**		**1.0**														**25.0**

Note: Total may not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **AV-8B**

MODIFICATION TITLE: GLOBAL POSITIONING SYSTEM (OSIP 17-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation will be accomplished by Naval Aviation Depot field mod teams and drive in modification.**
NOTE: The MAGR is procured in Common Avionics OSIP 71-88.

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	1997	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (175) kits	**60**	**0.5**			**2**	**0.1**	**63**	**0.5**	**50**	**1.0**													**175**	**2.1**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	60	0.5			2	0.1	63	0.5	50	1.0													175	2.1

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	62		20	21	22	7	15	14	14																
Out	62		20	21	22	7	15	14	14																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	175
Out					0	175

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Automatic Target Hand-Off System (ATHS) (OSIP 21-92)

MODELS OF SYSTEM AFFECTED: AV-8B TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:

The ATHS is a digital data communications device which utilizes preformatted messages to communicate with standard USMC, USAF, and US Army digital communication devices. ATHS is required for the following reasons: (1) increased threat capabilities, (2) ground element transition to digital communications, (3) increased mission effectiveness and decreased pilot workload, (4) interoperability with USAF, USN, USMC, and US Army digital communication systems and (5) provide for eventual growth capability into voice activated crew station systems.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

ATHS is currently installed in the US Army OH-58 and AH-64 Apache helicopters and has been in full production for several years. The ATHS was designed for MIL-E-5400, Class I, helicopter applications. Design of the modification required to bring ATHS up to Class II TACAIR standards and to increase the data rate is complete. Flight demonstration was conducted in an AV-8B in November 1990. Hardware qualification testing was completed in November 1994 and DT flight testing of the ATHS software algorithms was completed in December 1994. A FOFAC (Forward Observer Forward Air Controller) demonstration with MANTS-1 (Marine Aviation Weapons & Tactics Squadron) occurred in February 1995. Preliminary operational testing was conducted in November 1995. Final DT/OT will confirm the software integration into the combined Night Attack & Radar Operational Flight Program which was released in May 1997.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								*
PROCUREMENT																								
Installation Kits	2	0.3	9	0.5	10	0.5	22	1.1	20	1.0	19	1.0	10	0.5									92	4.9
Installation Kit - Unit Price		*0.1*		*0.1*		*		*		*0.1*		*0.1*		*0.1*										
Installation Kits N/R		5.5		3.0																				8.5
Installation Equipment		0.2		0.6		0.4		0.9		0.8		0.8		0.4										4.0
Installation Equipment N/R		5.7																						5.7
Engineering Change Orders																								
Data																								
Training Equipment						*																		*
Support Equipment																								
ILS				*																				*
Other Support																								
Interim Contractor Support																								
Installation Cost	1	*			10	0.2					16	1.2	24	1.8	24	1.8	17	1.3					92	6.4
TOTAL PROCUREMENT		**11.7**		**4.1**		**1.1**		**1.9**		**1.8**		**2.9**		**2.7**		**1.8**		**1.3**						**29.5**

Note: Total may not add due to rounding

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **AV-8B**

MODIFICATION TITLE: Automatic Target Hand-Off System (ATHS) (OSIP 21-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation will be accomplished by Naval Aviation Depot by drive-in mod and field mod team.
Assumes concurrent installation with OSIP 23-92 (ARC-210)

ADMINISTRATIVE LEADTIME: 5 Months

PRODUCTION LEADTIME: 17 Months

CONTRACT DATES: FY 1997: Aug-97 FY 1998: Mar-98 FY 1999: Mar-99

DELIVERY DATE: FY 1997: Jan-99 FY 1998: Aug-99 FY 1999: Aug-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (21) kits	**1**	*			**10**	**0.2**					**10**	**0.7**											**21**	**0.9**
FY 1997 (22) kits											**6**	**0.5**	**11**	**0.9**	**5**	**0.4**							**22**	**1.8**
FY 1998 (20) kits													**13**	**0.9**	**7**	**0.5**							**20**	**1.4**
FY 1999 (19) kits															**12**	**0.9**	**7**	**0.5**					**19**	**1.4**
FY 2000 (10) kits																	**10**	**0.8**					**10**	**0.8**
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	1	*			10	0.2					16	1.2	24	1.8	24	1.8	17	1.3					92	6.3

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	11										4	6	6	6	6	6	6	6	6	6	6	6	6	5	
Out	11										4	6	6	6	6	6	6	6	6	6	6	6	6	5	

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	92
Out					0	92

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/ARC-210 Electronic Protection (EP) Combination Radio (OSIP 23-92)

MODELS OF SYSTEM AFFECTED: AV-8B TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:

The AN/ARC-210 is a combination UHF/VHF AM/FM jam-resistant radio that was developed as common avionics to allow for EP inter-operability with the Air Force, Army, and NATO. The radio provides dual UHF capability for CV based TACAIR; VHF FM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINCGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The EP parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVEQUICK and the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The non-recurring engineering integration contract to MCAIR was awarded in June 1994. Demonstration/Validation began in February 1996 and was completed September 1996 in conjunction with the combined Night Attack/Radar Operational Flight Program (C1.0) released in May1997. Incorporation of the ARC-210 HAVEQUICK and SINCGARS capability will be completed with the C2.0 software release in FY 2000.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			8	0.1	10	0.2	22	0.2	23	0.2	19	0.2	10	0.1									92	0.9
Installation Kit - Unit Price				*		*		*		*		*		*										
Installation Kits N/R		1.4		1.4						2.2														5.0
Installation Equipment		0.4												0.6		0.6		0.6		0.7				2.9
Installation Equipment N/R										0.4														0.4
Engineering Change Orders																								
Data		0.1		*						0.1														0.3
Training Equipment						*				0.3														0.3
Support Equipment										0.3														0.3
ILS										*														
Other Support						0.1																		0.1
Interim Contractor Support																								
Installation Cost					2	0.1			6	0.2	16	0.5	27	1.1	24	0.9	17	0.6					92	3.4
TOTAL PROCUREMENT		**1.9**		**1.6**		**0.3**		**0.2**		**3.6**		**0.7**		**1.8**		**1.5**		**1.3**		**0.7**				**13.4**

Note: Total may not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED:

AV-8B

MODIFICATION TITLE: AN/ARC-210 Electronic Protection (EP) Combination Radio (OSIP 23-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Combination of Naval Aviation Depot (NADEP) Drive-in Mod and Field Teams (2 radios per aircraft). Installation requires engine removal which is budgeted in and requires concurrent installation with OSIP 21-92 (ATHS).

NOTE: B-kits and common logistics requirements are funded in the AN/ARC-210 Common Avionics OSIP 4-94.

ADMINISTRATIVE LEADTIME: 5 Months

PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 1997: Aug-97 FY 1998: Mar-98 FY 1999: Mar-99

DELIVERY DATE: FY 1997: Dec-98 FY 1998: Jul-99 FY 1999: Jul-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (18) kits					2	0.1			6	0.2	10	0.3											18	0.6
FY 1997 (22) kits											6	0.2	16	0.7									22	0.9
FY 1998 (23) kits													11	0.5	12	0.4							23	0.9
FY 1999 (19) kits															12	0.4	7	0.3					19	0.7
FY 2000 (10) kits																	10	0.4					10	0.4
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL					2	0.1			6	0.2	16	0.5	27	1.1	24	0.9	17	0.6					92	3.4

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2					2	4				4	6	6	7	7	7	6	6	6	6	6	6	6	5	
Out	2					2	4				4	6	6	7	7	7	6	6	6	6	6	6	6	5	

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	92
Out					0	92

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Horizonal Stabilator Fatigue Improvements (OSIP 34-93)

MODELS OF SYSTEM AFFECTED: T/AV-8B TYPE MODIFICATION: Structural

DESCRIPTION/JUSTIFICATION:

Between November 1992 and February 1993 T/AV-8B operators reported 35 incidents of cracking in stabilator center section aluminum alloy ribs and spars. McDonnell Douglas Aerospace Corp. (MDA) has defined a new stabilator center section that changes the structural material to titanium alloy, provides selective material gage increases and changes stabilator pivot fittings from titanium alloy to steel. These changes were incorporated in production aircraft Cum 241 and subsequent. This OSIP provides for the design, test and procurement of an airframe change kit for retrofit of the new stabilator center section in all in-service T/AV-8B aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Development is not required. Basic engineering and design are complete. Contractor laboratory testing and Contractor/Navy flight testing of the modified stabilator was completed in September 1994. Validation and verification of a production representative aircraft change kit and technical directive by the NADEP was completed in May 1993.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								0.0
PROCUREMENT																								
Installation Kits	135	8.2	72	2.7																			207	10.9
Installation Kit - Unit Price		*0.1*		*																				0.1
Installation Kits N/R																								*
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		*																						*
Training Equipment																								
Support Equipment																								
ILS																								
Other Support						*																		*
Interim Contractor Support																								
Installation Cost	68	1.8	28	0.5	60	1.6	47	1.3	16	0.5	17	0.5											236	6.2
TOTAL PROCUREMENT		**10.0**		**3.2**		**1.6**		**1.3**		**0.5**		**0.5**												**17.2**

Note: Total may not add due to rounding.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T/AV-8B

MODIFICATION TITLE: HORIZONTAL STABILATOR FATIGUE IMPROVEMENTS (OSIP 34-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: The first kit was provided at no cost to the government. The installation is being accomplished by a Navy Drive-in Modification line.

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 1997: _____ FY 1998: _____ FY 1999: _____

DELIVERY DATE: FY 1997: _____ FY 1998: _____ FY 1999: _____

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (207) kits	**68**	**1.8**	**28**	**0.5**	**60**	**1.6**	**47**	**1.3**	**16**	**0.5**	**17**	**0.5**											**236**	**6.2**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	68	1.8	28	0.5	60	1.6	47	1.3	16	0.5	17	0.5											236	6.2

**NOTE: Installation includes 29 spare stabilators.

Installation Schedule 47 16 17

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	156	18	10	10	9	4	4	4	4	5	4	4	4												
Out	156	18	10	10	9	4	4	4	4	5	4	4	4												

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						236
Out					0	236

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Power Cable Assembly Replacement (OSIP 35-93)

MODELS OF SYSTEM AFFECTED: TAV-8B, AV-8B TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

Current power cable assemblies were manufactured with MIL-W-81381 wire and will be replaced with cables identical in form, fit and function but will be manufactured with MIL-W-22759 wire. Incorporation of this change will increase the inherent safety of the Day Attack aircraft. The present wire has been shown to be a flight hazard due to insulation chafing, electrical short circuiting and subsequent aircraft fires. Aircraft survivability will be improved due to the new wire insulation being more resistant to abrasion damage and having greater ability to survive battle damage. Wiring associated with the following aircraft components are affected: Main Generator, Auxiliary Power Unit and Battery/TRU, Power Distribution Panel, Power Switching Panel, Armament Relay Panel and Aft Relay Panel.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Several aircraft have had a fire in one of three wire cable assemblies. NADEP Cherry Point manufactured wire assemblies using MIL-W-22759 to replace MIL-W-81381 which posed a flight hazard due to insulation chafing, electrical short circuiting and subsequent fires. Initially, NADEP Cherry Point only manufactured and replaced wire bundles in aircraft which had sustained a fire. An increase in wire fires prompted NADEP Cherry Point to manufacture enough wire bundles to replace defective wiring in all aircraft. The cost of manufacturing and installing was funded by In-Service Repair (O&MN) funds. It was later determined that the replacement of these wires needed to be properly documented by a Technical Directive and a formal Engineering Change Proposal.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								0.0
PROCUREMENT																								
Installation Kits**		0.3	21	0.7	10	0.4																	31	1.5
Installation Kit - Unit Price				*		*																		
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		*																						*
Training Equipment																								
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost	90	3.0	26	1.1	17	0.8																	133	5.0
TOTAL PROCUREMENT		**3.4**		**1.9**		**1.3**																		**6.5**

** Replacement wiring Note: Total may not add due to rounding. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: TAV-8B, AV-8B

MODIFICATION TITLE: POWER CABLE ASSEMBLY REPLACEMENT (OSIP 35-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: AFC installation is being accomplished by NADEP Drive-in Mod. Power cable assembly replacement involves two ECPs. ECP-10 replaces the Power Cable and ECP-19 replaces the Power Panel wiring. Installation is simultaneous where possible. Kit quantities are different because some ECP-19 panels will be rewired by the NADEP and installed at organizational level.

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (31) kits	**90**	**3.0**	**26**	**1.1**	**17**	**0.8**																	**133**	**5.0**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	90	3.0	26	1.1	17	0.8																	133	5.0

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	133																								
Out	133																								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	133
Out					0	133

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Aircraft Life Extension Program (ALEP) (OSIP 16-94)

MODELS OF SYSTEM AFFECTED: AV-8B, TAV-8B TYPE MODIFICATION: Obsolesent

DESCRIPTION/JUSTIFICATION:

ALEP is required to develop S,R&M modifications resolving known problems with critical life pacing items such as landing gear, their supporting airframe structure and other life limiting components (stabilator, vertical tail). The specification for the Harrier II calls out that the aircraft will have 6,000 service hours fatigue life but usage has given an approximate life of 11,000 service hours for the wing structure. During the landing gear service life assessment program, the service life of the landing gear components increased 2 to 3 fold and back-up structure service life increased to at least the Remanufacture specification life of 9,500 service hours. Other life limited structures (such as the stabilator, vertical tail and flaps) have become critical to track the service life. Additional teardown of high time fuselage and test article structures and analysis will increase the life of the airframe. To obtain theses increases in service life, modifications to the Fatigue Tracking System are required. These include adding a full component life tracking system and resolution of problems with the current system. Increasing the capability of the current onboard systems with the addition of a Video Fatigue Data Recorder is required in order to support total airframe service life. Structural performance for overall airframe life will reach sufficient maturity to allow full assessment for a full aircraft structural life assessment validation program that will be initiated to confirm structural performance and identify and life critical characteristics.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Analysis began in early FY 1994. Development of specific milestones will be ongoing. AFP not applicable.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits +										0.1		0.2		0.2		0.3		0.2		0.9		6.9		8.8
Installation Kit - Unit Price																								
Installation Kits N/R		1.8		4.3		0.7		1.4		1.7		8.9		3.0		5.8		3.8		3.1		1.5		36.0
Installation Equipment								1.1		0.4		0.9		0.9		0.9		0.6						4.8
Installation Equipment N/R						0.4		0.7																1.1
Engineering Change Orders																								
Data												0.5						0.2		0.1				0.8
Training Equipment												0.2												0.2
Support Equipment												0.2						0.2						0.4
ILS						0.1												0.2						0.3
Other Support																		0.2						0.2
Interim Contractor Support																								
Installation Cost												0.2		1.7		1.4		1.7		1.3		13.7		20.1
TOTAL PROCUREMENT		**1.8**		**4.3**		**1.2**		**3.2**		**2.1**		**11.2**		**5.8**		**8.4**		**7.1**		**5.3**		**22.2**		**72.7**

+ See addendum Note: Total may not add due to rounding. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: AV-8B, TAV-8B

MODIFICATION TITLE: Aircraft Life Extension Program (ALEP) (OSIP 16-94)

INSTALLATION INFORMATION: VFDR Encoder

METHOD OF IMPLEMENTATION: Video Fatigue Data Recorders will be installed at "O" & "D" levels.

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 1997: Jul-97 FY 1998: Jan-98 FY 1999: Jan-99

DELIVERY DATE: FY 1997: Apr-98 FY 1998: Jan-99 FY 1999: Jan-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 (20) kits											**20**	**0.2**											**20**	**0.2**
FY 1999 (48) kits													**48**	**0.6**									**48**	**0.6**
FY 2000 (48) kits															**48**	**0.6**							**48**	**0.6**
FY 2001 (48) kits																	**48**	**0.6**					**48**	**0.6**
FY 2002 (29) kits																			**29**	**0.4**			**29**	**0.4**
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL											20	0.2	48	0.6	48	0.6	48	0.6	29	0.4			193	2.3

Installation Schedule VFDR, Encoder

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											5	5	10	12	12	12	12	12	12	12	12	12	12	12	12
Out											5	5	10	12	12	12	12	12	12	12	12	12	12	12	12

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	12	12	5			193
Out	12	12	5			193

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: AV-8B, TAV-8B

MODIFICATION TITLE: Aircraft Life Extension Program (ALEP) (OSIP 16-94)

INSTALLATION INFORMATION: Main Landing Gear (MLG) backup structure

METHOD OF IMPLEMENTATION: Modification of backup structure and AFC installation will be accomplished by NADEP Drive-in Mod.

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 (4) kits													4	0.6									**4**	**0.6**
FY 2000 (4) kits															4	0.6							**4**	**0.6**
FY 2001 (4) kits																	4	0.6					**4**	**0.6**
FY 2002 (4) kits																			4	0.6			**4**	**0.6**
FY 2003 (4) kits																					4	0.6	**4**	**0.6**
To Complete (1) kits																					1	0.2	1	0.2
TOTAL													4	0.6	4	0.6	4	0.6	4	0.6	5	0.8	21	3.2

Note: Cost is sum of cost to install MLG mod and cost to remove & replace the wing & engine (eg FY00: 0.481+ 0.152 = 0.633)

Installation Schedule MLG backup structure - must be concurrent with NLG structure.

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In														1	1	1	1	1	1	1	1	1	1	1	1
Out															1	1	1	1	1	1	1	1	1	1	1

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	1	1	1	1	5	21
Out	1	1	1	1	6	21

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: AV-8B, TAV-8B

MODIFICATION TITLE: Aircraft Life Extension Program (ALEP) (OSIP 16-94)

INSTALLATION INFORMATION: Nose Landing Gear (NLG) structure

METHOD OF IMPLEMENTATION: Modification of backup structure and AFC installation will be accomplished by NADEP Drive-in Mod.

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 (4) kits													4	0.5									4	0.5
FY 2000 (2) kits															2	0.3							2	0.3
FY 2001 (4) kits																	4	0.6					4	0.6
FY 2002 (2) kits																			2	0.3			2	0.3
FY 2003 (2) kits																					2	0.3	2	0.3
To Complete (1) kits																					1	0.2	1	0.2
TOTAL													4	0.5	2	0.3	4	0.6	2	0.3	3	0.5	15	2.1

Installation Schedule Must be concurrent with MLG backup structure.

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In														1	1	1	1		1		1	1	1	1	1
Out															1	1	1	1		1		1	1	1	1

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In		1		1	3	15
Out	1		1		4	15

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: AV-8B, TAV-8B

MODIFICATION TITLE: Aircraft Life Extension Program (ALEP) (OSIP 16-94)

INSTALLATION INFORMATION: Airframe modifications including Frame 29, Frame 23 and Aft airframe modifications.

METHOD OF IMPLEMENTATION: Modification of backup structure and AFC installation will be accomplished by NADEP Drive-in Mod.

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 (7) kits																					7	1.3	7	1.3
To Complete (50) kits																					50	11.2	50	11.2
TOTAL																					57	12.5	57	12.5

Note: Installations include 5 Frame 29 kits, 2 Frame 23 kits and 50 Aft Airframe kits. Wing & engine must be removed for Aft Airframe modification.

Installation Schedule Airframe modifications

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																									
Out																									

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					57	57
Out					57	57

T/AV-8B Series Mod

OSIP 16-94

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
JSSA 02/VFDR Encoder Kit					**0.1**	**0.1**	**0.1**	**0.1**	**0.1**			**0.4**
Proc. Qty.					20	48	48	48	29			193
Proc. Unit Cost					*	*	*	*	*			
Installation Cost						0.2	0.6	0.6	0.6	0.4		2.3
Install Qty						20	48	48	48	29		193
TBD/MLG Drag Beam Kit						**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	*****	**0.4**
Proc. Qty.						4	4	4	4	4	1	21
Proc. Unit Cost						*	*	*	*	*	*	
Installation Cost							0.5	0.4	0.4	0.4	0.6	2.3
Install Qty							4	4	4	4	5	21
Engine/Wing R&R for MLG Beam												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost							0.2	0.2	0.2	0.2	0.2	0.8
Install Qty							[4]	[4]	[4]	[4]	[5]	
TBD/Nose Landing Gear Kit						**0.1**	*****	**0.1**	*****	**0.1**	*****	**0.4**
Proc. Qty.						4	2	4	2	2	1	15
Proc. Unit Cost						*	*	*	*	*	*	
Installation Cost							0.5	0.3	0.6	0.3	0.4	2.1
Install Qty							4	2	4	2	3	15
TBD/Frame 29 Kit										*****	*****	*****
Proc. Qty.										1	4	5
Proc. Unit Cost										*	*	
Installation Cost											0.1	0.1
Install Qty											5	5
TBD/Frame 23 Kit										*****	*****	*****
Proc. Qty.										1	1	2
Proc. Unit Cost										*	*	
Installation Cost											*	*
Install Qty											2	2

T/AV-8B Series Mod

OSIP 16-94

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
TBD/Aft Airframe Kit										**0.7**	**6.9**	**7.6**
Proc. Qty.										5	45	50
Proc. Unit Cost										0.1	0.2	
Installation Cost											10.3	10.3
Install Qty											50	50
Engine/Wing R&R for Aft A/F Kit												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost											2.1	2.1
Install Qty											[50]	
TOTAL Procurement Cost	*	*	*	*	**0.1**	**0.2**	**0.2**	**0.3**	**0.2**	**0.9**	**6.9**	**8.8**
TOTAL Proc. Qty.					20	56	54	56	35	13	52	286
TOTAL Installation Cost	*	*	*	*	*	**0.2**	**1.7**	**1.4**	**1.7**	**1.3**	**13.7**	**20.1**
Total Install Qty.						20	56	54	56	35	65	286
TOTAL Buy/Install Cost	*	*	*	*	0.1	0.5	1.9	1.7	1.9	2.1	20.7	28.9
OTHER	1.8	4.3	1.2	3.3	2.0	10.7	3.9	6.7	5.2	3.2	1.5	43.8
TOTAL COST	1.8	4.3	1.2	3.3	2.1	11.2	5.8	8.4	7.1	5.3	22.2	72.7

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: KAPTON Wire Replacement (OSIP 3-96)

MODELS OF SYSTEM AFFECTED: TAV-8B TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

This S,R&M modification is required to replace the MIL-W-81381 (KAPTON) wiring with MIL-W-22759 (TEFZEL) wiring in TAV-8B aircraft delivered prior to September 1989. TAV-8B's with KAPTON (MIL- W-81381) insulated wire suffer from high failure rate due to frequent incidents of chafing resulting in wire fires. The KAPTON (MIL-W-81381) wired airplanes also require frequent and costly maintenance actions to continue flying. TAV-8B aircraft, cum 16 & subsequent have deleted the KAPTON (MIL-W-81341) insulated wiring and replaced it with irradiated TEFZEL wiring which is much more resistant to chafe & fire.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This modification was developed in conjunction with the Night Attack Program and is incorporated in the current production baseline. AFP not applicable.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits									3	7.3	1	2.5	3	6.9	3	7.0	2.0	4.8					12	28.6
Installation Kit - Unit Price										*2.4*		*2.5*		*2.3*		*2.3*		*2.4*						
Installation Kits N/R						0.8		4.7																5.5
Installation Equipment																								
Installation Equipment N/R										0.5		0.1												0.6
Engineering Change Orders																								
Data										2.4		0.3												2.7
Training Equipment																								
Support Equipment										0.1														0.1
ILS																								
Other Support										0.2														0.2
Interim Contractor Support																								
Installation Cost											1	2.0	3	1.8	3	1.8	3	1.8	2	1.3			12	8.7
TOTAL PROCUREMENT						**0.8**		**4.7**		**10.6**		**4.9**		**8.6**		**8.8**		**6.7**		**1.3**				**46.3**

Note: Totals may not add due to rounding. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **TAV-8B**

MODIFICATION TITLE: KAPTON Wire Replacement (OSIP 3-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **AFC installation will be accomplished by Naval Aviation Depot Drive-in Mod.**

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1997: FY 1998: Jan-98 FY 1999: Jan-99

DELIVERY DATE: FY 1997: FY 1998: Jan-99 FY 1999: Jan-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 (3) kits											**1**	**2.0**	**2**	**1.2**									**3**	**3.2**
FY 1999 (1) kits													**1**	**0.6**									**1**	**0.6**
FY 2000 (3) kits															**3**	**1.8**							**3**	**1.8**
FY 2001 (3) kits																	**3**	**1.8**					**3**	**1.8**
FY 2002 (2) kits																			**2**	**1.3**			**2**	**1.3**
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL											1	2.0	3	1.8	3	1.8	3	1.8	2	1.3			12	8.7

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0											1		1	1		1		1	1	1		1	1	1
Out	0													1	1	1		1		1	1	1		1	1

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In		1	1		0	12
Out	1		1	1	0	12

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Joint Direct Attack Munition (JADM) Provisions (OSIP 6-99)

MODELS OF SYSTEM AFFECTED: AV-8B TYPE MODIFICATION: Combat Enhancement

DESCRIPTION/JUSTIFICATION:

The AV-8B has a requirement for incorporation of Joint Direct Attack Munition (JADM) capability on Night Attack and Radar configured aircraft. Incorporation of this generation of "smart" munitions on the AV-8B is essential to maintain and satisfy the requirements for Close Air Support. Integration of the JADM requires both upgrading the aircraft weapons integration standard to MIL-STD-1760B protocols and upgrading the aircraft Operational Flight Program. MIL-STD-1760B requires modification of station/aircraft wiring, changes to the Stores Management Computer, and actual stores station hardware. The design, integration and testing of MIL-STD-1760B will be done on the AV-8B (Radar) remanufacture production program. JADM integration and the software upgrade is funded i n RDT&E. This OSIP will retrofit MIL-STD-1760B capability into AV 8B Night Attack and Radar aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

JADM provisions will be validated and verified by the NADEP using the first three production representative aircraft change kits and associated technical directives.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits											3	0.7	24	5.6	24	5.7	24	5.8	22	6.0			97	23.7
Installation Kit - Unit Price												*0.2*		*0.2*		*0.2*		*0.2*		*0.3*				
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data												1.0												1.0
Training Equipment																								
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost													3	0.4	24	2.1	24	2.1	24	2.2	22	2.1	97	8.8
TOTAL PROCUREMENT												**1.6**		**5.9**		**7.8**		**8.0**		**8.1**		**2.1**		**33.5**

Note: Totals may not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **AV-8B**

MODIFICATION TITLE: Joint Direct Attack Munition (JADM) Provisions (OSIP 6-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **AFC installation will be accomplished by Naval Aviation Depot Drive-in Mod.**

ADMINISTRATIVE LEADTIME: 5 Months

PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999: Mar-99

DELIVERY DATE: FY 1997: FY 1998: FY 1999: Dec-99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 (3) kits													**3**	**0.4**									**3**	**0.4**
FY 2000 (24) kits															**24**	**2.1**							**24**	**2.1**
FY 2001 (24) kits																	**24**	**2.1**					**24**	**2.1**
FY 2002 (24) kits																			**24**	**2.2**			**24**	**2.2**
FY 2003 (22) kits																					**22**	**2.1**	**22**	**2.1**
To Complete ( ) kits																								
TOTAL													3	0.4	24	2.1	24	2.1	24	2.2	22	2.1	97	8.8

Installation Schedule

		FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In			1	2		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	4				
Out				1	2		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	4			

	FY 2006				To Complete	TOTAL
	1	2	3	4		
In						97
Out						97

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Survivability & Vulnerability (OSIP 7-99)

MODELS OF SYSTEM AFFECTED: AV-8B TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:

Desert Storm lessons highlighted the need for improved electronic warfare capabilities, particularly in the susceptibility to IR threats. This OSIP funds the retrofit of the AN/ALE-47 Flare/Chaff dispenser, the Advanced Strategic And Tactical Expendables (ASTE) and the Combined Missile Warning System (CMWS) into the AV-8B. The AN/ALE-47 dispenser will replace the AN/ALE-29/39 system currently installed in the AV-8B and will provide provisions for launching advanced expendables. CMWS will provide a passive IR missile detection and warning capability, will analyze sensor input, declare threats and provide expendable commands to the ALE-47. In order to provide the necessary computing power for the AV-8B this OSIP updates and replaces the mission computer and the stores management computer.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ALE-47 is past MS-III and is currently in production. CMWS and ASTE are being developed jointly by the USN,/USAF/USA under the overall banner of the Improved Defensive Electronic Countermeasures (IDECM) program with integration into the AV-8B being funded by PMA-272. CMWS MS-III is scheduled for FY00.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits													7	2.3	6	1.9	33	10.7	48	16.4	36	12.6	130	43.8
Installation Kit - Unit Price														*0.3*		*0.3*		*0.3*		*0.3*		*0.3*		
Installation Kits N/R												0.2		1.1										1.4
Installation Equipment											32	9.2	44	11.4	19	4.4	48	7.5	48	4.3	36	3.4	227	40.2
Installation Equipment N/R																								
Engineering Change Orders														0.1										0.1
Data														1.4		2.8		0.5						4.7
Training Equipment														1.4										1.4
Support Equipment														0.4		0.2								0.6
ILS																*								*
Other Support														5.2										5.2
Interim Contractor Support																								
Installation Cost															4	0.1	9	0.2	33	0.6	84	1.6	130	2.5
TOTAL PROCUREMENT												**9.4**		**23.4**		**9.4**		**18.8**		**21.3**		**17.6**		**99.8**

Note: Totals may not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **AV-8B**

MODIFICATION TITLE: Survivability & Vulnerability (OSIP 7-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **AFC installation will be accomplished by Naval Aviation Depot Drive-in Mod.**

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 15 Months

CONTRACT DATES: FY 2000: Mar-00 FY 2001: FY 2002: Jan-02

DELIVERY DATE: FY 2000: Jun-01 FY 2001: FY 2002: Apr-03

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 (7) kits															**4**	**0.1**	**3**	*****					**7**	**0.2**
FY 2001 (6) kits																	**6**	**0.1**					**6**	**0.1**
FY 2002 (33) kits																			**33**	**0.6**			**33**	**0.6**
FY 2003 (48) kits																					48	0.9	**48**	**0.9**
To Complete (36) kits																					36	0.7	36	0.7
TOTAL															4	0.1	9	0.2	33	0.6	84	1.6	130	2.5

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																					4	2	2	2	3
Out																						4	2	2	2

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	9	8	8	8	84	130
Out	3	9	8	8	92	130

TAV-8B Series Mod

OSIP 7-99

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
MSC &WMC (B KITS)						**9,181**	**10,838**	**3,892**	**4,598**			**28,509**
Proc. Qty.						32	37	13	15			97
Proc. Unit Cost						287	293	299	307			
Installation Cost												
Install Qty												
CMWS/ALE-47 (A KITS)							**2,287**	**1,850**	**10,678**	**16,362**	**12,584**	**43,761**
Proc. Qty.							7	6	33	48	36	130
Proc. Unit Cost							327	308	324	341	350	
Installation Cost								113	160	601	1,611	2,485
Install Qty								4	9	33	84	130
CMWS/ALE-47 (B KITS)							**584**	**511**	**2,880**	**4,294**	**3,390**	**11,659**
Proc. Qty.							7	6	33	48	36	130
Proc. Unit Cost							83	85	87	89	94	
Installation Cost												
Install Qty												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost												
Install Qty												
TOTAL Procurement Cost						**9,181**	**13,709**	**6,253**	**18,156**	**20,656**	**15,974**	**83,929**
TOTAL Proc. Qty.						32	51	25	81	96	72	357
TOTAL Installation Cost								**113**	**160**	**601**	**1,611**	**2,485**
Total Install Qty.								4	9	33	84	130
TOTAL Kit/Installation Cost						9,181	13,709	6,366	18,316	21,257	17,585	86,414
Other Costs						248	9,658	3,047	476			13,429
TOTAL Cost						9,429	23,367	9,413	18,792	21,257	17,585	99,843

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Flight Incident Recorder Provisions (OSIP 8-99)

MODELS OF SYSTEM AFFECTED: AV-8B, TAV-8B TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The AV-8B aircraft does not presently contain survivable Flight Incident Recorder (FIR) system. In December 1994, CNO initiated a program to establish this capability for all Navy aircraft. In May 1995, CNO established the policy for implementation which included incorporation into existing and remanufactured AV-8B aircraft. The aircraft modification will satisfy the requirements established by the CNO policy by installing a voice/data recording system which is crash survivable, capable of monitoring and capturing 1553 bus flight data and storing this data on a First In/First Out (FIFO) for 30 minutes flight time. The design, testing and installation of this system will be accomplished in the AV-8B (Radar) remanufacture production program. The funding identified in this OSIP continues the installation of a FIR system in all existing AV-8B and TAV-8B aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Flight Incident Recorder B-Kit is a COTS/NDI managed by PMA-209.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits											33	0.2	33	0.2	33	0.2	33	0.2	33	0.2			165	0.9
Installation Kit - Unit Price												*		*		*		*		*				
Installation Kits N/R												0.2												0.2
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data												0.3												0.3
Training Equipment												0.1												0.1
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost													33	0.6	33	0.6	33	0.6	33	0.6	33	0.6	165	2.9
TOTAL PROCUREMENT												**0.7**		**0.7**		**0.7**		**0.8**		**0.8**		**0.6**		**4.4**

Note: Totals may not add due to rounding. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **AV-8B, TAV-8B**

MODIFICATION TITLE: Flight Incident Recorder (OSIP 8-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **AFC installation will be accomplished by Naval Aviation Depot Drive-in Mod.**
Note: B-Kits and common logistic requirements are funded in the CS/FIR Commons Avionics OSIP 43-94.

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 1997: _____ FY 1998: _____ FY 1999: Jan-99

DELIVERY DATE: FY 1997: _____ FY 1998: _____ FY 1999: Oct-99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 (33) kits													**33**	**0.6**									**33**	**0.6**
FY 2000 (33) kits															**33**	**0.6**							**33**	**0.6**
FY 2001 (33) kits																	**33**	**0.6**					**33**	**0.6**
FY 2002 (33) kits																			**33**	**0.6**			**33**	**0.6**
FY 2003 (33) kits																					33	0.6	**33**	**0.6**
To Complete ( ) kits																								
TOTAL													33	0.6	33	0.6	33	0.6	33	0.6	33	0.6	165	2.9

Installation Schedule

		FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In														8	8	8	9	8	8	8	9	8	8	8	9
Out														8	8	8	9	8	8	8	9	8	8	8	9

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In	8	8	8	9	33	165
Out	8	8	8	9	33	165

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Mission Planning (OSIP 23-99)

MODELS OF SYSTEM AFFECTED: AV-8B TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:

Update of current AV-8B Mission Planning Systems and transition to the Tactical Aircraft Mission Planning System (TAMPS) is required as part of the DON directed migration to a common Navy and Marine Corps mission planning system. Updates of legacy systems will: eliminate old and proprietary software incompatible with TAMPS, introduce TAMPS mission planning software, and develop the Mission Planning Module (MPM) required for conversion to TAMPS. TAMPS is used to develop, analyze, store and download mission planning data into the AV-8B. Conversion to TAMPS will greatly improve mission and strike planning data using threat intelligence, target data, mapping information, imagery and weapons data. It will also provide a number of mission planning tools: stores planning, GPS waypoints, 2D and 3D perspective mission views, flight profile display, and route analysis. Along with electronics input of mission planning data, TAMPS will produce hardcopy flight plans and strip maps.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

AV-8B Mission Planning will involve a phased conversion to TAMPS starting with upgrade of the current Mission Planning System and the Mission Planning Module (MPM) software release along with the AV-8B OC1.1 Operational Flight Program (OFP) in FY-00. A transitional TAMPS based MPM upgrade will be released with the OC1.2 upgrade in FY-01. The full TAMPS transition will be complete with the release of the MPM accompanying the OC1.3 OFP release at the start of FY-03.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R												0.8		0.6		2.3		2.0		1.4				7.2
Engineering Change Orders																								
Data												0.2		0.2		0.6		0.3		0.5				1.6
Training Equipment																0.1		*		*				0.1
Support Equipment																								
ILS																								
Other Support												0.1		0.3		1.1		0.6		1.1				3.3
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT												**1.1**		**1.1**		**4.1**		**3.0**		**3.0**				**12.2**

Note: Totals may not add due to rounding. **Exhibit P-3a**

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
F-14 Series Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	347.6		137.1	114.5	226.5	290.5	229.5	85.5	8.5	26.5	20.6	20.3	1,507.0

This line item funds modifications to the F-14 aircraft. The F-14 is a twin-engined, two seat, variable sweep, supersonic strike fighter capable of engaging multiple targets simultaneously at altitudes from sea level to 80,000 feet. The overall goal of the modifications budgeted in FY 1999 is to maintain the F-14 as a viable warfighting platform with structural improvements to the airframe ensuring its continued integrity, the incorporation of a number of safety and modernization improvements, upgrades to the F-14B series aircraft to improve and extend its useful life, the incorporation of the GPS and Embedded GPS/INS (EGI) avionics package, the inclusion of a comprehensive precision strike fighter capability for fleet long range high payload strike missions. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
152-83	Structural Improvements	185.2	5.7	14.0	38.6	64.2	82.4	63.9	6.8	25.3	19.8	20.3	526.2
4-92	SDRS		1.5										1.5
33-92	Structural/Survivability Block Upgrade	159.7	106.8	18.9	57.4	55.5	33.0	8.6					439.9
12-94	Digital Flight Control	*		6.6	31.9	32.3	14.6	3.4					88.8
31-94	GPS/Embedded GPS	2.7	10.5	0.1	15.3	19.8	6.1	2.4					57.0
42-95	Precision Strike Program		12.6	68.6	77.4	110.6	85.6	5.6	1.7	1.3	0.8		364.0
15-96	F-14D ASPJ			5.9	5.9								11.8
20-96	F-14 Critical Systems & Component Modernization					8.0	7.9	1.6					17.5
	OSIPs Less Than $1M			0.3									0.3
TOTAL		**347.6**	**137.1**	**114.5**	**226.5**	**290.5**	**229.5**	**85.5**	**8.5**	**26.5**	**20.6**	**20.3**	**1,507.0**
	RESERVE FUNDING						0.2	0.5					

Note: Totals may not add due to rounding. * - Value is < $50K.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Structural Improvements (OSIP 152-83)

MODELS OF SYSTEM AFFECTED: F-14A/B/D

TYPE MODIFICATION: Structural Life Extension/Safety/Reliability

DESCRIPTION/JUSTIFICATION:

A full scale test on F-14 "Aircraft 98" mounted test rig at Grumman, Bethpage was concluded in 1995. The goal of the fatigue test was 18,000 hours, approximately equivalent to 9,000 hours flight time. A total of 17,349 test hours were completed. The point at which structural ECP'S are initiated depends upon the type of failure discovered in testing and its location in the aircraft structure. When a critical load path involving safety is compromised, a determination is made as to how many flight hours can be flown before aircraft become structurally unsafe to fly. Various fatigue analysis models, plus Aircraft 98 Test Data, determine the point at which flying must stop and repairs be performed in order to reach or extend the aircraft fatigue life. All modifications are based on the results of such tests. The primary structural improves in the OSIP are 5,000, 7,000, and 9,000 hour Time Compliance Requirements.

This OSIP also includes follow-on outer wing panel fatigue testing, wire fatigue testing, and several other airframe modifications: FS 353 Frame Replacement, Back-up Flight Control, TF-30 Breather Pressure, PHOENIX Fairing Latches, Outer Wing Panel Leading Edge Repair, as well as NRE for Flap/Slat and RAM AIR in FY 97 for which kits will be bought in OSIP 20-96.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Northrop-Grumman Aerospace Corporation completed fatigue tests to provide failure data. The ECP's procured under OSIP 152-83 are to support those aircraft that require various Time Compliance Requirements (TCR). 5,000 Hour TCR (5K TCR) incorporates ECP-1225 (AFC-776) and ECP-1227 (AFC-790, AFC-837). 7,000 Hour TCR (7K TCR) is ECP-1243 (AFC-802). 9,000 Hour TCR (9K TCR), ECP-1287, is being designed, tested and procured with AFC in development. The TCR's are also expressed in percent of Fatigue Life Expended (FLE). All F-14's required to sustain inventory requirements will receive 5K TCR's. F-14B's and F-14D's will receive 7K and 9K TCR's. These corrections will be performed concurrently, whenever possible, to minimize installation costs.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits*	6,584	84.8	380	3.2	193	6.6	579	6.0	167	22.3	59	19.8	2	1.1	9	4.8	18	9.9	2	1.1	10	5.7	8,003	165.4
Installation Kit - Unit Price		*12.9*		*8.5*		*34.4*		*10.4*		*133.6*		*335.8*		*530.0*		*533.0*		*552.0*		*563.0*		*574.1*		
Installation Kits N/R		13.3				4.3		14.5		8.8		6.8		0.2										47.9
Installation Equipment								0.2		0.5		1.0		1.1		0.1		0.3		0.3		0.1		3.7
Installation Equipment N/R																								
Engineering Change Orders																								
Data		4.1		0.6				0.5		0.3		0.5		0.0										6.1
Training Equipment		0.1																						0.1
Support Equipment		1.0																						1.0
ILS																								
Other Support		0.1						2.1		1.4		1.6		2.5				0.4		0.4		0.4		8.9
Interim Contractor Support																								
Installation Cost		81.8		1.8		3.1		15.3		30.8		52.7		59.0		2.0		14.7		18.0		13.9		293.0
TOTAL PROCUREMENT		**185.2**		**5.7**		**14.0**		**38.6**		**64.2**		**82.4**		**63.9**		**6.9**		**25.3**		**19.8**		**20.3**		**526.2**

* See addendum for individual kit data. Note: Totals may not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/D

MODIFICATION TITLE: Structural Improvements (OSIP 152-83) ECP-1225/1227/1243/1287 (5K, 7K, 9K KITS)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP & commercial depot concurrent with SDLM; NADEP and contractor field mod. teams (FMT);drive-in mods.(DIM), organizational and intermediate level installs.

ADMINISTRATIVE LEADTIME: 7 Months

PRODUCTION LEADTIME: 11 Months

CONTRACT DATES: FY 1997: 04/97 FY 1998: 04/98 FY 1999: 04/99

DELIVERY DATE: FY 1997: 03/98 FY 1998: 03/99 FY 1999: 03/00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (326) kits	219	34.9	22	1.8	30	3.1	24	11.6	29	21.9	11	8.8											335	82.1
FY 1997 (24) kits									11	4.6	12	9.6	1	0.8									24	15.1
FY 1998 (62) kits											38	30.5	24	20.2									62	50.7
FY 1999 (59) kits													45	37.9	2	2.1	12	8.8					59	48.8
FY 2000 (2) kits																	2	1.5					2	1.5
FY 2001 (9) kits																	6	4.4	3	3.0			9	7.4
FY 2002 (18) kits																			15	15.0	3	3.0	18	18.0
FY 2003 (2) kits																					2	2.0	2	2.0
To Complete (10) kits																					10	10.1	10	10.1
TOTAL	219	34.9	22	1.8	30	3.1	24	11.6	40	26.5	61	48.9	70	58.9	2	2.1	20	14.7	18	18.0	15	15.1	521	235.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	271	5	6	6	7	8	10	11	11	15	15	15	16	16	19	17	18	1		1		5	5	5	5
Out	251	7	7	8	8	8	6	6	7	8	10	11	11	15	15	15	16	16	19	17	18	1		1	

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	4	5	4	5	15	521
Out	5	5	5	5	20	521

* See addendum for individual kit data.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/D

MODIFICATION TITLE: Structural Improvements (OSIP 152-83) ARC-182 (AFC-741)/ECP-1285 (MATL)/ECP-305 (BUFCOM)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP & commercial depot concurrent with SDLM; NADEP and contractor field mod. teams (FMT);drive-in mods.(DIM), organizational and intermediate level installs.

ADMINISTRATIVE LEADTIME: 1 Month

PRODUCTION LEADTIME: 1 Month

CONTRACT DATES: FY 1997: 10/97 FY 1998: FY 1999:

DELIVERY DATE: FY 1997: 11/97 FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (9) kits							3	0.2	3	0.2	3	0.2											9	0.6
FY 1997 (400) kits							99	1.7	280	1.8	21	0.5											400	4.0
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL							102	1.9	283	2.0	24	0.7											409	4.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		25	26	25	26	70	71	71	71	10	10	4													
Out		25	26	25	26	70	71	71	71	10	10	4													

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						409
Out						409

* See addendum for individual kit data.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/D

MODIFICATION TITLE: Structural Improvements (OSIP 152-83) ECP-304 (F.S. 353 FRAME KITS)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP & commercial depot concurrent with SDLM; NADEP and contractor field mod. teams (FMT);drive-in mods.

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 1997: 02/97 FY 1998: 02/98 FY 1999: 02/99

DELIVERY DATE: FY 1997: 10/97 FY 1998: 10/98 FY 1999: 10/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 (100) kits							25	0.6	75	2.0													100	2.5
FY 1998 (105) kits									15	0.3	90	3.0											105	3.4
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL							25	0.6	90	2.3	90	3.0											205	5.9

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		7	6	6	6	23	22	23	22	23	22	23	22												
Out						7	6	6	6	23	22	23	22	23	22	23	22								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						205
Out						205

F-14 Series Mod

ADDENDUM

OSIP 152-83

(Note 1 & Note 6)	Prior Yrs.	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	Complete	Total
5K KITS, ECP 1225/1227	**25,558**	**474**	**2,155**	**3,825**	**6,656**	**5,150**						**43,818**
Proc. Qty. (Note 5)	258	11	15	17	29	22						**352**
Proc. Unit Cost	287	43	144	225	230	234						**1,163**
Installation Cost (Note 4)	32,345	1,660	2,078	10,762	21,901	22,851	28,942		1,855			**122,394**
Install Qty.	214	16	13	21	28	28	31		3			**354**
F-14D 7K KITS, ECP 1243	**11,701**	**1,177**	**900**	**500**	**918**	**1,144**						**16,340**
Proc. Qty. (Note 5)	18	11	9	5	9	11						**63**
Proc. Unit Cost		100	100	100	102	104						**506**
Installation Cost (Note 4)	2,523	143	981	840	2,571	2,623	3,864		3,402			**16,947**
Install Qty.	5	7	8	3	9	9	13		11			**65**
9K KITS, ECP 1287				**1,000**	**14,400**	**13,520**	**1,060**	**4,869**	**9,331**	**1,126**	**5,741**	**51,047**
Proc. Qty.				2	24	26	2	9	18	2	10	**93**
Proc. Unit Cost				500	600	520	1,060	541	552	563	574	**4,910**
Installation Cost					2,050	23,442	26,155	2,098	9,447	17,978	15,075	**96,245**
Install Qty.					2	24	26	2	9	17	13	**93**
ARC 182 INSTALL AFC-741												
Proc. Qty. (Note 1)	9											**9**
Proc. Unit Cost												
Installation Cost				207	207	207						**621**
Install Qty.				3	3	3						**9**
ECP-305 BUFCOM PART I KITS				**135**								**135**
Proc. Qty.				200								**200**
Proc. Unit Cost				1								**1**
Installation Cost												
Install Qty. ("O" LEVEL)					200							**200**
AFC-859 BULK MATERIAL, ECP 1285				**200**								**200**
Proc. Qty. (Note 3)				200								**200**
Proc. Unit Cost				1								**1**
Installation Cost				1,724	1,800	525						**4,049**
Install Qty.				99	80	21						**200**
ECP-304 F.S. 353 FRAME KITS				**310**	**335**							**645**
Proc. Qty.				100	105							**205**
Proc. Unit Cost				3	3							**6**
Installation Cost				560	2,290	3,046						**5,896**
Install Qty.				25	90	90						**205**

F-14 Series Mod

ADDENDUM Continued

OSIP 152-83

	Prior Yrs.	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TO Complete	Total
TF-30 KITS ECP-295/AFC-860			**2065**									**2,065**
Proc. Qty. (Note 2)			169									**169**
Proc. Unit Cost			12									**12**
Installation Cost												
Install Qty. ("O" LEVEL)				169								**169**
PHOENIX FAIRING KITS, ECP PENDING				**33**								**33**
Proc. Qty.				50								**50**
Proc. Unit Cost				1								**1**
Installation Cost												
Install Qty. ("O" LEVEL)					50							**50**
RUDDER SERVO, ECP 279		**977**										**977**
Proc. Qty.		288										**288**
Proc. Unit Cost		3										**3**
Installation Cost												
Install Qty. ("O" LEVEL)		288										**288**
FEMS ENGINE DIAGNOSTIC		**375**										**375**
Proc. Qty.		20										**20**
Proc. Unit Cost		19										**19**
Installation Cost												
Install Qty. ("O" LEVEL)		20										**20**
AFC 737, ECP 147 5k Partial		**214**										**214**
Proc. Qty.		50										**50**
Proc. Unit Cost		4										**4**
Installation Cost (Note 6)		0										
Install Qty.		0										
OTHER PRIOR YEAR KITS	**47,549**											**47,549**
Proc. Qty.	6,299											**6,299**
Installation Cost	46,883											**46,883**
Install Qty.	6,348											**6,348**
TOTAL Procurement Cost	**84,808**	**3,217**	**6,641**	**6,003**	**22,309**	**19,814**	**1,060**	**4,797**	**9,936**	**1,126**	**5,741**	**165,452**
Proc. Qty.	6,584	380	193	574	167	59	2	9	18	2	10	**7,998**
TOTAL Installation Cost	**81,751**	**1,803**	**3,059**	**15,323**	**30,819**	**52,694**	**58,961**	**1,992**	**14,701**	**17,975**	**13,860**	**292,938**
Install Qty.	6,567	331	21	320	462	175	70	2	23	17	13	**8,001**
TOTAL Other Cost	**18,639**	**642**	**4,348**	**17,273**	**11,118**	**9,891**	**3,856**	**28**	**662**	**707**	**692**	**67,856**
GRAND TOTAL APN-5	**185,198**	**5,662**	**14,048**	**38,599**	**64,246**	**82,399**	**63,877**	**6,817**	**25,299**	**19,808**	**20,293**	**526,246**

Note 1.) Nine kits taken from retired aircraft at no cost.
2.) 169 equals number of aircraft; each engine modified for a total of 338 engines.
3.) Kits shown are approximations since bulk fasteners will be procured.
4.) Prior year install costs not separately priced from 5K TCR.
5.) Eighteen 7K and thirteen 5K TCR's brought for OSIP 33-92. Install funds in FY94 thru FY96 also provided.
6.) Prior year kits quantities include partials; costs include some development.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: F-14A/B Structural Maintenance and Survivability Block Upgrade (OSIP 33-92)

MODELS OF SYSTEM AFFECTED: F-14A/B

TYPE MODIFICATION: Life Extension/Structural Upgrades

DESCRIPTION/JUSTIFICATION:

Cancellation of F-14D(R) program also canceled inclusive airframe line extension mods. A Block Upgrade Program is vital to maintaining an F-14 inventory capable of supporting planned CVW force structure through the year 2010. The program provides structural upgrade of 67 F-14B series aircraft, extends useful life, and procures and installs selected Time Compliance Requirements (TCR) kits. Initial production commenced in FY 1994 following the first phase of flight testing. The upgrade addresses Desert Storm lessons learned by incorporating threat countermeasure enhancements in the form of the ALR-67 Radar Warning Receiver and BOL Chaff modification as well as including conversion of basic weapon control components and displays to the MIL-STD-1553B bus digital architecture. This architecture provides for direct distribution of threat warning to "smart" self defense dispensing systems (ALE-39), provides the flight crew with enhanced display of threat information and reduces the cost of future installation of advanced weapons and weapon control components. Included in the block upgrade is the selective replacement of highly flammable "KAPTON" wiring with MIL-W-22759 series wiring. NRE for ECP's covering AWG-9, VDIG and throttle quadrant is also included in FY97. These three ECP's are now covered in OSIP 20-96 from FY 98 and out.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The upgrade program installs equipment which is either in production, has completed development or employs components derived from existing equipment. Many of the modifications are included in current OSIP's. The block upgrade provides for integrated installation of these current OSIP items plus additional equipment required to fulfill operational needs. Specifically, the structural modifications are derived from OSIP 152-83; the ALR-67 installations are derived from OSIP 2-91. The development of Programmable Tactical Information Display (PTID), the AWG-15H weapon control unit, and the Programmable Multiple Display Indicator Group (PMDIG) is complete and are being flown in test programs. The Bol/Chaff system has completed OPEVAL and is designated to be installed in all F-14 Upgrade Aircraft. The hybrid CP2213 computer uses a computing sub-system derived directly fro, the AYK-14 (XN-8), a computer whose development is complete. System integration and demonstration also includes flight tests at PMTC which began in August 1994. System integration and test, validation of software and release of programs are on schedule with Product Acceptance Test and Evaluation (PAT&E) successfully completed in June 1997. Time Compliance Requirements (TCR's) modifications identified as ECP-1325, 1227, and 1243 will extend the service life of the aircraft to comply with current force level projections. The inclusion of the analysis and non-recurring for 9000 hour TCR is necessary to extend the service life of the upgrade aircraft to ensure those with greatest Fatigue Life Expended (FLE) are returned to the fleet with adequate flight time available. 9K TCR kit buys and all other NRE for all F-14 aircraft are contained in OSIP 152-83.

The development, system integration test, and prototype modifications are on schedule. All scheduled program milestones have been completed. This budget provides a program compatibility with a precision strike and increased survivability capability for the F-14.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	103	7.1	104	16.9		0.9	20	4.5	35	4.2	11	1.7											273	35.2
Installation Kit - Unit Price		*68.9*		*162.5*				*223.8*		*119.8*		*150.1*												
Installation Kits N/R*		6.2		7.5		0.6		1.7																16.0
Installation Equipment		18.7		14.8				10.7		11.2														55.4
Installation Equipment N/R		105.0		35.5		1.2		2.2		1.0														144.9
Engineering Change Orders				0.5				0.5		0.6		0.5												2.1
Data		2.8		2.2																				5.0
Training Equipment				4.8		0.4		1.5		0.1		0.1												6.8
Support Equipment		12.3		9.5		0.4		2.7		2.0		1.9		0.1										28.9
ILS		6.1		6.7		2.6		3.4		2.7		1.4		0.1										23.1
Other Support		1.5		2.0		5.6		16.9		19.9		19.2		4.4										69.5
Interim Contractor Support																								
Installation Cost				6.5		7.2		13.3		13.9		8.1		4.0										53.0
TOTAL PROCUREMENT		**159.7**		**106.8**		**18.9**		**57.4**		**55.5**		**33.0**		**8.6**										**439.9**

NOTE: Totals may not add due to rounding.

* Val/Ver Kits and funds for engineering and integration, software development, system test at the PMTC F-14 System Integration Test Station, and flight tests prior to production release of equipment.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B

MODIFICATION TITLE: F-14A/B Structural Maintenance and Survivability Block Upgrade (OSIP 33-92) ECP-245

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot or commercial installations concurrent with SDLM or drive-in-modification.

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1997: 04/97 FY 1998: 12/97 FY 1999:

DELIVERY DATE: FY 1997: 04/98 FY 1998: 12/98 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (50) kits			14	5.4	14	6.9	12	4.4	10	3.2													50	19.9
FY 1997 (10) kits									2	0.6	8	3.3											10	3.9
FY 1998 (10) kits											4	0.6	6	1.7									10	2.3
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL			14	5.4	14	6.9	12	4.4	12	3.8	12	3.9	6	1.7									70	26.1

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	28	3	3	3	3	3	3	3	3	3	3	3	3	3	3										
Out	14	5	4	5		4	2	3	3	3	3	3	3	3	3	3	3	3	3						

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						70
Out						70

NOTE: 1 UNIT IS A TEST UNIT, 2 UNITS VAL/VER.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B

MODIFICATION TITLE: F-14A/B Struct. Maint. and Surv. Blk. Upgrade (OSIP 33-92) ECP-1225/1227/1243 (5K HR & 7K HR TCR'S)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot or commercial installations concurrent with SDLM or drive-in-modification.

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 10 Months

CONTRACT DATES: FY 1997: 12/96 FY 1998: 12/97 FY 1999: 12/98

DELIVERY DATE: FY 1997: 10/97 FY 1998: 10/98 FY 1999: 10/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (89) kits*			18		21		22	8.7	19	8.1	8	1.8	1	0.5									89	19.1
FY 1997 ( ) kits																								
FY 1998 (15) kits											9	2.0	6	0.9									15	2.9
FY 1999 (5) kits													5	0.8									5	0.8
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL			18		21		22	8.7	19	8.1	17	3.8	12	2.2									109	22.8

* 31 KITS IN BUDGET IN PRIOR YEARS BY OSIP 152-83.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	39	6	5	6	5	5	5	6	3	4	4	4	5	4	3	3	2								
Out	18	8	6	7		6	5	6	5	5	5	5	4	4	4	4	5	7	5						

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						109
Out						109

CLASSIFICATION: **UNCLASSIFIED**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B

MODIFICATION TITLE: F-14A/B Structural Maintenance and Survivability Block Upgrade (OSIP 33-92) ECP-236, BOL Chaff

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot or commercial installations concurrent with SDLM or drive-in-modification.

ADMINISTRATIVE LEADTIME: 1 Month

PRODUCTION LEADTIME: 1 Month

CONTRACT DATES: FY 1997: 10/96 FY 1998: 10/97 FY 1999: 12/98

DELIVERY DATE: FY 1997: 11/96 FY 1998: 11/97 FY 1999: 01/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (54) kits			47	1.2	7	0.2																	54	1.4
FY 1997 (10) kits							10	0.3															10	0.3
FY 1998 (10) kits									10	0.3													10	0.3
FY 1999 (6) kits											6	0.2											6	0.2
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL			47	1.2	7	0.2	10	0.3	10	0.3	6	0.2											80	2.2

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	54	3	2	3	2	3	2	3	2	3	3														
Out	47	2	3	2		3	2	3	2	3	2	3	2	3	3										

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						80
Out						80

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B

MODIFICATION TITLE: F-14A/B Structural Maintenance and Survivability Block Upgrade (OSIP 33-92) ECP-269, AFC-844 TARPS

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot or commercial installations concurrent with SDLM or drive-in-modification.

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (14) kits					2				12														14	
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL					2				12														14	

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2					3	3	3	3																
Out		2								3	3	3	3												

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						14
Out						14

CLASSIFICATION: **UNCLASSIFIED**

F-14 SERIES MOD ADDENDUM

OSIP 33-92	Prior Yrs.	FY95	FY96	FY 97	FY 98	FY 99	FY 00	Total
ECP 1225/1227 5K HR TCR (Note 6)		**8,230**						**8,230**
Proc. Qty.		29						29
Proc. Unit Cost		284						
Installation Cost				6,262	4,360		520	11,142
Install Qty. (Note 1)		11	13	10	7		1	42
ECP-1243 7K HR TCR (Note 6)		**3,058**			**1,815**	**615**		**5,488**
Proc. Qty.		29			15	5		49
Proc. Unit Cost		105			121	123		
Installation Cost				2,419	4,593	3,928	1,759	12,699
Install Qty. (Note 1)		7	8	12	12	17	11	67
ECP-245, AFC-840 UPGRADE (Note 2)	**5,290**	**3,500**		**1,810**	**1,847**			**12,447**
Proc. Qty. (Note 4)	32	18		10	10			70
Proc. Unit Cost	165	194		181	185			
Installation Cost (Note 3)		5,335	6,970	4,369	4,671	3,952	1,691	26,988
Install Qty.		14	14	12	12	12	6	70
ECP-269, AFC-844 TARPS	**300**	**780**						**1,080**
Proc. Qty.	4	10						14
Proc. Unit Cost	75	78						
Installation Cost (Note 5)								
Install Qty.			2		12			14
ECP-236, BOL CHAFF (Note 7)	**210**	**90**		**60**	**60**	**36**		**456**
Proc. Qty.	36	18		10	10	6		80
Proc. Unit Cost	6	5		6	6	6		
Installation Cost		1,175	175	250	250	250		2,100
Install Qty.		47	7	10	10	6		80
Other Items								
Wiring (Incl. on A/C as needed)				**1,905**		**700**		**2,605**
ALR-67 Provisions	379							**379**
Aux Hardware TCR	910	1,282	870	700	470	300		**4,532**
TOTAL Procurement Cost	**7,089**	**16,940**	**870**	**4,475**	**4,192**	**1,651**		**35,217**
Proc. Qty.	72	104		20	35	11		242
Proc. Qty.. bought by OSIP 152-83	31							31
TOTAL Installation Cost		6,510	7,145	13,300	13,874	8,130	3,970	52,929
Total Install Qty.		79	44	44	53	35	18	273
TOTAL Other Cost	**152,576**	**83,315**	**10,934**	**38,151**	**37,441**	**23,190**	**4,611**	**350,218**
GRAND TOTAL APN-5	**159,665**	**106,765**	**18,949**	**57,356**	**55,507**	**32,971**	**8,581**	**439,794**

Note 1.) 13 Kits on ECP-1225/1227 and 18 ECP-1243 Kits were funded by OSIP 152-83 in prior year.
2.) Other Items installed on aircraft on an "as needed" basis.
3.) The installation funds/hours varies based on SDLM. Mix of organic/contractor and combination of TCR's required. All aircraft will have ECp-245 Upgrade installed.
4.) Three (3) of the 70 kits are "test units".
5.) Install costs for ECP-269 not separately priced.
6.) TCR Kits do not include all costs of the TCR such as incidential kit cost for nuts, bolts, and special brackets/kit components.
7.) BOL Chaff for both F-14B and F-14D Aircraft.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Digital Flight Control System Improvement(DFCS) (OSIP 12-94)

MODELS OF SYSTEM AFFECTED: F-14A/B/D

TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:
The F-14 has proven itself to be an extremely capable fighter since its IOC in 1973. Major aircraft improvements have already been developed which extend the service life of the F-14 to the year 2010. These improvements are primarily avionics and engine-performance upgrades which will greatly increase the F-14's capabilities. The F-14 Flight Control System (FCS) has never been upgraded. Its significant deficiencies will continue to limit the F-14's ability. Analysis has shown 35 F-14's Class A mishaps are due to out of control flight. At least 12 and possibly more could have been saved by the proposed DFCS improvements. The Foreign Comparison Test (FCT) demonstration program of $36.18M completed on DFCS's ability to correct F-14 out of control flight and improve approach characteristics and boarding rate. The DFCS Improvement Program will correct flight control deficiencies contained in ORD # 278-05-92 dated 2 FEB 1991 and will consist of the following elements: Stability Augmentation System; Lateral Stick-to-Rudder Interconnect; Spin Resistance/Prevention; Wing Rock Suppression; Differential Stabilator Deflection Limiting; Low Speed Cross Controls; Landing Flying Qualities Improvement; and EMC/EMI hardening.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
Current milestone projections for this program include non-recurring contract awarded 29 March 1996. Approval for procurement of initial production lot occurred 20 December 1996. The ECP was approved in April 1997. The first production contract was awarded in February 1997 with first delivery scheduled for May 1998.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits							3	0.1	82	1.3	89	1.5	18	0.3									192	3.2
Installation Kit - Unit Price								16.7		15.9		16.9		16.9										
Installation Kits N/R		*																						
Installation Equipment								14.4		15.4		5.5												35.3
Installation Equipment N/R						3.6		5.5																9.1
Engineering Change Orders																								
Data								1.2		1.2														2.4
Training Equipment								1.7		1.7		0.7												4.1
Support Equipment								0.9		1.4		0.2												2.5
ILS								0.7		0.5		0.2		0.2										1.6
Other Support						3.0		7.4		8.4		2.2		1.2										22.2
Interim Contractor Support																								
Installation Cost										2.4		4.3		1.7										8.4
TOTAL PROCUREMENT		*				**6.6**		**31.9**		**32.3**		**14.6**		**3.4**										**88.8**

* - Denotes value less than $0.05M

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/D

MODIFICATION TITLE: Digital Flight Control System Improvement(DFCS) (OSIP 12-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NADEP and Contractor Field Modification Team**

ADMINISTRATIVE LEADTIME: 8 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1997: 12/97 FY 1998: 12/98 FY 1999: 12/99

DELIVERY DATE: FY 1997: 05/98 FY 1998: 05/99 FY 1999: 05/00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 (03) kits									3	0.1													3	0.1
FY 1998 (82) kits									53	0.8	29	0.5											82	1.3
FY 1999 (89) kits											69	1.1	20	0.3									89	1.4
FY 2000 (18) kits													18	0.3									18	0.3
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL									56	0.9	98	1.6	38	0.6									192	3.1

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								28	28	24	24	25	25	24	14										
Out								28	28	24	24	25	25	24	14										

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						192
Out						192

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Global Positioning System/Embedded GPS (OSIP 31-94)

MODELS OF SYSTEM AFFECTED: F-14A/B/D TYPE MODIFICATION: Reliability

DESCRIPTION/JUSTIFICATION: The Global Positioning System (GPS) is a spaced-based radio positioning and navigation system that will provide three dimensional position, velocity and time information to suitably equipped users on or near the Earth. GPS is designed to provide highly accurate passive position (16 meters), velocity (0.1 meter/sec) and time to users worldwide in all weather conditions. The GPS will interface with communication, navigation, and weapon systems equipment (i.e., standard attitude heading reference systems, inertial navigation systems, on-board computers, etc.) in selected application. For the F-14A/B aircraft, the GPS capability will be provided by the Embedded GPS/INS (EGI) avionics equipment. This combination allows for a "blended", highly accurate navigational solution between the GPS and the Inertial Navigation System (INS). For the F-14D, the GPS capability will be provided by the Miniaturized Airborne GPS Receiver (MAGR).

SPAWAR is the Primary Development Agency (PDA) for GPS and has funded Research and Development costs to design, prototype, install and test the integrated system on the first of each aircraft type. This effort includes development and documentation of the "A" kits. Procurement for the "A" kit, installation, ILS and "A" kit spares are NAVAIR, PMA responsibilities. The Group "A" kits are procured in this Operational and Safety Improvement Program (OSIP). The Group "A" kits consist of cabling, racks, airframe 4 structural components and other components required to install the equipment.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The NAVSTAR GPS program completed Phase II (full scale engineering development), completed Milestone IIIA (approval for limited production in June 1986, and completed Milestone IIIB in January 1992. Congressional mandate has directed that GPS be installed in all platforms by the end of FY 2000. This has accelerated the original GPS procurement plan. Installation will be via drive-in mod and field mod teams.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	10	1.0					31	2.0	38	2.5	35	2.3											114	7.8
Installation Kit - Unit Price		100.0						64.1		65.3		66.7												
Installation Kits N/R		1.0		8.8				2.3																12.1
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders								0.1		0.1														0.1
Data		0.6						2.2		2.0														4.8
Training Equipment		0.2						2.9		2.3														5.3
Support Equipment				1.1				0.5		0.6														2.2
ILS				0.4		0.1		0.8		0.3														1.5
Other Support				0.2		0.0		4.6		9.2		0.7		0.6										15.3
Interim Contractor Support										1.2		0.2		0.3										1.7
Installation Cost		*		*		*				1.8		2.8		1.6										6.2
TOTAL PROCUREMENT		**2.7**		**10.5**		**0.1**		**15.3**		**19.8**		**6.1**		**2.4**										**57.2**

* - Value is less than $0.05M

NOTE: The MAGR is procured in common Avionics OSIP 71-88. The EGI is procured in common Avionics OSIP 38-95.

Totals may not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/D

MODIFICATION TITLE: Global Positioning System/Embedded GPS (OSIP 31-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: NADEP & contractor concurrent with standard depot level maintenance and drive-in modification for "A" kits. Kit "B" will be intermediate level installation.

ADMINISTRATIVE LEADTIME: 1 Month

PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 1997: 05/97 FY 1998: 02/98 FY 1999: 02/99

DELIVERY DATE: FY 1997: 01/98 FY 1998: 10/98 FY 1999: 11/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (10) kits		*		*	1	*			9	0.2													10	0.2
FY 1997 (31) kits*									23	1.5	8	0.1											31	1.6
FY 1998 (38) kits*											38	4.1											38	4.1
FY 1999 (35) kits											7		28	3.0									35	3.0
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL					1				32	1.7	53	4.2	28	3.0									114	8.9

* - Value is less than $0.05M

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1					8	8	8	12	13	13	13	13	7	7	7	7								
Out	1					8	8	8	12	13	13	13	13	7	7	7	7								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						117
Out						117

FY98 and FY99 install quantity/dollars include three (3) maintenance trainer kits.

F-14 SERIES MOD

ADDENDUM

OSIP 31-94	Prior Yrs.	FY95	FY96	FY 97	FY 98	FY 99	FY 00	Total
ECP PMO-F14-001/EGI Incorp. (F-14A/B)								
F-14 A/B WIRING KITS				**1,283**	**1,754**	**1,316**		**4,353**
Proc. Qty.**				20	27	20		67
Proc. Unit Cost				64	65	66		
Installation Cost					606	2,184	689	3,479
Install Qty **					12	42	13	67
ECP-1279R1/GPS Incorp. (F-14D)	**1,028**			**704**	**726**	**1,020**		**3,478**
Proc. Qty.	10			11	10	16		47
Proc. Unit Cost	103			64	66	68		
Installation Cost			48		1,134	649	930	2,761
Install Qty *			1		20	11	15	47
Other Install Costs								
ASN-139 Software								
Proc. Qty.								
Installation Cost	31							31
TOTAL Procurement Cost	**1,028**			**1,987**	**2,480**	**2,336**		**7,831**
Proc. Qty.	10			31	37	36		114
TOTAL Installation Cost	7	24	48		1,740	2,833	1,619	6,271
Total Install Qty.			1		32	53	28	114
TOTAL Other Cost	**1,709**	**10,471**	**88**	**13,360**	**15,618**	**913**	**811**	**42,970**
GRAND TOTAL APN-5	**2,744**	**10,495**	**136**	**15,347**	**19,838**	**6,082**	**2,430**	**57,072**

* Includes funding for trainer installs in FY 98

** Includes 3 kits funded by reserves; funding not included

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95)

MODELS OF SYSTEM AFFECTED: F-14A/B/D TYPE MODIFICATION: Warfighting Upgrade

DESCRIPTION/JUSTIFICATION:

The F-14 Precision Strike Operational Document (ORD 406-88-95) dated 14 June 1995 delineates an urgent Fleet requirement for a precision strike capability in FY 1996 to maintain a capacity for long range, high payload strike missions due to the A-6 retirement. The F-14 Precision Strike Program will enhance the strike-fighter capabilities of the existing F-14 aircraft to maintain a carrier-based extended range, high payload strike capability for the Fleet. The strike-fighter capability of the F-14 aircraft will be enhanced through the incorporation of a Forward Looking Infrared Receiver/Laser Designator (FLIR/LD). The FLIR/LD will provide the capability to autonomously target and deliver laser guided bombs (LGB's) against strategic, high value targets (industrial complexes, power plants, bridges, etc.) and mobile battlefield targets (tanks, armored personnel carriers, SAM sites, etc.). To enhance the survivability of the F-14 defensive countermeasure systems (AN/ALR-67/Bol Chaff) and night vision compatible cockpit modification will be made to fleet aircraft and growth provisions will be evaluated for potential use of GPS guided weapons. To enhance the F-14 aircraft capability to perform the Forward Air Control (Airborne) mission fleet aircraft will be modified to deliver rockets to designed targets. Non-development items (NDI) will be used to the maximum extent on this program.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The F-14 Precision Strike Program has been designated an ACAT III program and milestone decision authority has been designated to Program Executive Officer for Tactical Air Programs (PEO(T)). The program was approved at a Milestone IV/II Review in October 1995. Following the milestone decision, the integration of a NDI FLIR/LD (LANTIRN targeting pod) and Programmer Tactical Information Display (PTID) on the F-14 aircraft began with the award of the integration contract to Lockheed Martin Corporation in November 1995. To lower cost and shorten schedule, the FLIR/LD will be integrated as a stand alone sensor. The FLIR/LD will not be integrated with other aircraft sensors, and existing aircraft controls will not be modified to control FLIR/LD functions or modes. The FLIR/LD system will include a control panel and software to control FLIR/LD functions. F-14 FLIR/LD operational capability was established in June 1996.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits*					129	2.4	161	9.4	145	10.2	44	1.6	4	0.2									483	23.7
Installation Kit - Unit Price						*18.3*		*58.1*		*70.1*		*36.5*		*46.5*										
Installation Kits N/R						5.0		1.1		2.0														8.1
Installation Equipment					9	21.5	12	26.8	133	65.2	118	74.3											272	187.7
Installation Equipment N/R				12.6		25.8		17.2		0.2														55.8
Engineering Change Orders								1.5		1.5		1.2												4.1
Data						0.4		0.7		1.5		0.9		0.2										3.6
Training Equipment						0.1				2.1		1.4		0.4										4.0
Support Equipment						6.4		5.7		14.5		0.5		0.4										27.4
ILS						1.2		2.9		2.2		1.6		0.6										8.5
Other Support						2.2		1.7		2.6		1.7		2.6		1.5		1.3		0.8				14.2
Interim Contractor Support						0.9		2.9		1.4		1.2		0.8		0.2								7.4
Installation Cost						2.7		7.6		7.4		1.4		0.4										19.5
TOTAL PROCUREMENT				**12.6**		**68.6**		**77.4**		**110.6**		**85.6**		**5.6**		**1.7**		**1.3**		**0.8**				**364.0**

Note: Quantities represent kits vice aircraft.

* Quantities vary depending on change procured.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/D

MODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) ECP LTS-001 (LANTIRN TARGETING SYS)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Naval Aviation Depot Installations concurrent with SDLM or drive-in modifications**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 1997: 11/96 FY 1998: 11/97 FY 1999: 11/98

DELIVERY DATE: FY 1997: 02/97 FY 1998: 02/98 FY 1999: 02/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (49) kits					18	2.7	21	1.4															39	4.1
FY 1997 (86) kits							65	4.2	21	1.0													86	5.2
FY 1998 (40) kits									29	1.6	11	0.6											40	2.2
FY 1999 (16) kits											13	0.7	3	0.3									16	1.0
FY 2000 (4) kits													4	0.1									4	0.1
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL					18	2.7	86	5.6	50	2.6	24	1.3	7	0.4									185	12.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	18	21	21	22	22	12	12	13	13	6	6	6	6	6	1										
Out	18	21	21	22	22	12	12	13	13	6	6	6	6	6	1										

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						185
Out						185

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/D

MODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) ALR-67

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Naval Aviation Depot Installations concurrent with SDLM or drive-in modifications**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 1997: 11/96 FY 1998: 11/97 FY 1999:

DELIVERY DATE: FY 1997: 06/97 FY 1998: 04/98 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 (20) kits							7	0.6	13	1.1													20	1.7
FY 1998 (31) kits									31	2.7													31	2.7
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL							7	0.6	44	3.8													51	4.4

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					7	13	16	15																	
Out					7	13	16	15																	

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						51
Out						51

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/D

MODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) BOL Chaff

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Naval Aviation depot Installations concurrent with SDLM or drive-in modifications**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1996: 09/96 FY 1998: FY 1999:

DELIVERY DATE: FY 1997: 03/97 FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (80) kits							41	1.2	19	0.5													60	1.7
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL							41	1.2	19	0.5													60	1.7

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		10	11	10	10	8	11																		
Out		10	11	10	10	8	11																		

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						60
Out						60

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14A/B/D

MODIFICATION TITLE: F-14 Precision Strike Program (OSIP 42-95) Night Vision

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Naval Aviation Depot Installations concurrent with SDLM or drive-in modifications**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1997: 11/96 FY 1998: 11/97 FY 1999: 11/98

DELIVERY DATE: FY 1997: 05/97 FY 1998: 05/98 FY 1999: 05/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 (55) kits							55	0.2															55	0.2
FY 1998 (74) kits									74	0.4													74	0.4
FY 1999 (28) kits											28	0.1											28	0.1
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL							55	0.2	74	0.4	28	0.1											157	0.7

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					55			37	37			28													
Out					55			37	37			28													

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						157
Out						157

F-14 Series Mod

ADDENDUM

OSIP 42-95

	FY95	FY96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	Total
LANTIRN TARGETING SYSTEM										
ECP F-14 LTS-001		**1,794**	**3,990**	**1,936**	**789**	**186**				**8,695**
Proc. Qty.		49	86	40	16	4				195
Proc. Unit Cost		37	46	48	49	46				
Installation Cost		2,686	5,594	2,652	1,295	384				12,611
Install Qty		28	86	50	24	7				195
ALR-67			**3,812**	**6,146**						**9,958**
Proc. Qty.			20	31						51
Proc. Unit Cost			191	198						
Installation Cost			585	3,859						4,444
Install Qty.			7	24						31
ROCKETS MOD										
Proc. Qty.										
Proc. Unit Cost										
Installation Cost										
Install Qty.										
BOL CHAFF		**565**								**565**
Proc. Qty.		80								80
Proc. Unit Cost		7								
Installation Cost			1,225	475						1,700
Install Qty.			41	19						60
NIGHT VISION SYSTEM			**1,549**	**2,080**	**815**					**4,444**
Proc. Qty.			55	74	28					157
Proc. Unit Cost			28	28	29					
Installation Cost			180	379	143					702
Install Qty.			55	74	28					157
TOTAL Procurement Cost		**2,359**	**9,351**	**10,162**	**1,604**	**186**				**23,662**
Proc. Qty.		**129**	**161**	**145**	**44**	**4**				483
TOTAL Installation Cost		**2,686**	**7,584**	**7,365**	**1,438**	**384**				19,457
Total Install Qty.		**28**	**189**	**167**	**52**	**7**				443
TOTAL Other Cost	**12,596**	**63,533**	**60,424**	**93,082**	**82,523**	**5,000**	**1,675**	**1,250**	**750**	**320,833**
GRAND TOTAL APN-5	**12,596**	**68,578**	**77,359**	**110,609**	**85,565**	**5,570**	**1,675**	**1,250**	**750**	**363,952**

* Average unit kit procurement costs differ in each year due to: (1) differences in wiring and pre-existing installed equipment which must be accomodated in F-14A, F-14B Upgrade, F-14B MCAP, F-14D and F-14D(R) Model Aircraft, (2) economies of scale, and (3) incorporation of a 2% inflation factor.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: F-14 Airborne Self Protection Jammer (ASPJ) with Racks (OSIP 15-96)

MODELS OF SYSTEM AFFECTED: F-14D TYPE MODIFICATION: Warfighting Upgrade

DESCRIPTION/JUSTIFICATION:

An urgent operational requirement exists for all F-14D aircraft to be equipped with the Airborne Self Protection Jammer (ASPJ) with its supporting rack which echoes the earlier F-14D Avionics Upgrade Operational Requirements Document (ORD 008-05084). The ASPJ has successfully been used by F-18 aircraft flying over Bosnia. Chief of Naval Operations (Head, Aviation Plans & Requirements Branch) has granted approval, in his memo of 30 November 1995, requested the commencement of the procurement and installation of the ASPJ Defensive Electronic Countermeasure (DECM) on all F-14D aircraft. In 1996, the Navy equipped two F-14D squadrons which deployed in May 1996. The remaining F-14D squadrons are being equipped before their deployments. The ASPJ (AN/ALQ-165) is a fully integrated internally mounted DECM system capable of detecting, identifying and countering land, sea and air based radar threats. The F-14D aircraft was designed and built to accept only the ASPJ system.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The F-14D aircraft equipment integration DT/OT was completed in November 1995 with Operational Testing IIIA (OT-IIIA) commencing in December 1995. The ASPJ system is part of the new equipment which was tested in the F-14D aircraft. Both the ASPJ and the F-14D aircraft have completed production, Milestone III (MS III). The OT-IIIA will serve as a follow-on test (FOT&E) for the ASPJ. Initial release approval to employ the ASPJ system in F-14D aircraft was given by Commander, Operational Test & Evaluation Forces. OT-IIIA FOT&E results for the ASPJ system/F-14D aircraft were announced with approval given for Fleet use by teh Chief of Naval Operations (Head, Air Warfare Division (N88)) on 6 May 1996. The final OT-IIIA report, on the ASPJ, was published in the fall of 1996.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits					15	1.6	18	1.9															33	3.5
Installation Kit - Unit Price						106.7		105.6																
Installation Kits N/R						0.6		0.3																0.9
Installation Equipment						1.0		1.0																2.0
Installation Equipment N/R																								
Engineering Change Orders																								
Data						0.1																		0.1
Training Equipment						0.1		0.1																0.2
Support Equipment								0.1																0.1
ILS						0.5		0.9																1.4
Other Support						0.7		0.2																0.9
Interim Contractor Support						0.1																		0.1
Installation Cost**						1.3		1.3																2.6
TOTAL PROCUREMENT						**5.9**		**5.9**																**11.8**

** Fifteen (15) racks were procured in FY 1996 with an additional six (6) being pulled from T&E aircraft currently configured for ASPJ for a total of twenty-one (21) installs. In FY 1997 eighteen (18) racks were procured with one rack being pulled from a T&E aircraft currently configured for ASPJ, and four (4) aircraft had ASPJ wiring installed without racks for a total of twenty-three (23) installs.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-14D

MODIFICATION TITLE: F-14 Airborne Self Protection Jammer (ASPJ) with Racks (OSIP 15-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Modification Team**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 1997: 10/96 FY 1998: FY 1999:

DELIVERY DATE: FY 1997: 12/96 FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (21) kits					21	1.3																	21	1.3
FY 1997 (23) kits							23	1.3															23	1.3
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL					21	1.3	23	1.3															44	2.5

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	21	2	5	9	7																				
Out	21	2	5	9	7																				

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						44
Out						44

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96)

MODELS OF SYSTEM AFFECTED: F-14A/B/D

TYPE MODIFICATION: Safety/Reliability

DESCRIPTION/JUSTIFICATION:

The F-14 TOMCAT will provide Strike Fighter capability for Naval Aviation until integration of the F/A-18EF. System and component age and obsolescence will continue to impact F-14 safety and mission effectiveness. A need exists to develop and implement cost effective modifications for problem systems and components. Currently five modifications are included in this OSIP which will reduce potential safety risks and improve aircraft mission performance through modernization of critical systems and components. These modifications consist of the following Engineering Change Proposals (ECP's): AWG-9 ECP 315-318 redesigns the antenna servo electronic package, updates the detail data display, replaces obsolete parts in the RF oscillator and corrects pre amp problems in the radar receiver; Throttle Quadrant ECP 309 replaces obsolete wiring and switches no longer available; Vertical Display Indicator Group ECP 308 improves internal thermal control and replaces high failure parts (safety issue); Flap/Slat ECP 310 replaces bearing and control tube components reducing wing binding (safety issue); RAM Air Inlet ECP 1272 installs a fuel vent and reinforces fuel tank attachments (safety issue). Additional ECP's may be added from time to time as the need arises.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

No major development is planned within this OSIP. Potential safety and performance issues were identified in concert with NAVAIR, Fleet users, and the F-14 Fleet Support Team (FST). The FST used follow-on engineering/logistical analysis to identify affordable modifications that correct problems in weak or failing components rather than completely redesigning the system/subsystem.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits									1,061	3.0	346	1.9	133	0.2									1,540	5.1
Installation Kit - Unit Price										*2.9*		*5.4*		*1.5*										
Installation Kits N/R								*		1.6		0.3												1.9
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost										3.3		5.7		1.4										10.4
TOTAL PROCUREMENT										**8.0**		**7.9**		**1.6**										**17.4**

See Addendum for Kit Data

* NRE for FY 97 provided in OSIP 152-83 and 33-92

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14A/B/D**

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) ECP-318 (AWG-9 ANTENNA)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Depot Level Maintenance and organizational and intermediate level.**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 1997: FY 1998: 11/97 FY 1999:

DELIVERY DATE: FY 1997: FY 1998: 02/98 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 (200) kits									200	0.3													200	0.3
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL									200	0.3													200	0.3

Installation Schedule -

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							60	65	75																
Out							60	65	75																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						200
Out						200

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14A/B/D**

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) ECP-315 (AWG-9 DDD)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Intermediate level.**

ADMINISTRATIVE LEADTIME: 1 Month

PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 1997: FY 1998: 01/98 FY 1999:

DELIVERY DATE: FY 1997: FY 1998: 03/98 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 (170) kits									170														170	
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL									170														170	

Installation Schedule - VDIG (ECP-308)

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								80	90																
Out								80	90																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						170
Out						170

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14A/B/D**

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) ECP-317 (AWG-9 RECEIVER)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Depot Level Maintenance and organizational and intermediate level.**

ADMINISTRATIVE LEADTIME: 1 Month

PRODUCTION LEADTIME: 3 Month

CONTRACT DATES: FY 1997: FY 1998: 02/98 FY 1999:

DELIVERY DATE: FY 1997: FY 1998: 05/98 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 (200) kits									200	0.1													200	0.1
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL									200	0.1													200	0.1

* - AMOUNT IS < $.05M

Installation Schedule -

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							60	70	70																
Out							60	70	70																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						200
Out						200

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14A/B/D**

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) ECP-316 (AWG-9 RMO)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Depot Level Maintenance.**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 1997: FY 1998: 11/97 FY 1999:

DELIVERY DATE: FY 1997: FY 1998: 02/98 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 (170) kits									170	0.3													170	0.3
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL									170	0.3													170	0.3

Installation Schedule -

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							20	70	80																
Out							20	70	80																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						170
Out						170

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14A/B/D**

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) ECP-310(FLAP SLAT)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Depot Level Maintenance.**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 1997: FY 1998: 12/97 FY 1999:

DELIVERY DATE: FY 1997: FY 1998: 05/98 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 (100) kits									100	2.6													100	2.6
FY 1999 (100) kits											100	3.0											100	3.0
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL									100	2.6	100	3.0											200	5.6

Installation Schedule - VDIG (ECP-308)

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								50	50	50	50														
Out								50	50	50	50														

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						200
Out						200

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14A/B/D**

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) ECP-1272 (RAM AIR INLET)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Depot Level Maintenance.**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999: 11/98

DELIVERY DATE: FY 1997: FY 1998: FY 1999: 02/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 (200) kits											200	1.8											200	1.8
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL											200	1.8											200	1.8

Installation Schedule -

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											66	66	68												
Out											66	66	68												

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						200
Out						200

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14A/B/D**

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) ECP-309 (THROTTLE QUADRANT)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Intermediate level.**

ADMINISTRATIVE LEADTIME: 1 Month

PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 1997: FY 1998: 12/97 FY 1999: 10/98

DELIVERY DATE: FY 1997: FY 1998: 05/98 FY 1999: 03/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 (121) kits									121														121	
FY 1999 (79) kits											79												79	
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL									121		79												200	

Installation Schedule -

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								31	90	79															
Out								31	90	79															

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						200
Out						200

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F-14A/B/D**

MODIFICATION TITLE: F-14 Critical System & Component Modernization (OSIP 20-96) ECP-308 (VDIG)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Depot Level Maintenance.**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999: 11/98

DELIVERY DATE: FY 1997: FY 1998: FY 1999: 04/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 (67) kits											67	0.9											67	0.9
FY 2000 (133) kits													133	1.4									133	1.4
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL											67	0.9	133	1.4									200	2.3

Installation Schedule - VDIG (ECP-308)

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In												27	40	44	44	45									
Out												27	40	44	44	45									

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						200
Out						200

F-14 Series Mod ADDENDUM

OSIP 20-96

	FY 98	FY 99	FY 00	FY 01	Total
AWG-9 ANTENNA (ECP-318)	**48**				**48**
Proc. Qty.	200				200
Proc. Unit Cost	0				
Installation Cost	293				293
Install Qty.	200				200
AWG-9 DDD (ECP-315)	**102**				**102**
Proc. Qty.	170				170
Proc. Unit Cost	1				
Installation Cost ("I" Level)					
Install Qty.	170				170
AWG-9 RECEIVER (ECP-317)	**1,244**				**1,244**
Proc. Qty.	200				200
Proc. Unit Cost	6				
Installation Cost	146				146
Install Qty.	200				200
AWG-9 RMO (ECP-316)	**632**				**632**
Proc. Qty.	170				170
Proc. Unit Cost	4				
Installation Cost	261				261
Install Qty.	170				170
FLAP SLAT (ECP-310)	**680**				**680**
Proc. Qty.	200				200
Proc. Unit Cost	3				
Installation Cost	2,584	2,986			5,570
Install Qty.	100	100			200
RAM AIR INLET (ECP-1272)		**1,559**			**1,559**
Proc. Qty.		200			200
Proc. Unit Cost		8			
Installation Cost		1,792			1,792
Install Qty.		200			200
THROTTLE QUADRANT (ECP-309)	**331**	**217**			**548**
Proc. Qty.	121	79			200
Proc. Unit Cost	3	3			
Installation Cost ("I" Level)					
Install Qty	121	79			200
VDIG (ECP-308)		**96**	**204**		**300**
Proc. Qty.		67	133		200
Proc. Unit Cost		2	2		
Installation Cost		914	1,416		2,330
Install Qty		67	133		200
TOTAL Procurement Cost	**3,037**	**1,872**	**204**		**5,113**
Proc. Qty.	**1,061**	**346**	**133**		**1,540**
TOTAL Installation Cost	**3,284**	**5,692**	**1,416**		**10,392**
Total Install Qty.	**961**	**446**	**133**		**1,540**
TOTAL Other Cost	**1,630**	**302**			**1,932**
GRAND TOTAL APN-5	**7,951**	**7,866**	**1,620**		**17,437**

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
Adversary Series Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	2.9		0.2	0.2	0.0	0.1	1.3	1.3	0.9	0.7	0.0	0.0	7.5

This line item funds modifications to F-5/F-16 Adversary aircraft. It allows the U.S. Navy to maintain as close a standardized configuration with the Air Force as possible based on need. It also allows the Navy to initiate unique structural or avionics modifications. The overall goal of the modifications budgeted in FY 1999 is to incorporate into the airframe and engines, selected Air Force approved Time-Compliance Technical Orders (TCTO's) to improve safety and reliability. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
29-81	Structural Fatigue/ Standardized Configuration with USAF	2.9	0.2	0.2	*	0.1	*	*	*				3.5
14-99	GPS						1.3	1.2	0.8	0.7			4.0
TOTAL		**2.9**	**0.2**	**0.2**	**0.0**	**0.1**	**1.3**	**1.3**	**0.9**	**0.7**	**0.0**	**0.0**	**7.5**
Funding for Reserve Forces						0.1	1.3	1.3	0.8	0.7			4.3

* indicates amount less than 0.051 Million

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Follow-on Structural Fatigue/Standardized Configuration with USAF (OSIP 29-81)

MODELS OF SYSTEM AFFECTED: F-5 Adversary Aircraft

TYPE MODIFICATION: Safety/Reliability

DESCRIPTION/JUSTIFICATION:

The Navy F-5 adversary aircraft inventory is 36 aircraft. USAF updated durability and damage and tolerance analysis, structural inspection, full scale fatigue testing and counting accelerometer data has identified structural fatigue in wings and fuselage areas. All US Navy aircraft will be grounded when fatigue life is expended on non-cold work wings until replaced with a cold work wing. Remaining aircraft require upper cockpit longeron repaired or replaced and dorsal longeron replacement. The avionics portion of this program includes such improvements as structural monitoring system. Installation of flight data recorder will ensure accurate recording of flight profile data and can result in up to 25% increase in fatigue life because of availability of data. The Navy will also have to install Improved Handling Quality changes in all aircraft received from the US Air Force. These changes are necessary because of the flight envelope these aircraft are operated in and also to maintain common configuration with existing Navy aircraft. In addition, selected Air Force approved Time Compliance Technical Orders (TCTOs) will be incorporated to improve safety.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

No development required.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	283	1.2	8	*	38	0.1			36	0.1	8	*	8	*	8	*							389	1.4
Installation Kit - Unit Price		*		*		*				*		*		*		*								
Installation Kits N/R		1.3		0.2		*		*		*		*		*		*								1.5
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1		*		*				*		*		*		*								0.1
Training Equipment																								
Support Equipment																								
Integrated Logistics Support																								
Other Support																								
Interim Contractor Support																								
Installation Cost	283	0.4	8	*	38	0.1			36	*	8	*	8	*	8	*							389	0.5
TOTAL PROCUREMENT		**2.9**		**0.2**		**0.2**		**0.0**		**0.1**		*****		*****		*****								**3.5**

Note: Totals do not add due to rounding.

* indicates amount less than 0.051 Million.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-5 Adversary Aircraft

MODIFICATION TITLE: Follow-on Structural Fatigue/Standardized Configuration with USAF (OSIP 29-81)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 (329) kits	283	2.5	8	0.2	38	0.1																	329	2.8
FY 1997 (0) kits								*																*
FY 1998 (36) kits									36	*													36	*
FY 1999 (8) kits											8	*											8	*
FY 2000 (8) kits													8	*									8	*
FY 2001 (8) kits															8	*							8	*
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	283	2.5	8	0.2	38	0.1		*	36	*	8	*	8	*	8	*							389	2.9

Note: Totals do not add due to rounding

* indicates amount less than 0.051 Million

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	329					9	9	9	9	2	2	2	2	2	2	2	2	2	2	2	2				
Out	329						9	9	9	9	2	2	2	2	2	2	2	2	2	2	2	2			

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						389
Out						389

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: F-5E/F Global Positioning System (GPS) Upgrade (OSIP 14-99)

MODELS OF SYSTEM AFFECTED: F-5E/F TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

This F-5E/F OSIP will permit replacement of obsolescent navigation equipment with a Commercial Off The Shelf (COTS) GPS. ASD (C3I) Memo of 11 May 1988 and OPNAV (N88) Memo of 30 December 1993 provide the rationale and justification for GPS installation in Navy aircraft. Without this modification F-5s, which constitute the majority of the Navy's supersonic adversary aircraft, will be unable to navigate the National Airspace System in FY 2001 and will be severely mission limited. This OSIP budgets for 37 kits (31 F-5E single kits; 3 F-5F dual kits), associated platform peculiar requirements, and aircraft kit installation.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This GPS installation will adapt COTS equipment which has been FAA qualified.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits											20	0.9	17	0.8									37	1.7
Installation Kit - Unit Price												*		*										
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data												0.3		0.1										0.4
Training Equipment														*										0.0
Support Equipment																								
Integrated Logistics Support												0.1		*		0.1								0.1
Other Support												0.1		0.3										0.3
Interim Contractor Support																								
Installation Cost															20	0.7	17	0.7					37	1.4
TOTAL PROCUREMENT												**1.3**		**1.2**		**0.8**		**0.7**						**4.0**

* indicates amount less than 0.051 Million.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F-5E/F

MODIFICATION TITLE: F-5E/F Global Positioning System (GPS) Upgrade (OSIP 14-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: This change will be made as a Drive-In Modification or by a Field Modification Team.

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 21 Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999: 01/99

DELIVERY DATE: FY 1997: FY 1998: FY 1999: 10/00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 (20) kits															20	0.7							20	0.7
FY 2001 (17) kits																	17	0.7					17	0.7
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL															20	0.7	17	0.7					37	1.4

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																		5	5	5	5	5	6	6	
Out																			5	5	5	5	5	6	6

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						37
Out						37

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

APPROPRIATION/BUDGET ACTIVITY: **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**

P-1 ITEM NOMENCLATURE: **ES-3 Series Modifications**

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	409.1		19.9	19.8	6.7	5.2	5.4	5.7	4.6	4.7	4.8	4.2	489.9

This line item funds modifications to ES-3A aircraft. The ES-3A is a four person carrier based replacement for the EA-3B. It provides passive electronic detection and identification of threats to the joint task commander and carrier battle group. The ES-3A is also the airborne component of the Battle Group Passive Horizon Extension System (BGPHES). The overall goal of the modifications budgeted in FY 1999 is to continue the S-3A to ES-3A conversion effort while initiating efforts to upgrade critical avionics and critical structures within the aircraft in conjunction with a Service Life Structural Assessment/Extension Program. Active PAA inventory is 16. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
79-88	S-3A to ES-3A Mod (BGPHES)	409.1	11.6	6.4	0.9	1.8							429.7
32-95	Critical Avionics Upgrade		5.7	12.4	3.7	1.8	4.2	3.4	2.3	0.9			34.4
33-95	Critical Structures (SLAP/SLEP)		2.7	1.0	2.2	1.6	1.1	1.4	1.5	2.9	3.9	4.2	22.4
XX-00	ES-3A Mission Planning System							0.8	0.9	0.9	0.9		3.4
TOTAL		409.1	19.9	19.8	6.7	5.2	5.4	5.7	4.6	4.7	4.8	4.2	489.9

Totals may vary due to rounding

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: S-3A to ES-3A Modification Program [Battle Group Passive Horizon Extension System (BGPHES) Airborne Component (AC)] (OSIP 79-88)

MODELS OF SYSTEM AFFECTED: **ES-3A** TYPE MODIFICATION: Operational Improvement / Modernization

DESCRIPTION/JUSTIFICATION:

S-3A to ES-3A Modification: Modifications of 16 (prototype plus 15 production) S-3A aircraft to an ES-3A configuration. Provision is also made to upgrade the prototype to production configuration at program completion. The ES-3A will be a dedicated replacement for the EA-3B using an augmented subset of the EP-3E Conversion-in-Lieu of Procurement (CILOP) sensor package. Per Secretary of the Navy guidance, the ES-3A mission avionics suite will be common with the EP-3E CILOP to the maximum extent possible.

GLOBAL POSITIONING SYSTEM (GPS): The basic ES-3A configuration includes the Global Positioning System (GPS); A kits and installation costs are included in this OSIP. GPS B kits (GFE) are procured through Common Avionics OSIP 71-88. Incorporates ECP 420 which corrects communication and lighting deficiencies identified during fleet issue 1 OPEVAL.

The ES-3A has an operational requirement for reliable UHF communications. The current UHF radio (AN/ARC-156) suffers from serious reliability and obsolescence problems and lacks the internal intermodulation protection required for proper operation in today's operational enviroment. The AN/ARC-187 UHF radio to be installed is a derivative of the AN/ARC-164 which is presently used by the Air Force. This radio will correct the deficiencies.

BGPHES AC: In addition, the ES-3A design configuration allows for the BGPHES interoperable data link enabling it to be the airborne component to the BGPHES AN/ULQ-20. Further description is classified.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

A competitively awarded contract was exercised in February 1988 for design, fabrication, support, testing and delivery of a modified S-3A aircraft. Fixed price options have been exercised for kit procurement and installation for the remaining 15 aircraft. Formal systems testing through DT/OT is accomplished in two phases using Fleet Issue 1 software, then Fleet Issue 2 software. FY 1994 funding provided non-recurring engineering and kits required to integrate the current GPS derived navigation information into the pilot's flight instruments in order to comply with September 1991 SECDEF direction requiring all military aircraft to be in compliance with the GPS Minimum Avionics Requirements (MAR). FY 1994 funds also procured a dedicated subset of mission avionics equipment for use with the interim basic operational system trainer and complete stand up for the Software Support Activity (SSA). FY 1995 - FY 1997 funding is for the procurement of the remaining BGPHES hardware (AN/ARC-18 Common Data Links) and ARC-187 Radios.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: S-3A to ES-3A Modification Program [Battle Group Passive Horizon Extension System (BGPHES) Airborne Component (AC)] (OSIP 79-88)

MODELS OF SYSTEM AFFECTED: ES-3A

TYPE MODIFICATION: Operational Improvement

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	**45**	**80.9**	**7**	**0.1**	**25**	**0.3**																	**77**	**81.3**
Installation Kit - Unit Price		*1.8*		*		*																		**1.8**
Installation Kits N/R		**76.4**																						**76.4**
Installation Equipment	**15**	**148.5**	**22**	**5.7**	**23**	**4.6**																	**60**	**158.8**
Installation Equipment N/R		**1.2**		**1.8**																				**2.9**
Engineering Change Orders																								
Data		**16.4**		*		**0.1**																		**16.5**
Training Equipment		**0.4**																						**0.4**
Support Equipment		**9.2**		**0.1**																				**9.3**
ILS		**5.9**		**0.1**		**0.1**																		**6.1**
Other Support		**54.5**		**3.7**		**1.2**		**0.9**		**0.1**														**60.4**
Interim Contractor Support																								
Installation Cost	44	15.8							30	1.7													** 74	17.5
TOTAL PROCUREMENT		409.1		11.6		6.4		0.9		1.8														429.7

Totals may vary due to rounding

*** Asterisk indicates funding below $51,000. ** 3 Prototype kits were installed during NRE.**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **ES-3A**

MODIFICATION TITLE: S-3A to ES-3A Modification Program [Battle Group Passive Horizon Extension System (BGPHES) Airborne Component (AC)] (OSIP 79-88) ARC-187 (CIP)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor installation**

ADMINISTRATIVE LEADTIME: **11** Months

PRODUCTION LEADTIME: **12** Months

CONTRACT DATES: **FY 1997: N/A** **FY 1998: N/A** **FY 1999: N/A**

DELIVERY DATE: **FY 1997: N/A** **FY 1998: N/A** **FY 1999: N/A**

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (15) kits			**15**	**1.6**													**15**	**1.6**
FY 1997 () kits																		
FY 1998 () kits																		
FY 1999 () kits																		
FY 2000 () kits																		
FY 2001 () kits																		
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL			**15**	**1.6**													**15**	**1.6**

* Indicates value less than $51,000.

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					**3**	**4**	**4**	**4**																
Out					**3**	**4**	**4**	**4**																

	FY 2003				TO COMPLETE	TOTAL
	1	2	3	4		
In						**15**
Out						**15**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **ES-3A**

MODIFICATION TITLE: S-3A to ES-3A Modification Program [Battle Group Passive Horizon Extension System (BGPHES) Airborne Component (AC)] (OSIP 79-88) CDL

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor installation**

ADMINISTRATIVE LEADTIME: **6** Months

PRODUCTION LEADTIME: **18** Months

CONTRACT DATES: **FY 1997: N/A** **FY 1998: N/A** **FY 1999: N/A**

DELIVERY DATE: **FY 1997: N/A** **FY 1998: N/A** **FY 1999: N/A**

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (15) kits			15	0.1													15	0.1
FY 1997 () kits																		
FY 1998 () kits																		
FY 1999 () kits																		
FY 2000 () kits																		
FY 2001 () kits																		
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL			15	0.1													15	0.1

* Indicates value less than $51,000.

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					3	4	4	4																
Out					3	4	4	4																

	FY 2003				TO COMPLETE	TOTAL
	1	2	3	4		
In						15
Out						15

79-88 ECP ATTACHMENT

ES-3 Series Mod

OSIP 79-88

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP-424 / CIP		.1	.2									0.3
Proc. Qty.		7	9									16
Proc. Unit Cost		*	*									
Installation Cost					1.7							1.7
Install Qty					30 **							30
ECP-1197 / CDL			.1									.1
Proc. Qty.			16 **									16
Proc. Unit Cost			*									
Installation Cost												
Install Qty												
ECP #420 / KIT (AIRFRAME)	80.5											80.5
Proc. Qty.	30											30
Proc. Unit Cost	2.7											
Installation Cost	15.8											15.8
Install Qty	44											44
ECP #422 / KIT GPS MAR	0.3											0.3
Proc. Qty.	15											15
Proc. Unit Cost	*											
Installation Cost												
Install Qty												
(Includes Prototype)												
* indicates value less than $51,000.												
TOTAL Other Cost	312.4	11.4	6.2	0.9	0.1							331.0
TOTAL Procurement Cost	409.1	11.6	6.4	.9	1.8							429.7
TOTAL Proc. Qty.	45	7	25									77
TOTAL Installation Cost	15.8				1.7							17.5
Total Install Qty.	44				30							74

* Indicates value less than $51,000.
** Includes prototype

Item No. 20-6

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **ES-3A Critical Avionics (OSIP 32-95)**

MODELS OF SYSTEM AFFECTED: **ES-3A** TYPE MODIFICATION: Reliability; Grounding Obsolescence

DESCRIPTION/JUSTIFICATION:

*CAINS II: (CAINS AN/ASN-92 Inertial Navigation System [CAINS I] Replacement/Electronic Flight Instrumentation (EFI): Designed in the late 1960's, the CAINS I has become increasingly non-supportable due to avionic parts obsolescence material condition of the chassis and internal wiring. The AN/ASN-92 provides one of two required heading platform stabilization sources necessary for embarked operations or night / instrument flight. Functional replacement will be the CAINS II system. There are no changes to aircraft performance. The EFI replaces flight essential heading and attitude flight instruments and associated converters/drivers. Replacement avionic hardware consists of Non-Developmental Item (NDI) glass displays for the cockpit and 1553B digital Bus System Interface Unit (BSIU) which connects the display and the existing navigation system digital bus.

OE320: Correction of identified deficiency. Further description is classified

*FLIGHT DATA COMPUTER (FDC): The present FDC is subject to failure modes which have been demonstrated to cause uncommanded roll inputs to the flight control system. Continued fleet use has required electrical disconnect of roll axis as an interim measure. An operable FDC is required for flight.

VAPOR CYCLE SYSTEM (VCS): This modification is required to qualify the Vapor Cycle System (VCS) with a non-chlorofluoracarbon (CFC) refrigerant to meet design specifications. Executive order mandates 1995 compliance with CFC emission restrictions of the Clean Air Act of 1990. CFC-12, the present refrigerant, will not be manufactured after 1995. The approved industry standard replacement is HFC-134. The system is critical to cooling mission avionics.

USH-26 REPLACEMENT: The current USH-26 software mission loader has unacceptable reliability of successful mission software loads and has extensive software load time for the carrier environment. The software is uploaded to a memory expansion unit which is a critical avionics obsolescence issue. This program would replace both the USH-26 and the memory expansion unit with the removable hard drive and VME Chassis.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Non-recurring engineering that is common for both ES-3A and S-3 platforms for the CAINS, Electronic Flight Instrumentation and Flight Data Computer is covered under the S-3 Critical Avionics OSIP. Non-recurring engineering funding covered under this OSIP is for ES-3A unique integration. Follow-on test and evaluation (FOT&E) will assess ES-3A unique changes. NRE for Vapor Cycle System and USH-26 has occured in FY 1996 and FY 1997, respectively. Navy flight testing and procurement of install kits will occur in FY 1997.

*NOTE: These equipments were identified as critical obsolescence / support items with potential grounding effects much sooner than those caused by structural fatigue. ES-3A cost estimates are premised on implementation of OSIP 20-95 for S-3 aircraft to sustain economics of scale and logistic supportability.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **ES-3A Critical Avionics (OSIP 32-95)**

MODELS OF SYSTEM AFFECTED: **ES-3A** TYPE MODIFICATION: Reliability; Grounding Obsolescence

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																						
PROCUREMENT																						
Installation Kits			16	0.1			2	0.1	3	0.2	6	0.4	5	0.4							32	1.2
Installation Kit - Unit Price				*				0.1		0.1		0.1		0.1								
Installation Kits N/R**				0.3				0.5														0.8
Installation Equipment			32	3.0	16	0.7	2	0.5	12	2.4	13	2.6	5	1.2							80	10.4
Installation Equipment N/R				7.8		1.2																8.9
Engineering Change Orders																						
Data				0.1		0.1		*														0.3
Training Equipment		1.1								0.1												1.2
Support Equipment																						
ILS		*		0.2		0.2																0.4
Other Support		4.5		0.9		1.5		0.5		1.4		0.1		0.1		0.5						9.5
Interim Contractor Support																						
Installation Cost							15	0.1	2	0.2	3	0.3	6	0.5	5	0.5					31	1.6
TOTAL PROCUREMENT		5.7		12.4		3.7		1.8		4.2		3.4		2.3		0.9						34.4

*** Indicates value less than $51,000**

**** One FY96 Prototype kit installed under Install kit NRE.**

Totals may vary due to rounding

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **ES-3A**

MODIFICATION TITLE: **ES-3A Critical Avionics (OSIP 32-95) CAINS II/EFI**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contactor Field Mod Team**

ADMINISTRATIVE LEADTIME: **3** Months

PRODUCTION LEADTIME: **17** Months

CONTRACT DATES: FY 1997: ____ FY 1998: 1/98 FY 1999: 10/98

DELIVERY DATE: FY 1997: ____ FY 1998: 6/99 FY 1999: 3/00

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																		
FY 1997 () kits																		
FY 1998 (2) kits					2	0.2											2	0.2
FY 1999 (3) kits							3	0.3									3	0.3
FY 2000 (6) kits									6	0.5							6	0.5
FY 2001 (5) kits											5	0.5					5	0.5
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL					2	0.2	3	0.3	6	0.5	5	0.5					16	1.5

* Indicates value less than $51,000.

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In										1	1			1	2			2	2	2		2	2	1
Out										1	1			1	2			2	2	2		2	2	1

	FY 2003				TO COMPLETE	TOTAL
	1	2	3	4		
In						16
Out						16

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **ES-3A**

MODIFICATION TITLE: **ES-3A Critical Avionics (OSIP 32-95) USH-26 Replacement**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contactor Field Mod Team**

ADMINISTRATIVE LEADTIME: **10** Months

PRODUCTION LEADTIME: **12** Months

CONTRACT DATES: FY 1997: ____ FY 1998: ____ FY 1999: ____

DELIVERY DATE: FY 1997: ____ FY 1998: ____ FY 1999: ____

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (16) kits	1		15	0.1													16	0.1
FY 1997 () kits																		
FY 1998 () kits																		
FY 1999 () kits																		
FY 2000 () kits																		
FY 2001 () kits																		
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL	1		15	0.1													16	0.1

* Indicates value less than $51,000.

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		1			3	4	4	4																
Out		1			3	4	4	4																

	FY 2003				TO COMPLETE	TOTAL
	1	2	3	4		
In						16
Out						16

32-95 ECP ATTACHMENT

ES-3 Series Mod

OSIP 32-95

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP-428/ CAINS II					0.1	0.2	0.4	0.4				1.1
Proc. Qty.					2	3	6	5				16
Proc. Unit Cost					0.1	0.1	0.1	0.1				
Installation Cost						0.2	0.3	0.5	0.5			1.4
Install Qty						2	3	6	5			16
ECP-11641 / USH-26			0.1									0.1
Proc. Qty.			16									16
Proc. Unit Cost			*									
Installation Cost					0.1							0.1
Install Qty**					15							15
TOTAL Other Cost		5.7	12.3	3.7	1.6	3.9	2.8	1.4	0.5			31.7
TOTAL Procurement Cost		5.7	12.4	3.7	1.8	4.2	3.4	2.3	0.9			34.4
TOTAL Proc. Qty.			16		2	3	6	5				32
TOTAL Installation Cost					0.1	0.2	0.3	0.5	0.5			1.6
Total Install Qty.					15	2	3	6	5			31

* indicates value less than $51,000.
** Installation occurs as part of Install Kit NRE.

Item No. 20-11

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Critical Structures/Service Life Assessment Program (SLAP)/Service Life Extension Program (SLEP) (OSIP 33-95)

MODELS OF SYSTEM AFFECTED: ES-3A (Common program with S-3B) TYPE MODIFICATION: **Sustainment**

DESCRIPTION/JUSTIFICATION:

S-3 AND ES-3A aircraft are included in the Naval Aviation Plan to support the carrier Battle Group through CY 2015. The S-3A aircraft was procured from 1972 to 1976 (1960's design/avionic technology). The S-3B Weapons System Improvement Program, which modified the S-3A to an S-3B, focused primarily on weapon system upgrades for mission enhancement and did not upgrade the critical airframe safety of flight avionics systems. The ES-3A aircraft similarly has not received an upgrade of its airframe safety of flight systems. This upgrade is a series of modifications required in order to ensure effective, safely flyable aircraft through the year 2015. Specifically, the Critical Structures modification includes replacement of the windshield temperature controller and the following airframe components: wing fold lug, horizontal stabilizer hinge fitting, flight control elements, fuel flow/bleed air select vent valves, counterweights, and flap track ribs. SLAP will perform fatigue and operational loads analysis to verify that the fatigue spectrum and aircraft utilization has not significantly changed since aircraft introduction. SLEP will incorporate the necessary structural upgrades beyond those accomplished by the Critical Structures modification, to extend the aircraft service life to 2015.

RECURRING KIT STATUS: The Critical Structures Airframe kit (consisting of horizontal stabilizer hinge fitting, counterweights, flap track ribs, and flow/bleed air select vent valves) the Flight Control Elements Kit, and the Inner Wing Empennage Kit are for all 16 ES-3A aircraft. The Wingfold Replacement kit is required for 9 of the ES-3A aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Replacement of the airframe components/windshield temperature controller does not require any development. Non-recurring engineering for all five components was completed in FY 1995. The first production buy began in FY 1996 with installs commencing in FY 1997. The non-recurring engineering required within SLAP/SLEP efforts include: the finite element model, SLEP test article definition, SLEP kit fabrication and analysis, wing fold lug NRE & test, full scale fatigue test, the fatigue article teardown, and post test analysis will be accomplished by FY 2000.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Critical Structures/Service Life Assessment Program (SLAP)/Service Life Extension Program (SLEP) (OSIP 33-95)**

MODELS OF SYSTEM AFFECTED: **ES-3A (Common program with S-3B)** TYPE MODIFICATION: **Sustainment**

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																						
PROCUREMENT																						
Installation Kits	16	0.1	6	0.2	6	0.2	10	0.2	10	0.2	6	0.1	8	0.6	5	0.8	6	1.1			73	3.5
Installation Kit - Unit Price		*		*		*		*		*		*		0.1		0.2		0.2				
Installation Kits N/R		2.4				1.4																3.8
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		*		0.2				0.3														0.5
Training Equipment																						
Support Equipment																						
ILS				0.2		0.1		0.1														0.3
Other Support				0.5		0.1		0.6		0.4		0.7		0.6		0.6		0.8		1.6		5.9
Interim Contractor Support																						
Installation Cost	16	0.1			6	0.4	6	0.5	10	0.5	10	0.6	6	0.3	8	1.4	5	2.0	6	2.6	73	8.4
TOTAL PROCUREMENT		2.7		1.0		2.2		1.6		1.1		1.4		1.5		2.9		3.9		4.2		22.4

*** Indicates value less than $51,000**

Totals may vary due to rounding

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **ES-3A**

MODIFICATION TITLE: Critical Structures/Service Life Assessment Program (SLAP)/Service Life Extension Program (SLEP) (OSIP 33-95) Flight Control Elements Kit

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor and NADEP Field Mod Team**

ADMINISTRATIVE LEADTIME: **4** Months

PRODUCTION LEADTIME: **9** Months

CONTRACT DATES: FY 1997: 1/97 FY 1998: 1/98 FY 1999: 1/99

DELIVERY DATE: FY 1997: 10/97 FY 1998: 10/98 FY 1999: 10/99

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (2) kits	2	0.2															2	0.2
FY 1997 (2) kits			2	0.2													2	0.2
FY 1998 (2) kits					2	0.2											2	0.2
FY 1999 (2) kits							2	0.2									2	0.2
FY 2000 (2) kits									2	0.2							2	0.2
FY 2001 (2) kits											2	0.2					2	0.2
FY 2002 (2) kits													2	0.2			2	0.2
FY 2003 (2) kits															2	0.2	2	0.2
To Complete () kits																		
TOTAL	2	0.2	2	0.2	2	0.2	2	0.2	2	0.2	2	0.2	2	0.2	2	0.2	16	1.6

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002	
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2
In			1	1	1		1		1		1		1		1		1		1		1	
Out						1	1	1		1		1		1		1		1		1		1

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In	1		1		2	15
Out		1		1	3	15

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **ES-3A**

MODIFICATION TITLE: Critical Structures/Service Life Assessment Program (SLAP)/Service Life Extension Program (SLEP) (OSIP 33-95) Inner Wing Empennage Kit

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor and NADEP Field Mod Team**

ADMINISTRATIVE LEADTIME: **3** Months

PRODUCTION LEADTIME: **9** Months

CONTRACT DATES: FY 1997: ____ FY 1998: 1/98 FY 1999: 1/99

DELIVERY DATE: FY 1997: ____ FY 1998: 10/98 FY 1999: 10/99

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																		
FY 1997 () kits																		
FY 1998 (4) kits					4	0.1											4	0.1
FY 1999 (4) kits							4	0.1									4	0.1
FY 2000 (4) kits									4	0.1							4	0.1
FY 2001 (4) kits											4	0.1					4	0.1
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL					4	0.1	4	0.1	4	0.1	4	0.1					16	0.2

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In									1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Out										1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						16
Out	1					16

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **ES-3A**

MODIFICATION TITLE: Critical Structures/Service Life Assessment Program (SLAP)/Service Life Extension Program (SLEP) (OSIP 33-95) Wingfold Rib

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor and NADEP Field Mod Team**

ADMINISTRATIVE LEADTIME: **4** Months

PRODUCTION LEADTIME: **9** Months

CONTRACT DATES: FY 1997: ____ FY 1998: ____ FY 1999: ____

DELIVERY DATE: FY 1997: ____ FY 1998: ____ FY 1999: ____

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																		
FY 1997 () kits																		
FY 1998 () kits																		
FY 1999 () kits																		
FY 2000 () kits																		
FY 2001 (2) kits									2	1.1							2	1.1
FY 2002 (3) kits											3	1.8					3	1.8
FY 2003 (4) kits													4	2.4			4	2.4
To Complete () kits																		
TOTAL									2	1.1	3	1.8	4	2.4			9	5.3

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																						1	1	
Out																								1

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In	1	1	1		4	9
Out		1		1	6	9

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **ES-3A**

MODIFICATION TITLE: Critical Structures/Service Life Assessment Program (SLAP)/Service Life Extension Program (SLEP) (OSIP 33-95) Critical Structures Airframe Kit

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor and NADEP Field Mod Team**

ADMINISTRATIVE LEADTIME: **4** Months

PRODUCTION LEADTIME: **9** Months

CONTRACT DATES: FY 1997: 1/97 FY 1998: 1/98 FY 1999: 1/99

DELIVERY DATE: FY 1997: 10/97 FY 1998: 10/98 FY 1999: 10/99

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (4) kits	4	0.3															4	0.3
FY 1997 (4) kits			4	0.3													4	0.3
FY 1998 (4) kits					4	0.3											4	0.3
FY 1999 (4) kits							4	0.3									4	0.3
FY 2000 () kits																		
FY 2001 () kits																		
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL	4	0.3	4	0.3	4	0.3	4	0.3									16	1.1

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		1	1	2	1	1	1	1	1	1	1	1	1	1	1	1								
Out			1	1	2	1	1	1	1	1	1	1	1	1	1	1	1							

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						16
Out						16

33-95 ECP ATTACHMENT

ES-3 Series Mod

OSIP 33-95

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
AL-789,796,802,808 / Crit. Str. ARF Kit			.1	.1	.1	.1						0.4
Proc. Qty.			4	4	4	4						16
Proc. Unit Cost			*	*	*	*						
Installation Cost				.3	.3	.3	.3					1.1
Install Qty				4	4	4	4					16
AL-848-95 / Inner Wing Empennage Kit					*	.1	.1	.1				0.2
Proc. Qty.					4	4	4	4				16
Proc. Unit Cost					*	*	*	*				
Installation Cost						.1	.1	.1	.1			0.2
Install Qty						4	4	4	4			16
AL-807 / Flight Control Elements			.1	.1	.1	.1	.1	.1	.1	.1		0.5
Proc. Qty.			2	2	2	2	2	2	2	2		16
Proc. Unit Cost			*	*	*	*	*	*	*	*		
Installation Cost				.2	.2	.2	.2	.2	.2	.2	.2	1.6
Install Qty				2	2	2	2	2	2	2	2	16
TBD / Wingfold Rib								.5	.8	1.0		2.3
Proc. Qty.								2	3	4		9
Proc. Unit Cost								0.2	0.3	0.3		
Installation Cost									1.1	1.8	2.4	5.3
Install Qty									2	3	4	9
SEI-228-1A / SDRS		0.1										0.1
Proc. Qty.		16										16
Proc. Unit Cost		*										
Installation Cost		0.1										0.1
Install Qty		16										16
TOTAL Other Cost		2.6	0.8	2.1	1.4	0.9	1.2	0.9	2.0	2.8	4.1	18.9
TOTAL Procurement Cost		2.7	1.0	2.2	1.6	1.1	1.4	1.5	2.9	3.9	4.1	22.4
TOTAL Proc. Qty.		16	6	6	10	10	6	8	5	6		73
TOTAL Installation Cost		0.1		0.4	0.5	0.5	0.6	0.3	1.4	2.0	2.6	8.4
Total Install Qty.		16		6	6	10	10	6	8	5	6	73

* indicates value less than $51,000.

Item No. 20-18

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **SEPTEMBER 1997**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
F-18 Series Modification

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	228.6		93.0	75.7	143.1	156.2	203.3	309.2	195.4	158.1	192.3	537.0	2,292.0

This line item funds modifications to to F/A-18 aircraft. The F/A-18 Naval Strike Fighter is a twin-engine, mid-wing, multi-mission tactical aircraft. The F/A-18 is employed in both Navy and Marine Corps squadrons. Commencing with the FY 1988 procurement, both the single seat and two-seat F/A-18's include a night attack capability. F/A-18 can be missionized through selected use of external equipment to accomplish specific fighter or attack missions. This commonality provides the Operational Commander more flexibility in employing his tactical aircraft in a dynamic scenario. The primary design mission for the F/A-18 is a strike fighter which includes the traditional fighter applications, such as fighter escort and fleet air defense, combined with the attack applications, such as interdiction and close air support. Since the same fighter and self defense capability is retained, the overall goal of the modifications budgeted in FY 1999 is to implement commonality/capability. The specific modifications budgeted and programmed are:

(TOA, $ in Millions **PMA 265 expanded controls**

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
11-84	Correction of Discrep.	$183.5	$51.6	$18.1	$22.3	$14.2	$33.3	$49.7		$20.5	$21.0	$12.9	$427.1
39-92	AN/ARC-210	$8.2	$0.6		$0.5	$0.4							$9.7
19-94	Common Configuration	$24.4	$27.8	$19.3	$30.7	$26.4	$23.8	$57.0	$61.4	$29.3	$57.9	$17.1	$375.2
36-94	EGI/GPS	$2.7	$3.1	$15.9	$7.3	$7.7	$10.4	$7.3	$5.4			$11.6	$71.4
38-94	AN/APG-73 RUG	$9.9	$9.9	$8.2	$7.8	$32.2	$20.0	$31.7	$18.3	$63.5	$56.8	$96.7	$355.0
12-96	PID			$14.2	$13.6	$12.0	$12.0	$1.5	$1.3			$156.9	$211.5
3-97	ATARS				$61.0	$63.4	$48.2	$59.7	$25.9				$258.1
10-99	DCS						$6.1	$1.4	$1.4	$1.8	$1.8	$2.2	$14.7
11-99	SLEP						$8.1	$17.6	$8.7	$17.3	$27.5	$207.3	$286.6
12-99	MIDS						$32.1	$73.0	$68.9	$12.1	$14.0	$17.7	$217.7
20-99	NACES P3I						$7.2	$9.5	$2.9				$19.7
21-99	ALR-67(V)3						$2.0	$0.8	$1.1	$0.9	$0.8	$14.5	$20.2
02	Expand 4/5									$12.7	$12.4		$25.1
TOTAL		$228.6	$93.0	$75.7	$143.1	$156.2	$203.3	$309.2	$195.4	$158.1	$192.3	$537.0	$2,292.0
	RESERVE INCLUDED IN TOTAL					$2.526	$4.956	$4.963					

NOTE: Totals may be off due to rounding.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Correction of Discrepancies Identified during Preliminary Evaluation, Subsequent Flight Test Programs and Fleet Operations (OSIP 11-84)

MODELS OF SYSTEM AFFECTED: **F/A-18A/B/C/D** TYPE MODIFICATION: **SAFETY /RELIABILITY/STRUCTURAL**

DESCRIPTION/JUSTIFICATION:

*Corrections to discrepancies found during testing and evaluation can sometimes be incorporated into production aircraft, effective with the physical configuration audit which establishes the product baseline of the aircraft. However, when this cannot be done due to time constraints, retrofit of the changes into already delivered aircraft requires funding through the Aircraft Modification Program. Additionally, deficiencies discovered during fleet operations must be corrected. The unacceptable alternative to retrofitting would be multiple configurations in the fleet, which will create maintenance and supply problems, and in many cases the mission capability of the aircraft would be adversely affected as well as reduced service life. Corrections to the following items/conditions are required:

Auto AC Bus Isolation (ECP 121)
Battery Control Relay Unit (ECP 165R1)
FY86 Block Upgrade (ECP 178)
Center Fuselage Structural Mods (ECP 241R1)
ST-16 Fatigue Repairs (ECP 251R1)
470.5 Bulkhead (ECP 262)
Righthand AMAD Bay (ECP 267)
Y508 Former (ECP 276)
AC Bus Wiring MOD (ECP 284)
AFT Engine Mount (ECP 305)
Y657.35 Engine Bay Door (ECP 306)
Coiled Spring Planing Link (ECP 311)
MLG Trunnion Upgrade (ECP 319)
Deployable Flight Incident Recorder (ECP 321)
AN/ASQ-173 Laser Detector/Tracker (ECP 342)
Wing Fatigue Repair (ECP 353)
MLG Shoulder Belt (ECP 355)
ASPS Improvements (ECP 364)
Bulkhead Beefup (ECP 365)
Fuel Cell Floor Cracks (ECP 367)
MLG Retract Actuator (ECP 375)
Fretting on Former's & Spindle (ECP 391)
Wing Attach Improvement (ECP 393)
Acoustic Fatigue Cracks (ECP 402)
SMS Encoder/Decoder (ECP 414)
Inlet Duct Skin Crack (ECP 417)
Y470.5 Bulkhead MLG Trunnion (ECP 428)
Speed Brake Trough (ECP 440)
FLIR Power Supply Cutoff Circuit (ECP 450)
Aileron Hinge (ECP 463R1)
Wing Pylon Door Redesign (ECP 488)
Y470.5 Bulkhead Fatigue Crack (ECP 492)
Fuselage Skin at Y453 (ECP 498)
LAU-115 Steel Rail (ECP 500)
Nacelle Skin Fatigue Improvements (ECP 501)
LAU-115 Sparrow Mod (Steel Insert) (ECP 506)
Inner-Wing SPAR (ECP 544)
Fuel Barrier Web (ECP 548)
Y326.5 Plate Nut Repair (ECP 561)
Lower Center Keel Fire Hazard (ECP 562)
NAVFLIR Adapter (JAX-021)
High Altitude Laser (JAX 032)
ECS Wiring Mod (NI 742)
Wing Fuel Dams (ECP NI 796)
MLG Trunnion Assembly (NI 824)
Heat Exchanger (ECP NI 827)
Night Vision Display System (NVDS) (ECP NI 830)
Trailing Edge Flap (NI 839)
Aileron Hinge Mod (NI 844)
RAMAC ANTI G VALVE
RAMEC WHEEL SPIN WIRE

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Each change has been or will be tested prior to installation in the F/A-18.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Correction of Discrepancies Identified during Preliminary Evaluation, Subsequent Flight Test Programs and Fleet Operations (OSIP 11-84)**

MODELS OF SYSTEM AFFECTED: **F/A-18A/B/C/D** TYPE MODIFICATION: **SAFETY /RELIABILITY/STRUCTURAL**

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																
PROCUREMENT																
Installation Kits	40,308	74.0	14,354	27.7	1,103	7.5	2,265	5.3	336	2.3	1,257	7.0	1,522	13.9		
Installation Kit - Unit Price				0.0		0.0		0.0		0.0		0.0		0.0		
Installation Kits N/R		1.6				0.5		0.0		0.5						
Installation Equipment		0.2														
Installation Equipment N/R																
Engineering Change Orders																
Data		0.8														
Training Equipment																
Support Equipment				0.3		0.9		0.3		0.3		0.6		1.8		
ILS		0.0		0.5		1.3		1.4		0.8		2.5		2.8		
Other Support																
Interim Contractor Support																
Installation Cost		106.9	2,304	23.1	764	8.0	1,076	15.4	670	10.3	1,884	23.2	2,707	31.1		
TOTAL PROCUREMENT		**183.5**		**51.6**		**18.1**		**22.3**		**14.2**		**33.3**		**49.7**		

	FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E								
PROCUREMENT								
Installation Kits	422	4.1	1,185	7.1			48.4	148.8
Installation Kit - Unit Price								
Installation Kits N/R								2.6
Installation Equipment								0.2
Installation Equipment N/R								
Engineering Change Orders								
Data								0.8
Training Equipment								
Support Equipment		0.5		0.8				5.6
ILS		1.6		1.2				12.1
Other Support								
Interim Contractor Support								
Installation Cost	1,399	14.3	1,125	11.8	147	12.9	12,076	257.0
TOTAL PROCUREMENT		**20.5**		**21.0**		**12.9**		**427.1**

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
ECP 121/Auto Bus Isolation								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.004	0.005		0.004	0.013		0.011	
Install Qty	3	4		5	12		12	
ECP 165R1/Battery Control Relay Unit								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost					0.492		0.541	0.135
Install Qty					20		20	5
ECP 178/FY86 Block Upgrade								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost		0.003			0.003			
Install Qty		1			1			
ECP 241R1/Center Fuselage Structural Mods								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.029	0.029		0.065	0.841		0.156	
Install Qty	3	3		5	58		10	
ECP 251R1/ST-16 Fatigue Repairs								
Total Procurement Cost	**1.268**				**7.195**		**2.586**	**0.651**
Proc. Qty.	117				333		177	105
Proc. Unit Cost	**0.011**				**0.022**		**0.015**	**0.006**
Installation Cost	0.274	0.165	0.076	1.682	3.690		2.213	3.322
Install Qty	16	9	3	46	112		60	89
ECP 262/470.5 Bulkhead								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.003		0.002	0.005	0.010		0.004	
Install Qty	2		1	3	5		2	
ECP 267R1/Righthand AMAD Bay								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost		0.002	0.002	0.004	0.028			
Install Qty		1	1	2	14			

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
ECP 276/Y508 Former								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.016	0.030	0.008	0.018	0.128			
Install Qty	5	8	2	4	26			
ECP 284/AC Bus Wiring								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.005							
Install Qty	1							
ECP 305/AFT Engine Mount								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost				0.073	0.251			
Install Qty				12	38			
ECP 306/Y657.35 Engine Bay Door								
Total Procurement Cost	**0.800**							
Proc. Qty.	50							
Proc. Unit Cost	**0.016**							
Installation Cost	0.525	0.160	0.088	0.097	0.611		0.214	0.155
Install Qty	57	18	9	9	51		16	10
ECP 311/Coiled Spring Planing Link								
Total Procurement Cost	**0.034**							
Proc. Qty.	10							
Proc. Unit Cost	**0.003**							
Installation Cost								
Install Qty								
ECP 319/MLG Trunnion Upgrade								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.250	0.115	0.127					
Install Qty	99	50	50					

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
ECP 320/Y480 Bulkhead Cracks								
Total Procurement Cost	**0.105**							
Proc. Qty.	50							
Proc. Unit Cost	**0.002**							
Installation Cost	0.103	0.099	0.094	0.326	1.323			
Install Qty	7	7	6	19	60			
ECP 321/Deployable Flight Incident Recorder								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.086	0.012	0.004		0.008			
Install Qty	42	6	2		3			
ECP 342/AN/ASQ-173 Laser Detector/Tracker								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost				0.100	0.072			
Install Qty				107	79			
ECP 353/Wing Fatigue Repair								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost				0.019	0.032			
Install Qty				2	3			
ECP 355/MLG Shoulder Belt								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.010	0.015	0.008	0.015	0.131		0.021	
Install Qty	8	20	8	11	83		12	
ECP 364/ASPS Improvements								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.005		0.028	0.149	0.475		0.148	
Install Qty	2		13	63	185		50	

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
ECP 365/Bulkhead Beefup								
Total Procurement Cost	**0.050**							
Proc. Qty.	20							
Proc. Unit Cost	**0.003**							
Installation Cost	0.178	0.175	0.116	0.231	1.270		0.356	
Install Qty	29	30	18	38	170		45	
ECP 367/Fuel Cell Floor Cracks								
Total Procurement Cost				**0.006**				
Proc. Qty.				3				
Proc. Unit Cost				**0.002**				
Installation Cost	2.152	0.549	0.475	0.950	2.585		1.580	0.718
Install Qty	106	28	22	40	99		55	25
ECP 375/MLG Retract Actuator								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.266	0.194	0.109	0.239	1.316		0.226	
Install Qty	26	21	10	20	100		9	
ECP 391/Fretting on Former's & Spindle								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.279	0.065	0.043	0.157	0.231		0.114	
Install Qty	104	25	15	50	67		30	
ECP 393/Wing Attach Improvement								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost		0.012	0.005	0.003	0.028			
Install Qty		5	2	1	9			
ECP 402/Acoustic Fatigue Cracks								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	1.773	1.005	0.355	1.666	2.339		1.427	0.671
Install Qty	60	35	12	89	109		68	50
ECP 414/SMS Encoder/Decoder								
Total Procurement Cost								**0.010**
Proc. Qty.								92
Proc. Unit Cost								**0.000**
Installation Cost								
Install Qty								

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
ECP 417/Inlet Duct Skin Crack								
Total Procurement Cost				**0.385**				
Proc. Qty.				77				
Proc. Unit Cost				**0.005**				
Installation Cost	0.016	0.211	0.127	0.715	1.223		0.769	0.769
Install Qty	3	30	17	90	140		80	80
ECP 428/Y470.5 Bulkhead MLG Trunnion								
Total Procurement Cost	**0.100**							
Proc. Qty.	2							
Proc. Unit Cost								
Installation Cost								
Install Qty								
ECP 440/Speed Brake Trough								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.720	0.244	0.188	0.266	0.545		0.268	0.268
Install Qty	114	40	28	36	67		30	30
ECP 450/FLIR Power Supply Cutoff Circuit								
Total Procurement Cost		**2.400**						
Proc. Qty.		150						
Proc. Unit Cost		**0.016**						
Installation Cost								
Install Qty								
ECP 463/Aileron Hinge								
Total Procurement Cost				**0.253**	**0.234**		**1.496**	**4.370**
Proc. Qty.				21	20		125	364
Proc. Unit Cost				**0.012**	**0.012**		**0.012**	**0.012**
Installation Cost	0.006			0.815	1.219		1.341	1.341
Install Qty	2			104	300		300	300
ECP 488/Wing Pylon Door Redesign								
Total Procurement Cost	**0.400**			**0.389**	**0.387**			**0.373**
Proc. Qty.	400			458	455			339
Proc. Unit Cost	**0.001**			**0.001**	**0.001**			**0.001**
Installation Cost								
Install Qty								
ECP 492/Y470.5 Bulkhead Fatigue Crack								
Total Procurement Cost			**0.046**					
Proc. Qty.			19					
Proc. Unit Cost			**0.002**					
Installation Cost		0.226	0.126	0.631	0.596		0.634	0.542
Install Qty		32	17	72	62		60	50

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
ECP 498/Fuselage Skin at Y453								
Total Procurement Cost	**0.030**	**0.013**		**0.030**	**0.030**		**0.030**	**0.029**
Proc. Qty.	120	50		120	120		120	114
Proc. Unit Cost	**0.000**	**0.000**		**0.000**	**0.000**		**0.000**	**0.000**
Installation Cost				0.111	0.076		0.168	0.168
Install Qty				40	25		50	50
ECP 500/LAU-115 Steel Rail								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost								
Install Qty								
ECP 501/Nacelle Skin Fatigue Improvements								
Total Procurement Cost	**0.985**			**1.232**	**1.542**			**1.694**
Proc. Qty.	92			137	159			171
Proc. Unit Cost	**0.011**			**0.009**	**0.010**			**0.010**
Installation Cost	0.011	0.386	0.272	0.732	0.514		0.566	1.045
Install Qty	1	30	20	50	30		30	60
ECP 506/LAU-115 Sparrow Mod (Steel Insert)								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost		2.789	0.257	1.801	0.129			
Install Qty		160	20	140	10			
ECP 544/Inner-Wing SPAR								
Total Procurement Cost	**0.410**							
Proc. Qty.	25							
Proc. Unit Cost	**0.016**							
Installation Cost	0.039	0.015		0.199				
Install Qty	5	2		22				
ECP 548/Fuel Barrier Web								
Total Procurement Cost			**1.000**	**1.000**	**1.500**			
Proc. Qty.			100	100	150			
Proc. Unit Cost			**0.010**	**0.010**	**0.010**			
Installation Cost				0.462	0.102		0.112	0.112
Install Qty				50	10		10	10
ECP 561/Y326.5 Plate Nut Repair								
Total Procurement Cost		**0.300**	**0.150**	**0.150**				
Proc. Qty.		150	75	75				
Proc. Unit Cost		**0.002**	**0.002**	**0.002**				
Installation Cost				0.092	0.102		0.112	0.112
Install Qty				10	10		10	10

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
ECP 562/Lower Center Keel Fire Hazard								
Total Procurement Cost			**0.400**	**0.400**	**0.600**			
Proc. Qty.			100	100	150			
Proc. Unit Cost			**0.004**	**0.004**	**0.004**			
Installation Cost				0.092	0.102		0.112	0.112
Install Qty				10	10		10	10
ECP JAX 021/NAVFLIR Adapter								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost		0.159	0.105	0.192	0.106		0.116	0.232
Install Qty		40	24	40	20		20	40
ECP JAX 032/High Altitude Laser								
Total Procurement Cost		**0.441**						
Proc. Qty.		315						
Proc. Unit Cost		**0.001**						
Installation Cost		0.954	0.371	0.954	0.954			
Install Qty		90	35	90	10			
NI 742/ECS Wiring Mod								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.003							
Install Qty	1							
NI 796/Wing Fuel Dams								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost		0.890	0.423	2.660	0.732		0.644	
Install Qty		81	35	200	50		40	
NI 824/MLG Trunnion Assembly								
Total Procurement Cost	**0.531**			**2.255**	**2.074**			
Proc. Qty.	14			104	109			
Proc. Unit Cost	**0.038**			**0.022**	**0.019**			
Installation Cost								
Install Qty								
NI 827/Heat Exchanger								
Total Procurement Cost	**0.409**							
Proc. Qty.	37							
Proc. Unit Cost	**0.011**							
Installation Cost								
Install Qty								

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03
NI 830/Night Vision Display System (NVDS)								
Total Procurement Cost	**0.302**							
Proc. Qty.	14							
Proc. Unit Cost	**0.022**							
Installation Cost								
Install Qty								
NI 839/Trailing Edge Flap								
Total Procurement Cost	**2.056**		**0.681**	**0.916**	**0.384**			
Proc. Qty.	152		42	62	26			
Proc. Unit Cost	**0.014**		**0.016**	**0.015**	**0.015**			
Installation Cost	1.209	6.857	6.857	6.857	6.583			
Install Qty	66	300	300	300	288			
NI 844/Aileron Hinge Mod								
Total Procurement Cost								
Proc. Qty.								
Proc. Unit Cost								
Installation Cost	0.009			0.815	2.256		2.481	2.053
Install Qty	2			104	370		370	306
RAMEC - ANTI G VALVE								
Total Procurement Cost		**1.124**						
Proc. Qty.		800						
Proc. Unit Cost		**0.001**						
Installation Cost								
Install Qty								
RAMEC WHEEL SPIN WIRE								
Total Procurement Cost		**0.972**						
Proc. Qty.		800						
Proc. Unit Cost		**0.001**						
Installation Cost								
Install Qty								
TOTAL Procurement Cost	**7.479**	**5.250**	**2.277**	**7.015**	**13.946**		**4.111**	**7.127**
TOTAL Proc. Qty.	**1.103**	**2.265**	**0.336**	**1.257**	**1.522**		**0.422**	**1.185**
TOTAL Installation Cost	**7.974**	**15.366**	**10.267**	**23.197**	**31.116**		**14.334**	**11.755**
Total Install Qty.	**0.764**	**1.076**	**0.670**	**1.884**	**2.707**		**1.399**	**1.125**
TOTAL NON-RECURRING	**0.491**	**0.028**	**0.505**					
OTHER COSTS	**2.196**	**1.626**	**1.041**	**3.116**	**4.599**		**2.094**	**2.092**
TOTAL APN-5 COST	**18.140**	**22.270**	**14.089**	**33.328**	**49.662**		**20.539**	**20.974**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/ARC-210 ELECTRONIC PROTECTION (EP) COMBINATION RADIO (OSIP 39-92)

MODELS OF SYSTEM AFFECTED: F/A-18 C&D Aircraft TYPE MODIFICATION: AVIONICS UPGRADE

DESCRIPTION/JUSTIFICATION:

The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistant radio that was developed to allow for EP interoperability with the Air Force, Army and NATO. The radio provides dual UHF capability for carrier based TACAIR; VHF FM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINCGARS) The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The EP parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVEQUICK; the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

F/A-18 was the lead aircraft for the AN/ARC-210 developmnt program; therefore, retrofit procurement began in FY92. AN/ARC-210 Milestone III was approved in April 1994. First article test completed in January 1994. Production radios are installed in FY92 (Block 43) and later aircraft.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																0.0
PROCUREMENT																
Installation Kits	79	1.3													79	1.3
Installation Kit - Unit Price		0.0														
Installation Kits N/R		0.2		0.6												0.8
Installation Equipment **	114	5.6													114	5.6
Installation Equipment N/R																
Engineering Change Orders																
Data		0.3														0.3
Training Equipment																
Support Equipment																
ILS																
Other Support																
Interim Contractor Support																
Installation Cost	35	0.9					27	0.5	17	0.4					79	1.8
TOTAL PROCUREMENT		**8.2**		**0.6**		**0.0**		**0.5**		**0.4**		**0.0**		**0.0**		**9.7**

**** Quantities refer to number of radios (2/aircraft). The equipment and common logistics requirements for this OSIP have been funded in the AN/ARC-210 Common OSIP (4-94) starting in FY94.**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 C&D Aircraft**

MODIFICATION TITLE: **AN/ARC-210 ELECTRONIC PROTECTION (EP) COMBINATION RADIO (OSIP 39-92)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **AFC 184 IS DEPOT LEVEL, TO BE ACCOMPLISHED BY PUBLIC/PRIVATE COMPETITION AND AT NAVAL AVIATION DEPOTS.**

ADMINISTRATIVE LEADTIME: **13 Months**

PRODUCTION LEADTIME: **10 Months**

CONTRACT DATES: FY 1992: **Jun-92** FY 1993: **Jun-93** FY 1994: **Dec-95**

DELIVERY DATE: FY 1992: **Nov-93** FY 1993: **Sep-94** FY 1994: **Sep-96**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (79) kits	35	0.9					27	0.5	17	0.4					79	1.8
FY 1997 ( ) kits															0	0.0
FY 1998 ( ) kits															0	0.0
FY 1999 ( ) kits															0	0.0
FY 2000 ( ) kits															0	0.0
FY 2001 ( ) kits															0	0.0
FY 2002 ( ) kits															0	0.0
FY 2003 ( ) kits															0	0.0
To Complete ( ) kits															0	0.0
TOTAL	35	0.9	0	0.0	0	0.0	27	0.5	17	0.4	0	0.0	0	0.0	79	1.8

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				To Complete	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4		
In	35	7	7	7	6	5	4	4	4					0	79
Out	35	7	7	7	6	5	4	4	4					0	79

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Common Configuration (OSIP 19-94)**

MODELS OF SYSTEM AFFECTED: **F/A-18 A/B/C/D** TYPE MODIFICATION: **OPERATIONAL IMPROVEMENTS/UPGRADES**

DESCRIPTION/JUSTIFICATION:

The F/A-18 aircraft requires an upgrade to the Stores Management System (SMS) to eliminate an increasing obsolescence problem. There are currently eight individual part types needed to manufacture and support the SMS that are no longer available. In 1991, a life of type buy of these eight part types was completed that should support domestic production requirements, but not additional FMS requirements or life cycle support needs. Since replacements for the currently obsolete parts are required and because it is anticipated that up to an additional forty part types may become obsolete in the near term, the decision to utilize a faster, more powerful state-of-the art microprocessor was made. The SMS Upgrade will fit smoothly into the current F/A-18 avionics architecture. It is anticipated that retrofit modifications can be made with minimal wiring changes to the C/D aircraft. The F/A-18 Cockpit Video Recording System (CVRS) requires an upgrade to improve operational debriefing, increase resolution and recording time, and improve fleet training. During Operation Desert Storm, deficiencies of the current F/A-18 CVRS became obvious. The current CVRS consists of one monochrome camera, a video tape recording (VTR) panel switch, and a 3/4 inch tape recorder. The replacement CVRS consists of three color cameras, a VTR panel switch and two HI-8MM recorders. Also included in the new system is an enhanced ground playback station that will allow the simultaneous playback of four images from two separate aircraft. Replacement of the current CVRS in the F/A-18 will provide the following capabilities: improved operational debriefing (BDA), enhanced fleet training, the ability to record the display from the right Digital Display Indicator (DDI) and either the Heads-Up Display (HUD) of the left DDI simultaneously in color, greater commonality with existing commercial and private playback equipment, increased recording time, enhanced resolution and an overall reduction in system size and weight. The AN/AYK-14(V) Very High Speed Integrated Circuit (VHSIC) Processor Module has three important features: a new computer chassis, VHSIC processor cards and 1M/W memory on the processor cards that allows necessary growth through the 1990's. With the F/A-18 C/D out of production one year earlier than originally projected, it has created requirements in the Modification Budget Activity. These additional requirements are ancillary equipment (Targeting Forward Looking Infrared (FLIR) and Digital Storage Units (DSUs)), logistics support and Operational Flight Program (OFP) software.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The SMS Upgrade development began in FY 1992 with a joint hardware/software development program. FOT&E has been completed with final analysis to be finished in June/July. Production incorporation is Lot 19, which began deliveries in October 1996. Retrofit kits should be available in September 1997. CVRS utilizes moderately militarized HI-8MM video recorders that are currently available (no development required) with CVRS installed.

MODIFICATION TITLE: **Common Configuration (OSIP 19-94)**

MODELS OF SYSTEM AFFECTED: **F/A-18 A/B/C/D**

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																		
PROCUREMENT																		
Installation Kits	229	19.9	314	22.9	235	16.1	47	4.4	125	3.9	123	11.8						
Installation Kit - Unit Price		0.1		0.1		0.1		0.1		0.0		0.1						
Installation Kits N/R		0.5						17.0		10.0		1.9		2.5		3.5		2.8
Installation Equipment	45	3.9	151	0.8	95	2.2		0.7					7	36.3	10	36.2	8	26.2
Installation Equipment N/R																		
Engineering Change Orders																		
Data										2.1		2.7		3.3		5.3		
Training Equipment												0.3		0.4		0.2		
Support Equipment				3.1		0.4		7.4		8.8		5.6		11.7		15.1		0.2
ILS		0.1		0.9		0.0		0.1		0.8		1.6		1.5		1.0		
other Support																		
Interim Contractor Support																		
Installation Cost	6	0.1	7	0.1	53	0.6	93	1.2	60	0.8			95	1.3				
TOTAL PROCUREMENT		**24.4**		**27.8**		**19.3**		**30.7**		**26.4**		**23.8**		**57.0**		**61.4**		**29.3**

	FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$
RDT&E						
PROCUREMENT						
Installation Kits			17	1.6	1,090	80.6
Installation Kit - Unit Price						
Installation Kits N/R		1.6				39.7
Installation Equipment	19	56.1	251	15.5	586	177.9
Installation Equipment N/R						
engineering change Orders						
Data						13.3
training Equipment						0.9
Support Equipment		0.2				52.6
ILS						6.1
other Support						
Interim Contractor Support						
Installation Cost					314	4.1
TOTAL PROCUREMENT		**57.9**		**17.1**		**375.2**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 A/B/C/D**

MODIFICATION TITLE: **Common Configuration (OSIP 19-94)**

INSTALLATION INFORMATION:

METhOD OF IMPLEMENTATION: **CVRS AND SMS ARE FMT, VPM IS 'O' LEVEL**

ADMINISTRATIVE LEADTIME: **5 Months**

PRODUCTION LEADTIME: **16 Months**

CONTRACT DATES: FY 1997: N/A FY 1998: Oct-97 FY 1999: Jun-99

DELIVERY DATE: FY 1997: N/A FY 1998: Oct-98 FY 1999: Oct-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (219) kits	6	0.1	7	0.1	53	0.6	93	1.2	60	0.8								
FY 1997 (0) kits																		
FY 1998 (95) kits													95	1.3				
FY 1999 (0) kits																		
FY 2000 (0) kits																		
FY 2001 (0) kits																		
FY 2002 (0) kits																		
FY 2003 (0) kits																		
To Complete (0) kits																		
TOTAL	6	0.1	7	0.1	53	0.6	93	1.2	60	0.8			95	1.3				

($ in Millions)

Cost:	FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$
FY 1996 & PY (219) kits					219	2.8
FY 1997 (0) kits						
FY 1998 (95) kits					95	1.3
FY 1999 (0) kits						
FY 2000 (0) kits						
FY 2001 (0) kits						
FY 2002 (0) kits						
FY 2003 (0) kits						
To Complete (0) kits						
TOTAL					314	4.1

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	66	24	23	23	23	15	15	15	15					24	24	24	23
Out	66	24	23	23	23	15	15	15	15					24	24	24	23

	FY 2001				FY 2002				FY 2003				To Complete	TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4		
In														314
Out														314

FY98/99 PRESIDENT'S BUDGET (F/A-18 SERIES MODIFICATION)

OSIP 19-94

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
NI818/CVRS												
Total Procurement Cost	**0.283**	**0.877**	**0.739**		**0.739**							**2.638**
Proc. Qty.	35	89	95		95							314
Proc. Unit Cost	**0.008**	**0.010**	**0.008**		**0.008**							
Installation Cost	**0.106**	**0.124**	**0.550**	**1.166**	**0.828**		**1.311**					**4.085**
Install Qty	6	7	53	93	60		95					314
CDII-045/VPM ("O" LEVEL)												
Total Procurement Cost	**19.619**	**22.019**	**15.367**									**57.005**
Proc. Qty.	194	225	140									559
Proc. Unit Cost	**0.101**	**0.098**	**0.110**									
Installation Cost												
Install Qty												
CDII-051/VPM ("O" LEVEL)												
Total Procurement Cost				**4.387**	**3.134**	**11.802**					**1.6**	**20.907**
Proc. Qty.				47	30	123					17	217
Proc. Unit Cost				**0.093**	**0.104**	**0.096**						
Installation Cost												
Install Qty												
ATFLIR (Note 1)												
Total Procurement Cost							**36.300**	**36.249**	**26.240**	**56.075**	**11.805**	**166.669**
Proc. Qty.							7	10	8	19	4	48
Proc. Unit Cost							**5.186**	**3.625**	**3.280**	**2.951**	**2.951**	**3.472**
Installation Cost												
Install Qty												
TOTAL Procurement Cost	**19.9**	**22.9**	**16.1**	**4.4**	**3.9**	**11.8**	**36.3**	**36.2**	**26.2**	**56.1**	**13.4**	**247.2**
TOTAL Proc. Qty.	229	314	235	47	125	123	7	10	8	19	21	1,138
TOTAL Installation Cost	**0.1**	**0.1**	**0.6**	**1.2**	**0.8**		**1.3**					**4.1**
Total Install Qty.	6	7	53	93	60		95					314
TOTAL Non-recurring	**0.5**			**17.0**	**10.0**	**1.9**	**2.5**	**3.5**	**2.8**	**1.6**		**39.8**
TOTAL OTHER COSTS	**3.9**	**4.8**	**2.7**	**8.1**	**11.7**	**10.1**	**16.9**	**21.7**	**0.3**	**0.2**	**3.7**	**84.1**
TOTAL OSIP	**24.4**	**27.8**	**19.3**	**30.7**	**26.4**	**23.8**	**57.0**	**61.4**	**29.3**	**57.9**	**17.1**	**375.2**

Note 1: Included as part of the "Installation Equipment" Line

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **F/A-18 Embedded Global Positioning System/Inertial Navigation System (EGI) (OSIP 36-94)**

MODELS OF SYSTEM AFFECTED: **F/A-18A/B/C&D Aircraft** TYPE MODIFICATION: **AVIONICS UPGRADE**

DESCRIPTION/JUSTIFICATION:

GPS is a space-based worldwide radio navigation aid that provides precise position, velocity, and time data under all-weather conditions twenty-four hours a day, and is proposed to replace land-based TACAN. Incorporation of the GPS in the F/A-18 aircraft provides the following: accurate navigation position and velocity, precision close air support, onboard sensor positioning, command and control guidance, search and rescue guidance, accurate all-weather air drops and accurate time standard.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Embedded Global Positioning System (GPS) and Inertial Navigation System (INS) (EGI) program is a joint multi-user NDI acquisition which achieved Milestone III in FY94. Contract award was 4 March 1994, with Engineering Design Review completed in July 1994. The F/A-18 GPS requirements will be satisfied with EGI by retrofitting the EGI into Lot VI through Lot XVI and forward fitting F/A-18E/F LRIP III and subsequent Lots of aircraft. The initial procurement of retrofit installation kits was awarded to Litton Guidance & Control in December, 1996 .

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																		
PROCUREMENT																		
Installation Kits					165	5.5	184	3.4	177	5.3	85	3.3						
Installation Kit - Unit Price						0.0		0.0		0.0		0.0						
Installation Kits N/R		2.7		3.1		7.4		3.4		2.3		1.9						
Installation Equipment																		
Installation Equipment N/R																		
Engineering Change Orders																		
Data																		
Training Equipment						2.0												
Support Equipment						1.0		0.4										
ILS						0.1		0.1		0.1		0.7		0.6		0.1		
Other Support																		
Interim Contractor Support																		
Installation Cost											171	4.6	241	6.6	199	5.3		
TOTAL PROCUREMENT		**2.7**		**3.1**		**15.9**		**7.3**		**7.7**		**10.4**		**7.3**		**5.4**		

	FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$
RDT&E						
PROCUREMENT						
Installation Kits			72	5.5	683	22.9
Installation Kit - Unit Price				0.1		
Installation Kits N/R						20.7
Installation Equipment						
Installation Equipment N/R						
Engineering Change Orders						
Data						
Training Equipment						2.0
Support Equipment						1.4
ILS						1.7
Other Support						
Interim Contractor Support						
Installation Cost			72	6.2	683	22.8
TOTAL PROCUREMENT				**11.6**		**71.4**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18A/B/C&D Aircraft**

MODIFICATION TITLE: **F/A-18 Embedded Global Positioning System/Inertial Navigation System (EGI) (OSIP 36-94)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **F/A-18 GPS "A" Kit installation will be accomplished by Navy Field Teams at five (5) locations.**

ADMINISTRATIVE LEADTIME: **6 Months**

PRODUCTION LEADTIME: **26 Months**

CONTRACT DATES: FY 1997: Mar-97 FY 1998: Mar-98 FY 1999: Mar-99

DELIVERY DATE: FY 1997: May-99 FY 1998: May-00 FY 1999: May-01

($ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (165) kits					**136**	4.334	**29**	1.099				
FY 1997 (184) kits					**35**	0.297	**149**	2.429				
FY 1998 (177) kits							**63**	3.093	**114**	1.977		
FY 1999 (85) kits									**85**	3.357		
FY 2000 ( ) kits												
FY 2001 ( ) kits												
FY 2002 ( ) kits												
FY 2003 ( ) kits												
To Complete (72) kits												
TOTAL					171	**4.631**	241	**6.621**	199	**5.334**		

Cost:	FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$
FY 1996 & PY (165) kits					**165**	5.433
FY 1997 (184) kits					**184**	2.726
FY 1998 (177) kits					**177**	5.070
FY 1999 (185) kits					**85**	3.357
FY 2000 ( ) kits						
FY 2001 ( ) kits						
FY 2002 ( ) kits						
FY 2003 ( ) kits						
To Complete (72) kits			72	6.192	72	6.192
TOTAL			72	**6.192**	683	**22.778**

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											50	55	66	62	56	60	63
Out											50	55	66	62	56	60	63

	FY 2001				FY 2002				FY 2003				To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In	57	57	57	28									72	683
Out	57	57	57	28									72	683

FY99 NAVCOMPT BUDGET (F/A-18 SERIES MODIFICATION)

OSIP 36-94

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECPs 521 AND 529/EGI/GPS												
Total Procurement Cost			**3.936**	**1.136**	**3.482**	**2.574**					**5.450**	**16.578**
Proc. Qty.	0	0	52	15	46	34					72	219
Proc. Unit Cost			0.076	0.076	0.076	0.076						
Installation Cost						**3.526**	**5.074**	**4.042**			**6.192**	**18.834**
Install Qty						41	59	47			72	219
ECP 521/EGI/GPS												
Total Procurement Cost			**1.537**	**2.298**	**1.782**	**0.694**						**6.311**
Proc. Qty.	0	0	113	169	131	51						464
Proc. Unit Cost			0.014	0.014	0.014	0.014						
Installation Cost						**1.105**	**1.547**	**1.292**				**3.944**
Install Qty						130	182	152				464
TOTAL Procurement Cost			**5.473**	**3.434**	**5.264**	**3.268**					**5.450**	**22.889**
Total Procurement Qty.			165	184	177	85					72	683
TOTAL Installation Cost						4.631	6.621	5.334			6.192	22.778
Total Install Qty.						**171**	**241**	**199**			**72**	**683**
Total N/R	**2.682**	**3.100**	**7.378**	**3.407**	**2.266**	**1.860**						**20.693**
Total Other costs			**3.021**	**0.472**	**0.133**	**0.679**	**0.647**	**0.078**				**5.030**
Total Program	**2.682**	**3.100**	**15.872**	**7.313**	**7.663**	**10.438**	**7.268**	**5.412**			**11.642**	**71.390**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94)

TYPE MODIFICATION: **AVIONICS UPGRADE**

MODELS OF SYSTEM AFFECTED: F/A-18 C&D Aircraft

DESCRIPTION/JUSTIFICATION:

THE F/A-18 radar (AN/APG-65), requires an upgrade to improve electronic counter-countermeasure (ECCM) performance against improved threat electronic countermeasures (ECM). This threat ECM improvement has partially resulted from compromises in the F/A-18 radar performance against various threat electronic warfare systems. The AN/APG-73 radar follows and capitalizes on AN/APG-70 and AN/APG-71 developmental and value engineering programs to maximize shop replaceable assembly (SRA) commonality.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Forward fit of the AN/APG-73 was incorporated into Lot 16 (Block 43) and subsequent aircraft. Rug Phase I was approved for full rate production of retrofit units in September 1996. This OSIP reflects retrofit of Lot 14 through Lot 16 (Block 42) aircraft. A Pre-planned Product Improvement (P3I) Phase II to the RUG program will develop improved hardware and software for an all-weather Reconnaissance (RECCE) strip map mode. Additional modes can be incorporated with software changes as required in future.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E (0204136N/E2065)		0.2		0.0		0.0		0.0		0.0								
PROCUREMENT																		
Installation Kits	4	9.6	4	9.8	4	8.0	3	6.3	12	25.4	18	16.5	25	31.1	18	16.5	39	60.9
Installation Kit - Unit Price		2.4		2.5		2.0		2.1		2.1		0.9		1.2		0.9		1.6
Installation Kits N/R		0.3								4.7		0.5						
Installation Equipment																		
Installation Equipment N/R																		
Engineering Change Orders																		
Data																		
Training Equipment																		
Support Equipment								1.3		2.1		1.0						
ILS				0.0		0.2						2.0		0.5		1.7		2.5
Other Support																		
Interim Contractor Support																		
Installation Cost			2	0.0	3	0.1	7	0.1	3	0.1	9	0.2	9	0.2	13	0.2	4	0.1
TOTAL PROCUREMENT		**9.9**		**9.9**		**8.2**		**7.8**		**32.2**		**20.0**		**31.7**		**18.3**		**63.5**

	FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$
RDT&E (0204136N/E2065)						0.3
PROCUREMENT						
Installation Kits	34	54.0	44	93.2	205	331.2
Installation Kit - Unit Price		1.6		2.1		
Installation Kits N/R						5.4
Installation Equipment						
Installation Equipment N/R						
Engineering Change Orders						
Data						
Training Equipment						
Support Equipment				0.2		4.6
ILS		2.4		1.9		11.2
Other Support						
Interim Contractor Support						
Installation Cost	23	0.4	74	1.3	147	2.6
TOTAL PROCUREMENT		**56.8**		**96.7**		**355.0**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 C&D Aircraft**

MODIFICATION TITLE: **AN/APG-73 RADAR UPGRADE (RUG) PHASE I & RUG PHASE II (OSIP 38-94)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Phase I kits are Depot Level; Phase II kits are Organization level.**

ADMINISTRATIVE LEADTIME: **6 Months**

PRODUCTION LEADTIME: **10 Months**

CONTRACT DATES: FY 1997: 3/97 FY 1998: 3/98 FY 1999: 3/99

DELIVERY DATE: FY 1997: 1/98 FY 1998: 1/99 FY 1999: 1/00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (12) kits			2	0.0	3	0.1	7	0.1										
FY 1997 (3) kits									3	0.1								
FY 1998 (12) kits											9	0.2	3	0.1				
FY 1999 (6) kits													6	0.1				
FY 2000 (13) kits															13.0	0.2		
FY 2001 (6) kits																	4	0.1
FY 2002 (27) kits																		
FY 2003 (24) kits																		
To Complete (44) kits																		
TOTAL			2	0.0	3	0.1	7	0.1	3	0.1	9	0.2	9	0.2	13	0.2	4	0.1

($ in Millions)

Cost:	FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$
FY 1996 & PY (12) kits					12	0.2
FY 1997 (3) kits					3	0.1
FY 1998 (12) kits					12	0.2
FY 1999 (6) kits					6	0.1
FY 2000 (13) kits					13	0.2
FY 2001 (6) kits	2	0.0			6	0.1
FY 2002 (27) kits	21	0.4	6	0.1	27	0.5
FY 2003 (24) kits			24	0.4	24	0.4
To Complete (44) kits			44	0.8	44	0.8
TOTAL	23	0.4	74	1.3	147	2.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	5	2	1	2	2		1	1	1		3	3	3	3		3	3
Out	5	2	1	2	2		1	1	1		3	3	3	3		3	3

	FY 2001				FY 2002				FY 2003				To	
	1	2	3	4	1	2	3	4	1	2	3	4	Complete	TOTAL
In		3	6	4			2	2	2	7	7	7	74	147
Out		3	6	4			2	2	2	7	7	7	74	147

FY99 NAVCOMPT BUDGET (F/A-18 SERIES MODIFICATION)

OSIP 38-94

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP 508 / RUG - Phase I												
Total Procurement Cost	**9.600**	**9.850**	**7.959**	**6.340**	**25.365**	**12.683**	**27.292**	**12.683**	**57.105**	**50.856**	**93.236**	**312.969**
Proc. Qty.	4	4	4	3	12	6	13	6	27	24	44	147
Proc. Unit Cost	2.400	2.462	1.990	2.113	2.114	2.114	2.099	2.114	2.115	2.119	2.119	
Installation Cost		**0.035**	**0.074**	**0.123**	**0.053**	**0.158**	**0.158**	**0.228**	**0.070**	**0.404**	**1.302**	**2.605**
Install Qty		2	3	7	3	9	9	13	4	23	74	147
ECP 569 / RUG - Phase II												
Total Procurement Cost						**3.770**	**3.770**	**3.770**	**3.770**	**3.142**		**18.222**
Proc. Qty.						12	12	12	12	10		58
Proc. Unit Cost						0.314	0.314	0.314	0.314	0.314		0.314
Installation Cost												
Install Qty												
TOTAL Procurement Cost	**9.600**	**9.850**	**7.959**	**6.340**	**25.365**	**16.453**	**31.062**	**16.453**	**60.875**	**53.998**	**93.236**	**331.191**
Total Proc. Qty	4	4	4	3	12	18	25	18	39	34	44	205
TOTAL Installation Cost		**0.035**	**0.074**	**0.123**	**0.053**	**0.158**	**0.158**	**0.228**	**0.070**	**0.404**	**1.302**	**2.605**
Total Install Qty.		2	3	7	3	9	9	13	4	23	74	147
Total N/R	**0.300**				**4.693**	**0.454**						**5.447**
Total Other costs		**0.015**	**0.177**	**1.321**	**2.125**	**2.947**	**0.515**	**1.651**	**2.520**	**2.405**	**2.125**	**15.801**
Total Program	**9.900**	**9.900**	**8.210**	**7.784**	**32.236**	**20.012**	**31.735**	**18.332**	**63.465**	**56.807**	**96.663**	**355.044**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **POSITIVE IDENTIFICATION SYSTEM (OSIP 12-96)**

MODELS OF SYSTEM AFFECTED: **F/A-18 C/D Aircraft** TYPE MODIFICATION: **SAFETY/OPERATIONAL UPGRADE**

DESCRIPTION/JUSTIFICATION:

The Positive Identification System (PIDS) will allow the F/A-18 to positively identify another aircraft. The requirement for positive identification of enemy and friendly aircraft arose from Desert Storm lessons learned and is a CNO high priority issue.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Forward fit of the PIDS (CIT) for the F/A-18 began in FY 1995 with the last aircraft block of Lot 19 aircraft. Retrofit kit procurement started in FY 1996 with 21 kits. These kits will be installed in FY 1998. Software integration will be Operational Flight Program (OFP) 13C.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E (0204136N/E1662)		10.0		5.3		1.8		0.8										17.9
PROCUREMENT																		
Installation Kits			21	6.1	28	8.2	36	10.6	35	10.6					452	140.1	572	175.6
Installation Kit - Unit Price				0.292		0.293		0.295		0.302						0.310		
Installation Kits N/R				2.0														2.0
Installation Equipment																		
Installation Equipment N/R																		
Engineering Change Orders																		
Data				0.4														0.4
Training Equipment				0.4		2.0												2.4
ILS						0.5		0.6		0.5		0.2		0.1		0.6		2.4
Support Equipment				5.2		2.9												8.1
Other Support																		
Interim Contractor Support																		
Installation Cost							21	0.8	28	1.0	36	1.3	35	1.3	452	16.3	572	20.6
TOTAL PROCUREMENT				**14.2**		**13.6**		**12.0**		**12.0**		**1.5**		**1.3**		**156.9**		**211.5**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 C/D Aircraft**

MODIFICATION TITLE: **POSITIVE IDENTIFICATION SYSTEM (OSIP 12-96)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **INSTALLATION WILL BE BY PRIVATE/PUBLIC COMPETITION AND AT NADEPs JAX AND NORIS BY FMT**

ADMINISTRATIVE LEADTIME: **6 Months**

PRODUCTION LEADTIME: **19 Months**

CONTRACT DATES: FY 1996: 9/96 FY 1997: 3/97 FY 1998: 3/98 FY 1999: 3/99

DELIVERY DATE: FY 1996: 4/98 FY 1997: 10/98 FY 1998: 10/99 FY 1999: 10/00

($ in Millions)

Cost:	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (21) kits			**21**	**0.8**									**21**	**0.8**
FY 1997 (28) kits					**28**	**1.0**							**28**	**1.0**
FY 1998 (36) kits							**36**	**1.3**					**36**	**1.3**
FY 1999 (35) kits									**35**	**1.3**			**35**	**1.3**
FY 2000 ( ) kits														
FY 2001 ( ) kits														
FY 2002 ( ) kits														
FY 2003 ( ) kits														
To Complete (458) kits											452	**16.3**	452	**16.3**
TOTAL			21	**0.8**	28	**1.0**	36	**1.3**	35	**1.3**	452	**16.3**	572	**20.6**

Installation Schedule

	FY 1996 & Prior	FY 1998				FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In				10	11	7	7	7	7	9	9	9	9	9	9	9	8
Out				10	11	7	7	7	7	9	9	9	9	9	9	9	8

	FY 2002				FY 2003				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In									452	572
Out									452	572

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **F/A-18 Advanced Tactical Airborne Reconnaissance System (ATARS) (OSIP 3-97)**

MODELS OF SYSTEM AFFECTED: **F/A-18D(RC) Aircraft** TYPE MODIFICATION: **OPERATIONAL UPGRADE**

DESCRIPTION/JUSTIFICATION:

The need for a modern reconnaissance capability for the Navy and Marine Corps was clearly demonstrated during Operation Desert Shield/Desert Storm. Specific deficiencies noted were: poor connectivity with coalition forces, no wide-area standoff or all weather reconnaissance, and insufficient quantities of reconnaissance platforms. Lessons learned emphasized the value of timely imagery intelligence to support the tactical commander's concept of operations. In order to provide low to medium altitude, day/night, penetrating under-the weather overflight imagery to meet the Operational Requirement for the Navy and Marine Corps, the Navy is capitalizing on the work accomplished in the former ATARS Program and is leveraging the Air Force investment in ATARS to develop an ATARS-based Tactical Reconnaissance System for the F/A-18.

ATARS is a real-time/near real-time sensor suite for image acquisition, data storage, and data link. It consists of infrared and visible light sensors, two digital tape recorders, a digital data link, and a reconnaissance management system. The digital data link will transmit imagery and auxiliary data to the Joint Services Imagery Processing System (JSIPS) based ashore or to the JSIPS-N aboard ship.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Aircraft provisions to permit installation of a reconnaissance capability in the F/A-18 started in 1983, with the design and development of an engineering change to the F/A-18 which would allow internal carriage of reconnaissance sensors. This change was incorporated in the F/A-18D in 1992. All F/A-18D/E/Fs delivered after 1992 will contain the reconnaissance modification in their baseline configuration. Thirty-five F/A-18D(RC) aircraft have been delivered to the Marine Corps as of May 1994. Development of the Advanced Tactical Airborne Reconnaissance System (ATARS) began in 1988 with the Air Force as the lead service. ATARS was developed as a common reconnaissance system for use by the Air Force, Navy, and Marine Corps in both manned and unmanned platforms. The Air Force and the ATARS prime contractor mutually agreed to a cessation of effort on the ATARS contract in June 1993. In September 1993, the DoN conducted a quick-look evaluation of the ATARS equipment, in an "as is" condition, in the FA-18. This evaluation indicated that the ATARS equipment has genuine potential to satisfy the Navy and Marine Corps overflight reconnaissance requirement in the F/A-18. When the USAF ceased its ATARS effort, ATARS contractor flight testing was complete and ATARS DT&E in the RF-4C was approximately 40% complete. Transition of all the equipment procured under the former ATARS contract from the Air Force to the DoN has been completed. Program management of the F/A-18 tactical reconnaissance program within the Navy has been completed. Establishment of contracts to complete development, and integration of the resulting sensor suite has been completed. The majority of the former ATARS equipment requires relatively little development to complete, however, the digital tape recorder has not met its performance or reliability requirements. A replacement non-developmental tape recorder will be integrated. System software and Built-in-test need further development and maturation to complete system integration A integrated logistics support program will be developed for the F/A-18. Non-recurring production engineering is required to transition the ATARS-based engineering design models to a final production configuration. Development and fielding of an ATARS-based sensor suite will be continued as a streamlined management program. The program will be tailored to build on the past development to expedite the fielding of an overflight sensor suite in the F/A-18D(RC). The sensor suite is being integrated into the F/A-18D(RC) and procured as a fieldable prototype system to meet U. S. Marine Corps requirements. The remaining 31 ATARS-based systems were placed on contract in February 1997 with deliveries beginning in the third quarter of FY-98.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1997			FY 1998		FY 1999		FY 2000		FY 2001		To Complete		TOTAL	
	Qty	$	Qty	$		Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E 0603261N/E0534		181.6		22.6			10.6		1.5								216.3
PROCUREMENT																	
Installation Kits N/R			4	33.1		7	51.1	5	33.5	15	58.1		13.2			31	189.1
Installation Kit - Unit Price				8.3			7.3		6.7		3.9						
Installation Kits N/R				23.6			9.6										33.2
Installation Equipment																	
Installation Equipment N/R																	
Engineering Change Orders																	
Data																	
Training Equipment																	
Support Equipment				2.1			1.4		6.9		0.4		0.2				11.0
ILS				2.1			1.3		7.7		1.1		2.8				15.0
Other Support													9.8				9.8
Interim Contractor Support																	
Installation Cost																	
TOTAL PROCUREMENT				**61.0**			**63.4**		**48.2**		**59.7**		**25.9**				**258.1**

*** INSTALL KIT COMPONENTS BREAKOUT:**

ATARS SUITES	**4**	**7**	**5**	**15**		**31**
DATA LINK PODS		**5**	**3**	**4**	**12**	**24**
SQUADRON GROUND STATIONS	**1**	**2**	**1**	**1**	**2**	**7**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **DIGITAL COMMUNICATIONS SYSTEM (DCS) (OSIP 10-99)**

MODELS OF SYSTEM AFFECTED: **F/A-18 C/D Aircraft (Lots 12-20)** TYPE MODIFICATION: **AVIONICS UPGRADE**

DESCRIPTION/JUSTIFICATION:

The Digital Communications System (DCS) will consist of an upgraded AN/ARC-210 Receiver Transmitter (RT) [with embedded digital message transfer capability and embedded Communications Security (COMSEC)] installed in the F/A-18 and integrated with the F/A-18 weapons system [mission computer, controls & displays, and communication subsystem]. The DCS will utilize preformatted messages to communicate with standard USMC, USA and USAF digital communications devices to facilitate Close Air Support (CAS), Deep Air Strike (DAS), and Tactical Air Control (TAC) missions. DCS will reduce voice communications requirements which tend to be slow, inaccurate, and susceptible to Meaconing, Interference, Jamming, and Intrusion (MIJI). DCS will enhance mission effectiveness by decreasing pilot workload which allows the pilot more time to counter increased threat capabilities.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ARC-210 RT is being upgraded to a DCS RT with initial prototype delivery (using RDT&E,N resources) scheduled for FY 1998 and upgrade completion scheduled in FY 1998. F/A 18 integration using RDT&E,N began in FY 1997 with retrofit production beginning in FY 1999. Retrofit kits should be available in FY00/01.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E (0204136N/E1662)		31.5		7.0		2.3		0.7								41.5
PROCUREMENT																
Installation Kits			24	0.5	66	1.3	66	1.3	82	1.6	82	1.6	80	1.6	400	7.9
Installation Kit - Unit Price				0.0		0.0		0.0		0.0		0.0		0.0		
Installation Kits N/R				0.7												0.7
Installation Equipment																
Installation Equipment N/R																
Engineering Change Orders																
Data				0.6												0.6
Training Equipment				2.5												2.5
Support Equipment				1.8												1.8
ILS																
Other Support																
Interim Contractor Support																
Installation Cost					12	0.0	46	0.1	66	0.2	74	0.2	202	0.6	400	1.2
TOTAL PROCUREMENT				6.1		1.4		1.4		1.8		1.8		2.2		14.7

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 C/D Aircraft (Lots 12-20)**

MODIFICATION TITLE: **DIGITAL COMMUNICATIONS SYSTEM (DCS) (OSIP 10-99)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **FIELD MODIFICATION TEAM (FMT)**

ADMINISTRATIVE LEADTIME: **6 Months**

PRODUCTION LEADTIME: **12 Months**

CONTRACT DATES: FY 1999: 3/99 FY 2000: 3/00 FY 2001: 3/01

DELIVERY DATE: FY 1999: 3/00 FY 2000: 3/01 FY 2001: 3/02

($ in Millions)

Cost:	Prior Years		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits														
FY 1997 ( ) kits														
FY 1998 ( ) kits														
FY 1999 (24) kits			**12**	**0.0**	**12**	**0.0**							**24**	**0.1**
FY 2000 (66) kits					**34**	**0.1**	**32**	**0.1**					**66**	**0.2**
FY 2001 (66) kits							**34**	**0.1**	**32**	**0.1**			**66**	**0.2**
FY 2002 (82) kits									**42**	**0.1**	**40**	**0.1**	**82**	**0.2**
FY 2003 (82) kits											82	0.2	**82**	0.2
To Complete (80) kits											80	0.2	80	0.2
TOTAL			12	0.0	46	0.1	66	0.2	74	0.2	202	0.6	400	1.2

Installation Schedule

	FY 1996 & Prior	FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4
In				6	6	6	6	17	17	16	16	17	17
Out				6	6	6	6	17	17	16	16	17	17

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In	16	16	21	21	202	400
Out	16	16	21	21	202	400

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: **F/A-18 Aircraft Service Life Extension Program (SLEP) (OSIP 11-99)**

MODELS OF SYSTEM AFFECTED: **F/A-18 B/C/D** TYPE MODIFICATION: **LIFE EXTENSION**

DESCRIPTION/JUSTIFICATION:

Incorporation of structural enhancements and changes identified during structural testing #16, that are required to extend the service life of the F/A-18 aircraft to 6,000 fatigue hours. Extension to 6,000 hours fatigue life will maintain the F/A-18 aircraft inventory in sufficient quantities to meet fleet operations commitments and requirements. The unacceptable alternative to retrofitting would be the failure to reach full fatigue life for the aircraft and not correct the structural defects discovered on fatigue test articles. In many cases the mission capability of the aircraft would be adversely affected as well as reduced service life. Aircraft may be prematurely removed from useful service.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

MDA and NGC are developing a retrofit ECP to modify all aircraft between Lots VI and XVI to realize a full life airframe. Currently all Lot VI through XVI aircraft have 78% life limits without the SLEP modifications to bring them to 100% airframe life. The ECP is to be submitted June 1997 with Val/Ver completed by June 1999.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																
PROCUREMENT																
Installation Kits			19*	3.2	6	1.9	10	3.2	25	8.0	18	5.8	157	50.2	235	72.3
Installation Kit - Unit Price				0.3		0.3		0.3		0.3		0.3		0.3		
Installation Kits N/R				4.0												4.0
Installation Equipment																
Installation Equipment N/R																
Engineering Change Orders																
Data																
Training Equipment																
Support Equipment																
ILS				0.8		1.5		0.8		1.6		2.0		18.9		25.6
Other Support																
Interim Contractor Support																
Installation Cost					19	14.2	6	4.7	10	7.7	25	19.8	175	138.3	235	184.6
TOTAL PROCUREMENT				**8.1**		**17.6**		**8.7**		**17.3**		**27.5**		**207.3**		**286.6**

*** QUANTITY INCLUDES CONTRACTOR PROVIDING 9 WARRANTY KITS**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: F/A-18 B/C/D

MODIFICATION TITLE: F/A-18 SERVICE LIFE EXTENSION PROGRAM

INSTALLATION INFORMATION: CONTRACTOR PROVIDING 9 WARRANTY KITS

(SLEP) (OSIP 11-99)

METHOD OF IMPLEMENTATION: ONE KIT INSTALLED BY CONTRACTOR FOR VAL/VER, OTHER INSTALLS BY DEPOT

ADMINISTRATIVE LEADTIME: **3 Months**

PRODUCTION LEADTIME: **10 Months**

CONTRACT DATES: FY 1999: **12/98** FY 2000: **12/99** FY 2001: **12/00**

DELIVERY DATE: FY 1999: **10/99** FY 2000: **10/00** FY 2001: **10/01**

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																
IN WARRANTY (1) kit					1										1	
FY 1998 ( ) kits																
FY 1999 (18) kits					18	14.2									18	14.2
FY 2000 (6) kits							6	4.7							6	4.7
FY 2001 (10) kits									10	7.7					10	7.7
FY 2002 (25) kits											25	19.8			25	19.8
FY 2003 (18) kits													18	1.6	18	1.6
To Complete (157) kits													157	136.7	157	136.7
TOTAL					19	14.2	6	4.7	10	7.7	25	19.8	175	138.3	235	184.6

Installation Schedule

	FY 1996 & Prior	FY 2000				FY 2001				FY 2002				FY 2003			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		4	5	5	5	1	1	2	2	2	2	3	3	6	6	6	7
Out		4	5	5	5	1	1	2	2	2	2	3	3	6	6	6	7

	To Complete	TOTAL
In	175	235
Out	175	235

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **MULTIFUNCTIONAL INFORMATION DISTRIBUTION SYSTEM (MIDS) (OSIP 12-99)**

MODELS OF SYSTEM AFFECTED: **F/A-18 C/D/E/F** TYPE MODIFICATION **AVIONICS UPGRADE**

DESCRIPTION/JUSTIFICATION:

The system is a Tactical Data Link Communications to provide a secure, communications and navigation system. MIDS-LVT is a Pre-planned Product Improvement (P3I) to the Joint Tactical Information Distribution System (JTIDS) and will be installed in USN/USMC F/A-18 aircraft as the primary U.S. platform, since the aircraft cannot accommodate the larger JTIDS Class 2 terminals due to size and weight constraints. MIDS-LVT is an International Cooperative Program (ICP) development with France, Germany, Italy, and Spain. A PMOU and Supplement 1 is in effect. The system will be interoperable with JTIDS class 2 terminals utilized by NATO allies as well as the other services.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

A MIDS installation kit Critical Design Review (CDR) was held at MDA in September 1996. MIDS terminal initial Engineering and Manufacturing Development (EMD) delivery for FA/18 is scheduled for October 1997. Installation into the first of 3 EMD aircraft is scheduled to start in November 1997 at MDA. Delivery of the first modified aircraft to the Government is scheduled for April 1998. Developmental Testing is scheduled to begin in April 1998.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																
PROCUREMENT																
Installation Kits			28	4.7	69	11.1	82	13.5	55	9.1	64	10.7	80	10.9	378	59.9
Installation Kits N/R																
Installation Equipment				27.4		60.9		53.9								142.2
Installation Equipment N/R																
Engineering Change Orders																
Data																
Training Equipment																
Support Equipment																
ILS																
Other Support																
Interim Contractor Support																
Installation Cost					28	1.0	51	1.5	79	3.0	63	3.3	157	6.8	378	15.6
TOTAL PROCUREMENT				**32.1**		**73.0**		**68.9**		**12.1**		**14.0**		**17.7**		**217.7**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 C/D/E/F** MODIFICATION TITLE: **MULTIFUNCTIONAL INFORMATION DISTRIBUTION SYSTEM (MIDS) (OSIP 12-99)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **DEPOT LEVEL**

ADMINISTRATIVE LEADTIME: **9 Months** PRODUCTION LEADTIME: **9 Months**

CONTRACT DATES: FY 1999: **6/99** FY 2000: **4/00** FY 2001: **3/01**

DELIVERY DATE: FY 1999: **3/00** FY 2000: **1/01** FY 2001: **12/01**

($ in Millions)

Cost:	Prior Years		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits														
FY 1997 ( ) kits														
FY 1998 ( ) kits														
FY 1999 (28) kits			28	1.0									28	1.0
FY 2000 (69) kits					51	1.5	18	0.7					69	2.2
FY 2001 (82) kits							61	2.3	21	0.9			82	3.2
FY 2002 (55) kits									42	2.4	13	0.6	55	2.9
FY 2003 (64) kits											64	2.8	64	2.8
To Complete (80) kits											80	3.4	80	3.4
TOTAL			28	1.0	51	1.5	79	3.0	63	3.3	157	6.8	378	15.6

Installation Schedule

	FY 1996 & Prior	FY 1999				FY 2000				FY 2001			
		1	2	3	4	1	2	3	4	1	2	3	4
In								14	14		17	17	17
Out								14	14		17	17	17

	FY 2002				FY 2003				To Complete	TOTAL
	1	2	3	4	1	2	3	4		
In	18	21	20	20	21	14	14	14	157	378
Out	18	21	20	20	21	14	14	14	157	378

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **F/A-18 C/D/E/F NACES P31 (Navy Aircrew Common Ejection Seat Pre-Planned Product Improvement) (OSIP 20-99)**

MODELS OF SYSTEM AFFECTED: **F/A-18C/D/E/F NACES EJECTION SEATS** TYPE MODIFICATION: SYSTEMS UPGRADE

DESCRIPTION/JUSTIFICATION:

An average of 15 Naval Aircrew fatalities occur each year from in-flight mishaps. Nearly half result from the seat ejecting crewmembers into the ground or water at low altitude and adverse attitude. Because of their lighter throw weight, women are particularly susceptible to this and other ejection risks. The NACES P31 program is divided into three phases of development and upon completion of each phase, existing aircraft seats will be modified with retrofit kits to provide the increased capability to the NACES seat: Phase I - Current technology improvements to increase cockpit accommodation and reduce injury risk for all aircrew. Phase II - Propulsion stability control to reduce the risk of major injury to less than 5% up to 600 knots. Phase III - Stability control and surface avoidance capability for low altitudes, adverse attitudes, and out-of-control ejections.

Procurement of Phase I kits have been priced and are represented by this OSIP. Procurement costs for Phases II and III have not been determined.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Approval of a retrofit kit ECP is expected by first quarter FY1999 following testing of the validation/verification kit installs.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E														
PROCUREMENT														
Installation Kits			185	4.4	322	7.7	47	1.1					554	13.3
Installation Kit - Unit Price				*0.0*		*0.0*		*0.0*						
Installation Kits N/R				1.1		1.1		1.1						3.3
Installation Equipment														
Installation Equipment N/R														
Engineering Change Orders														
Data				0.5		0.3		0.3						1.1
Training Equipment				1.0										1.0
Support Equipment														
Other Support														
Interim Contractor Support														
Installation Cost			105	0.2	215	0.4	234	0.4					554	0.9
TOTAL PROCUREMENT				**7.2**		**9.5**		**2.9**						**19.7**

Exhibit P-3a

MODIFICATION TITLE: **F/A-18 C/D/E/F NACES P31 (Navy Aircrew Common Ejection Seat Pre-Planned Product Improvement) (OSIP 20-99)**

MODELS OF SYSTEMS AFFECTED: **F/A-18C/D/E/F NACES EJECTION SEATS**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation by Contractor Modification Team**

ADMINISTRATIVE LEADTIME: **4 Months** PRODUCTION LEADTIME: **2 Months**

CONTRACT DATES: FY 1997: FY 1998: FY 1999: Jan-99

DELIVERY DATE: FY 1997: FY 1998: FY 1999: Mar-99

($ in Millions)

Cost:	Prior Years		FY 1999		FY 2000		FY 2001		FY 2002		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1998 ( ) kits														
FY 1999 (185) kits			**105**	**0.2**	**80**	**0.1**							**185**	**0.3**
FY 2000 (322) kits					**135**	**0.2**	**187**	**0.3**					**322**	**0.5**
FY 2001 (47) kits							**47**	**0.1**					**47**	**0.1**
FY 2002 ( ) kits														
To Complete ( ) kits														
TOTAL			105	0.2	215	0.4	234	0.4					554	0.9

Installation Schedule

	FY 1996 & Prior	FY 1999				FY 2000				FY 2001				To Complete	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4		
In				46	59	60	64	45	46	49	61	62	62		554
Out				30	45	55	59	59	60	60	62	62	62		554

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **ALR-67(V)3 Advanced Special Receiver (OSIP 21-99)**

MODELS OF SYSTEM AFFECTED: **F/A-18 C /D Aircraft** TYPE MODIFICATION: **AVIONICS UPGRADE**

DESCRIPTION/JUSTIFICATION:

The AN/ALR-67 radar receiving set, countermeasures warning and control system is the radar and missile guidance warning system in advanced tactical aircraft. Due to rapid spread of complex fourth generation radar controlled weapons systems in numerous countries throughout the world, AN/ALR-67 (V)3 was started in parallel with AN/ALR-67 (V)2 as the major long term redesign to the ALR-67 system. ALR-67 (V)3 adds significant capability to the ALR-67 with major improvements in frequency sorting, sensitivity, response time, processing power and operating frequency range. ALR-67 (V)3 is designed to handle all scenarios and increased fourth generation threat densities a Navy and/or USMC pilot may face in the mid 1990s and beyond. The AN/ALR-67(V)3 installation kit in this OSIP can accommodate either the AN/ALR-67(V)3 or the AN/ALR-67(V)2.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ALR-67 (V)3 is in Engineering and Manufacturing Development. We conducted an Operational Assessment in September 1994. A test assessment procurement contract for 20 production representative systems to support OPEVAL/FOT&E was awarded in November 1994. These production representative systems are in test. An LRIP is planned for FY 1998 following TECHEVAL to prove contractor production capability. LRIP systems will be fielded after OPEVAL is complete. Until adequate quantities can be procured to meet the 1:1 inventory requirement for F/A-18, the ALR-67 (V)3 systems will be crossdecked to forward deployed units with ALR-67 (V)3 "A" kits installed.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																		
PROCUREMENT																		
Installation Kits					39	1.5	21	0.8	12	0.5	16	0.6	17	0.7	254	10.0	359	14.1
Installation Kit - Unit Price						0.0		0.0		0.0		0.0		0.0		0.0		
Installation Kits N/R						0.5												
Installation Equipment																		
Installation Equipment N/R																		
Engineering Change Orders																		
Data																		
Training Equipment																		
Support Equipment																		
ILS																		
Other Support																		
Interim Contractor Support																		
Installation Cost									39	0.6	21	0.3	12	0.2	287	4.5	359	5.5
TOTAL PROCUREMENT						**2.0**		**0.8**		**1.1**		**0.9**		**0.8**		**14.5**		**19.7**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **F/A-18 C /D Aircraft**

MODIFICATION TITLE: **ALR-67(V)3 Advanced Special Receiver (OSIP 21-99)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation will be by public/private competition at Naval Aviation Depot by FMT/CMT**

ADMINISTRATIVE LEADTIME: **7 Months**

PRODUCTION LEADTIME: **18 Months**

CONTRACT DATES: FY 1998: **N/A** FY 1999: 4/99 FY 2000: 4/00

DELIVERY DATE: FY 1998: **N/A** FY 1999: 10/00 FY 2000: 10/01

($ in Millions)

Cost:	Prior Years		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits														
FY 1997 ( ) kits														
FY 1998 ( ) kits														
FY 1999 (39) kits					**39**	**0.6**							**39**	**0.6**
FY 2000 (21) kits							**21**	**0.3**					**21**	**0.3**
FY 2001 (12) kits									**12**	**0.2**			**12**	**0.2**
FY 2002 (16) kits											**16**	**0.2**	**16**	**0.2**
FY 2003 (17) kits											**17**	0.3	**17**	0.3
To Complete (254) kits											254	3.9	254	3.9
TOTAL					39	0.6	21	0.3	12	0.2	287	4.5	359	5.5

Installation Schedule

	FY 1996 & Prior	FY 2001				FY 2002				FY 2003				To Complete	TOTAL
		1	2	3	4	1	2	3	4	1	2	3	4		
In		10	10	10	9	6	5	5	5	3	3	3	3	287	359
Out		10	10	10	9	6	5	5	5	3	3	3	3	287	359

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

APPROPRIATION/BUDGET ACTIVITY: **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**

P-1 ITEM NOMENCLATURE: **H-46 Series Modifications**

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	387.1	A	100.9	78.4	34.1	33.5	34.2	14.8	6.2	4.8	4.4	6.1	704.5

This line item funds modifications to the H-46 aircraft. The H-46 is a twin-turbine powered dual-piloted tandem-rotor helicopter. The cabin contains provisions for accomodating 25 troops and crew members. The cabin also contains an integral cargo and rescue system. The overall goal of the modifications budgeted in FY99 is to keep the H-46 a viable platform until a replacement aircraft can be developed and fielded by upgrading the dynamic components, enhancing warfighting capability by providing a night vision goggle heads-up display and improved navigation capability and secure communications. H-46 helicopters are used by the Marine Corps for troop transport and by the Navy for vertical replenishment of ships. There are currently 316 aircraft in the inventory (290 active + 26 reserve).

The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
104-87	**Block Upgrade**	167.0	2.1	1.9	1.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	172.5
25-91	**Dynamic Component Upgrade**	206.0	75.7	65.3	11.9	13.8	21.9	9.1	3.0	1.3	1.0	0.0	409.0
09-92	**ARC-210**	1.5	0.7	0.7	0.9	0.8	0.8	0.4	0.0	0.0	0.0	0.0	5.8
19-92	**Night Vision Goggle HUD**	5.9	1.7	0.4	2.2	1.2	0.9	0.9	0.0	0.0	0.0	0.0	13.2
16-93	**Navigation/GPS**	6.0	18.4	9.4	10.8	11.5	7.5	3.9	0.0	0.0	0.0	0.0	67.5
18-94	**Engine Conversion**	0.7	2.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6
25-97	**Safety Improvement**	0.0	0.0	0.0	7.1	4.6	1.7	0.1	2.0	1.5	1.3	3.3	21.6
03-98	**APR-39A(V)2**	0.0	0.0	0.0	0.0	0.7	1.3	0.5	1.2	2.0	2.1	2.8	10.6
04-98	**TAMPS**	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5
TOTAL		387.1	100.9	78.4	34.1	33.5	34.2	14.8	6.2	4.8	4.4	6.1	704.5
Funding for Reserve Forces					7.2	2.4	2.0	1.8	0.6	0.2	0.3		14.5

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Block Upgrade (OSIP 104-87)

MODELS OF SYSTEM AFFECTED: H-46

TYPE MODIFICATION: Upgrade (HONA category C)

DESCRIPTION/JUSTIFICATION:

To upgrade the H-46 by adding additional fuel capacity, a navigation system, and a flotation system.

1. Fuel: As a result of weight increases over the years, existing H-46 fuel capacity is inadequate for some of its missions. The additional fuel increases the flight time by a least one hour and is contained in enlarged stub wings using modern crashworthy design techniques.
2. Navigation: The navigation mod funded by this OSIP is complete.
3. Flotation: The flotation mod funded by this OSIP is complete.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

1. Fuel: The modification has been installed in approximately 99% of the fleet as of Aug 1997.
2. Navigation: The navigation mod funded by this OSIP is complete.
3. Flotation: The flotation mod funded by this OSIP is complete.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	576	98.8	7	2.0																			583	100.8
Installation Kit - Unit Price		0.2		0.3																				
Installation Kits N/R		30.9																						30.9
Installation Equipment	332	13.7																					332	13.7
Installation Equipment N/R																								
Engineering Change Orders																								
Data		2.4				*																		2.4
Training Equipment		1.1																						1.1
Support Equipment		0.1																						0.1
ILS		0.1																						0.1
Other Support		2.5						0.1																2.5
Interim Contractor Support																								
Installation Cost	265	17.4	1	0.1	25	1.9	14	1.2	2	0.2													307	20.9
TOTAL PROCUREMENT		**167.0**		**2.1**		**1.9**		**1.3**		**0.2**														**172.5**

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **H-46**

MODIFICATION TITLE: Block Upgrade (OSIP 104-87)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Concurrent with SDLM, FMT, & DIM**

ADMINISTRATIVE LEADTIME: Varies Months

PRODUCTION LEADTIME: Varies Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (307) kits	**265**	**17.4**	**1**	**0.1**	**25**	**1.9**	**14**	**1.2**	**2**	**0.2**													**307**	**20.9**
FY 1997 ( ) kits																							**0**	**0.0**
FY 1998 ( ) kits																							**0**	**0.0**
FY 1999 ( ) kits																							**0**	**0.0**
FY 2000 ( ) kits																							**0**	**0.0**
FY 2001 ( ) kits																							**0**	**0.0**
FY 2002 ( ) kits																							**0**	**0.0**
FY 2003 ( ) kits																							**0**	**0.0**
To Complete ( ) kits																							0	0.0
TOTAL	265	17.4	1	0.1	25	1.9	14	1.2	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	307	20.9

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	291	5	3	3	3	1	1																		
Out	281	10	5	3	3	3	1	1																	

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	307
Out					0	307

H-46 BLOCK UPGRADE

OSIP 104-87

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP 537 Fuel Kit	**81.6**	**2.0**										**83.6**
Proc. Qty.	239	7										246
Proc. Unit Cost	0.3	0.3										
Installation Cost	10.8	0.1	1.9	1.2	0.2							14.3
Install Qty	131	1	25	14	2							173
ECP 544 HEFS Kit	**16.7**											**16.7**
Proc. Qty.	238											238
Proc. Unit Cost	0.1											
Installation Cost	6.0											6.0
Install Qty	131											131
ECP H-46-59 CNCS Nav Kit	**0.2**											**0.2**
Proc. Qty.	3											3
Proc. Unit Cost	0.1											
Installation Cost	0.5											0.5
Install Qty	3											3
ECP H-46-41 Omega Nav Kit	**0.3**											**0.3**
Proc. Qty.	96											96
Proc. Unit Cost	0.0											
Installation Cost	0.0											0.0
Install Qty	0											0
Total Other Cost	**50.8**	**0.0**	**0.0**	**0.1**	**0.0**							**50.8**
TOTAL Procurement Cost	**98.8**	**2.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**100.8**
TOTAL Proc. Qty.	576	7	0	0	0	0	0	0	0	0	0	583
TOTAL Installation Cost	**17.4**	**0.1**	**1.9**	**1.2**	**0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**20.9**
Total Install Qty.	265	1	25	14	2	0	0	0	0	0	0	307

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Dynamic Component Upgrade (DCU) (OSIP 25-91)

MODELS OF SYSTEM AFFECTED: CH-46E

TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION:

The H-46 helicopter is nearing the end of its originally planned service life. Several dynamic components have failed between 1988 and 1990 due to fatigue. This modification will incorporate design improvements to the critical safety items which have been identified by in-service failure and flight strain survey. The changes increase thickness of critical sections, and make other specific changes to increase resistance to fatigue damage. The major components include the forward and aft rotor heads, the forward and aft transmissions, the mixbox, aft vertical rotor shaft, the swashplates, and synchronizing shafts. This modification also includes a change to the Aircraft Flight Control System, (AFCS) which reduces flight loads on critical components. The H-46 presently uses the MD-1 and AHRS gyroscopes for pitch and roll rate input to the AFCS. These gyroscopes were originally designed for indication systems only and do not provide adequate input for pitch and roll rate to the AFCS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

AFCS flight testing was completed in March 1993. The dynamic component fatigue testing commenced in January 1991 and will continue through 1997. The DCU ECP delivered in December 1991, and the AFCS ECP delivered in August 1993. The DCU validation completed in September 1995. The DCU flight testing started in November 1995, and completed in May 1997. The AFCS flight testing completed in February 1996, verification completed in March 1996, and production installations are ongoing.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	153	114.0	99	66.7	60	45.3																	312	226.0
Installation Kit - Unit Price		0.7		0.7		0.8																		
Installation Kits N/R		59.6		0.6		14.5		8.7																83.3
Installation Equipment		0.5																						0.5
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1		0.6		0.1		0.2																1.0
Training Equipment	2	1.3						*																1.4
Support Equipment		1.5		0.8		1.6		0.1																3.9
ILS																								
Other Support		10.5		1.2		3.1		1.9		1.9		1.3		0.9				1.3		1.0				23.1
Interim Contractor Support		0.8		0.5		0.7		0.6																2.7
Installation Cost	66	17.7		5.4				0.4	11	12.0	96	20.7	74	8.1	65	3.0							312	67.2
TOTAL PROCUREMENT		**206.0**		**75.7**		**65.3**		**11.9**		**13.8**		**21.9**		**9.1**		**3.0**		**1.3**		**1.0**				**409.0**

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **H-46**

MODIFICATION TITLE: Dynamic Component Upgrade (DCU) (OSIP 25-91)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

All components will be modified at NADEP Cherry Point to DCU configuration concurrent with component overhaul/repair. Installation cost includes consummable material used during component overhaul/repair.The DCU configuration rotorheads may be installed in aircraft at O-level. All other components will be installed in aircraft by D-level concurrent with SDLM or by FMT. The quantities reflected in the tables below are aircraft

ADMINISTRATIVE LEADTIME: Varies Months

PRODUCTION LEADTIME: Varies Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (312) kits	**66**	**17.7**		**5.4**				**0.4**	**11**	**12.0**	**96**	**20.7**	**74**	**8.1**	**65**	**3.0**							**312**	**67.2**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	66	17.7		5.4				0.4	11	12.0	96	20.7	74	8.1	65	3.0							312	67.2

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2				6	6	21	20	22	24	24	24	24	19	19	19	17	16	16	16	17				
Out	2					6	6	21	20	22	24	24	24	24	19	19	19	17	16	16	16	17			

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						312
Out						312

DYNAMIC COMPONENT UPGRADE (DCU) (OSIP 25-91)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP #556/H-46 DCU												
DCU Rotorhead	**55.8**	**25.4**	**27.3**									**108.5**
Proc. Qty.	174	78	60									312
Proc. Unit Cost	0	0	0									
Installation Cost *	3.5	0.0	0.0	0.4	2.4	3.0	0.5	0.0				9.7
Install Qty	136			14	86	97	15					348
Transmissions	**36.2**	**25.1**	**11.9**									**73.2**
Proc. Qty.	153	99	60									312
Proc. Unit Cost	0	0	0									
Installation Cost *	4.5	0.0	0.0	0.0	0.8	4.9	4.9	1.8				16.9
Install Qty	102				17	96	96	37				348
Misc Components	**12.1**	**8.4**	**4.0**									**24.4**
Proc. Qty.	153	99	60									312
Proc. Unit Cost	0	0	0									
Installation Cost *	1.0	0.0	0.0	0.0	0.4	1.3	1.2	0.2				4.2
Install Qty	102				35	96	96	19				348
GFM												**0.0**
Proc. Qty.												
Proc. Unit Cost												
Installation Cost	7.8	5.4	0.0	0.0	8.1	9.8	0.0	0.0				31.2
Install Qty												
Aircraft (SMOD)												**0.0**
Proc. Qty.												
Proc. Unit Cost												
Installation Cost	0.2	0.0	0.0	0.0	0.0	0.2	0.1	0.1				0.7
Install Qty	57				5	64	38	41				205
Aircraft (FMT)												**0.0**
Proc. Qty.												
Proc. Unit Cost												
Installation Cost	0.4	0.0	0.0	0.0	0.2	1.0	1.2	0.9				3.8
Install Qty	9				6	32	36	24				107

* Includes modification of spares

Tiebars	**2.8**	**0.0**	**2.1**									**4.9**
Proc. Qty.	195		120									315
Proc. Unit Cost	0		0									
Installation Cost (O-Level Install)												0.0
Install Qty												

DYNAMIC COMPONENT UPGRADE (DCU) (OSIP 25-91)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
Rotorhubs	**2.3**											**2.3**
Proc. Qty.	121											121
Proc. Unit Cost	0											
Installation Cost (O-Level Install)												0.0
Install Qty												
AFCS ECP #560	**4.8**	**7.8**	**0.0**									**12.6**
Proc. Qty.	350	595										945
Proc. Unit Cost	0	0										
Installation Cost (O-level Install)												0.0
Install Qty												
AFCS ECP #558	**1.5**											**1.5**
Proc. Qty. (Support Equipment)	43											43
Proc. Unit Cost	0											
Installation Cost	0.2											0.2
Install Qty	43											43
Technical Support												**0.0**
Proc. Qty.												
Proc. Unit Cost												
Installation Cost	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.0				0.6
Install Qty												
TOTAL Other Cost	**72.9**	**3.6**	**19.9**	**11.5**	**1.9**	**1.3**	**0.9**	**0.0**	**1.3**	**1.0**	**0.0**	**114.4**
TOTAL Procurement Cost	**115.4**	**66.7**	**45.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**227.4**
TOTAL Proc. Qty.	1,189	871	300									**2,360**
TOTAL Installation Cost	**17.7**	**5.4**	**0.0**	**0.4**	**12.0**	**20.7**	**8.1**	**3.0**	**0.0**	**0.0**	**0.0**	**67.2**
Total Install Qty.	449			14	149	385	281	121				1,399

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/ARC-210 Electronic Counter Countermeasures Radio (OSIP 9-92)

MODELS OF SYSTEM AFFECTED: CH-46E

TYPE MODIFICATION: Upgrade (HONA Category C)

DESCRIPTION/JUSTIFICATION:

The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistant radio that was developed to allow for ECCM interoperability with the Air Force, Army and NATO. The radio provides dual UHF capability for CV based TACAIR; VHF FM for close air support and maritime channels; VHF AM for air traffic control; and ECCM capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINCGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The ECCM parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVEQUICK; the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ARC-210 will be installed in CH-46E aircraft concurrent with the Navigation/Global Positioning System (GPS) OSIP 16-93. Validation completed 30 March 1995 and Developmental Testing complete in July 1995. The Operational Testing (OT) completed January 1996 and production installs are ongoing.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	34	0.1	33	0.5	33	0.1	46	0.4	38	0.4	37	0.4											221	1.8
Installation Kit - Unit Price		*		*		*		*		*		*												
Installation Kits N/R		0.6																						0.6
Installation Equipment	4	0.4																					4	0.4
Installation Equipment N/R																								
Engineering Change Orders																								
Data		*		*																				0.1
Training Equipment	4	*	2	*				*															6	*
Support Equipment																								
ILS		0.1																						0.1
Other Support		0.1		*		0.4		*		0.1		*												0.6
Interim Contractor Support																								
Installation Cost	2	0.1	12	0.1	52	0.3	45	0.4	43	0.4	39	0.4	33	0.4									226	2.1
TOTAL PROCUREMENT		**1.5**		**0.7**		**0.7**		**0.9**		**0.8**		**0.8**		**0.4**										**5.8**

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-46E**

MODIFICATION TITLE: AN/ARC-210 Electronic Counter Countermeasures Radio (OSIP 9-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Concurrent with SDLM & FMT**

ADMINISTRATIVE LEADTIME: Varies Months

PRODUCTION LEADTIME: Varies Months

CONTRACT DATES: FY 1997: Feb-97 FY 1998: Oct-97 FY 1999: Oct-98

DELIVERY DATE: FY 1997: Aug-97 FY 1998: Oct-98 FY 1999: Oct-99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (105) kits	2	0.1	12	0.1	52	0.3	39	0.4															105	0.8
FY 1997 (46) kits							6	0.1	40	0.4													46	0.4
FY 1998 (38) kits									3	0.0	35	0.4											38	0.4
FY 1999 (37) kits											4	0.0	33	0.4									37	0.4
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	2	0.1	12	0.1	52	0.3	45	0.4	43	0.4	39	0.4	33	0.4									226	2.1

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	66	1	13	13	18	10	11	11	11	10	10	9	10	9	9	9	6								
Out	56	10	1	13	13	18	10	11	11	11	10	10	9	10	9	9	9	6							

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						226
Out						226

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Night Vision Goggle Heads-Up Display (NVG HUD) (OSIP 19-92)

MODELS OF SYSTEM AFFECTED: CH-46E

TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION:

This modification incorporates the use of Head-Up Displays (HUD) with Night Vision Goggles (NVG). Helicopter crews are increasingly performing missions at night utilizing NVGs. Although NVGs have provided pilots with the capability to see in low light conditions, they have also hampered their ability to read critical flight instruments. A NVG HUD system would allow the pilot to quickly ascertain flight data while maintaining an outside visual scan. Pilot workload would decrease because the NVG HUD system eliminates many of the inside/outside scan transitions otherwise required to access flight status information. The decreased pilot workload would make NVG flying considerably safer, particularly in environments requiring full pilot attention outside the cockpit (e.g., terrain flight and ship landings). Two systems will be installed in each cockpit (for pilot and co-pilot).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This equipment is being procured as a nondevelopment item (NDI) in conjunction with the Army Night Vision Electronics Optical Program Office. The Army awarded a contract 30 Sep 91 which procures A and B kits (provisions and equipment) for both Army helicopters and participating Marine helicopters. Marine participation was requested and provided for Request for Proposal (RFP) development and source selection. Marine Corps pilots participated in Army flight evaluations of equipment submitted in response to the RFP, and the selected system meets their requirements. NADEP Cherry Point performed a validation of the NVG HUD system in Sep 93 and then AEL conducted EMC testing on the validation aircraft. Approval for Full Production was granted 13 Dec 93, and production installations are ongoing.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	122	2.9	60	1.5			53	1.3															235	5.7
Installation Kit - Unit Price		*		*				*																
Installation Kits N/R		1.3																						1.3
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		*		0.1																				0.1
Training Equipment	4	0.1				0.1		0.1															4	0.3
Support Equipment						0.2																		0.2
ILS								0.2		0.2		0.1												0.4
Other Support		0.6		0.1		0.1		0.1																0.9
Interim Contractor Support						0.1																		0.1
Installation Cost	64	1.0		*			31	0.6	59	1.1	43	0.8	42	0.9									239	4.4
TOTAL PROCUREMENT		**5.9**		**1.7**		**0.4**		**2.2**		**1.2**		**0.9**		**0.9**										**13.2**

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-46E**

MODIFICATION TITLE: Night Vision Goggle Heads-Up Display (NVG HUD) (OSIP 19-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Concurrent with SDLM & by FMT**

ADMINISTRATIVE LEADTIME: Varies Months

PRODUCTION LEADTIME: Varies Months

CONTRACT DATES: FY 1997: Dec-96 FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: Aug-97 FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (186) kits	**64**	**1.0**		*			**31**	**0.6**	**59**	**1.1**	**32**	**0.6**											**186**	**3.3**
FY 1997 (53) kits											**11**	**0.2**	**42**	**0.9**									**53**	**1.1**
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	64	1.0		*			31	0.6	59	1.1	43	0.8	42	0.9									239	4.4

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	46	1	13	16	19	14	15	15	15	11	11	11	10	11	11	10	10								
Out	36	10	1	13	16	19	14	15	15	15	11	11	11	10	11	11	10	10							

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						239
Out						239

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Navigation/Global Positioning System (GPS) (OSIP 16-93)

MODELS OF SYSTEM AFFECTED: CH-46E

TYPE MODIFICATION: Safety & Congressional Mandate (HONA Category A)

DESCRIPTION/JUSTIFICATION:

The NAVSTAR GPS is designed to provide highly accurate passive position & velocity, and precise time to users worldwide in all weather conditions. The GPS will interface with existing navigation equipment. This OSIP contains only the H-46 aircraft provision kit and peculiar GFE. The GPS GFE is funded by a common avionics OSIP (71-88). This capability is a requirement to fly within U. S. airspace under a DOD/DOT memorandum of agreement.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The NAVSTAR GPS program (GFE) completed Phase II (Full Scale Engineering Development) and completed Milestone IIIA (Approval for Limited Production) in Jun 86. Milestone IIIB completed in Jan 92. Research, Development, Test & Evaluation, Navy (RDT&E,N) is funded under program element 0604777N. H-46 unique A-kit and navigation equipment Low Rate Initial Production (LRIP) approval was granted 10 Dec 93, 19 Oct 94, and 24 Jul 95. Validation completed 30 Mar 95 and Developmental Testing completed in Jul 95. Operational Testing (OT) completed in Jan 96, and production installations are ongoing.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	16	1.2	92	7.7	20	1.3	37	2.2	47	3.4	19	1.4											231	17.3
Installation Kit - Unit Price		0.1		0.1		0.1		0.1		0.1		0.1												
Installation Kits N/R		1.1		1.4		0.3		0.8																3.6
Installation Equipment	32	1.5	184	2.8	40	0.6	86	1.7	141	3.6	57	1.6											540	11.9
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.4		*				0.6																1.0
Training Equipment	5	0.3	1	1.2		0.7		0.2		0.1													6	2.6
Support Equipment		0.1		0.5		0.3		*																0.9
ILS						0.1		0.9		0.5		0.5												1.9
Other Support		1.4		2.1		0.5		0.2		0.4		0.4												4.9
Interim Contractor Support				0.7		0.6																		1.3
Installation Cost			13	1.9	53	5.0	42	4.2	43	3.6	43	3.7	43	3.9									237	22.3
TOTAL PROCUREMENT		**6.0**		**18.4**		**9.4**		**10.8**		**11.5**		**7.5**		**3.9**										**67.5**

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-46E**

MODIFICATION TITLE: Navigation/Global Positioning System (OSIP 16-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Concurrent with SDLM & FMT**

ADMINISTRATIVE LEADTIME: Varies Months

PRODUCTION LEADTIME: Varies Months

CONTRACT DATES: FY 1997: Dec-96 FY 1998: Dec-97 FY 1999: Dec-98

DELIVERY DATE: FY 1997: Sep-97 FY 1998: Dec-98 FY 1999: Dec-99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	**Qty**	$	**Qty**	$	**Qty**	$	**Qty**	$	**Qty**	$	**Qty**	$	**Qty**	$	**Qty**	$	**Qty**	$	**Qty**	$	**Qty**	$
FY 1996 & PY (134) kits			**13**	**1.9**	**53**	**5.0**	**42**	**4.2**	**26**	**2.2**													**134**	**13.3**
FY 1997 (37) kits									**17**	**1.4**	**20**	**1.7**											**37**	**3.1**
FY 1998 (47) kits											**23**	**2.0**	**24**	**2.2**									**47**	**4.1**
FY 1999 (19) kits													**19**	**1.7**									**19**	**1.7**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL			13	1.9	53	5.0	42	4.2	43	3.6	43	3.7	43	3.9									237	22.3

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	66	1	13	13	15	10	11	11	11	11	11	11	10	11	11	11	10								
Out	56	10	1	13	13	15	10	11	11	11	11	11	11	10	11	11	11	10							

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						237
Out						237

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: T-58-GE-402 Engine Conversion (OSIP 18-94)

MODELS OF SYSTEM AFFECTED: H-46D

TYPE MODIFICATION: Upgrade (HONA category C)

DESCRIPTION/JUSTIFICATION:

This modification will incorporate the T58-GE-402 engine in the H-46D aircraft. This will increase the reliability, maintainability and serviceability of the H-46D. The nature of the Navy's VERTREP mission demands the maximum performance from each of these aircraft. This modification will increase shaft horsepower, improve single engine capability, reduce maintenance time, anc incorporate an already existing powerplant change into the H-46D. Two existing T58-GE-10 engines will be upgraded and installed in each aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The engine and aircraft modifications are complete.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	5	*	235	0.2																			240	0.2
Installation Kit - Unit Price		*		*																				
Installation Kits N/R	1	0.4																					1	0.4
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		*		0.1		0.5																		0.6
Training Equipment		*	1	0.1																			1	0.1
Support Equipment																								
ILS		*		0.1		*																		0.1
Other Support		*		*		0.1																		0.1
Interim Contractor Support				0.1		0.1																		0.2
Installation Cost	2	0.2	37	1.8																			39	2.0
TOTAL PROCUREMENT		**0.7**		**2.3**		**0.7**																		**3.6**

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **H-46D**

MODIFICATION TITLE: T-58-GE-402 Engine Conversion (OSIP 18-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: This schedule reflects depot level forced retrofit of 39 engines. The remaining 203 engines will be modified at I-level (122 engines) and concurrent with repair (81 engines) at no charge to APN-5I.

ADMINISTRATIVE LEADTIME: Varies Months

PRODUCTION LEADTIME: Varies Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (39) kits	2	0.2	37	1.8																			39	2.0
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	2	0.2	37	1.8																			39	2.0

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	39																								
Out	39																								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						39
Out						39

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **SAFETY IMPROVEMENT OSIP 25-97**

MODELS OF SYSTEM AFFECTED: H-46 TYPE MODIFICATION: Safety (HONA Category A)

DESCRIPTION/JUSTIFICATION:

To upgrade the H-46 helicopter incorporating the following safety modifications:

1. HYDRAULIC SYSTEM UPGRADE: H-46 hydraulic system pump failures have caused three Class A mishaps in the past year. The pump is operating above rated pump specifications and degrading reliability. The H-46D utility system pump supplies the #2 flight control system. The H-46E pump has a history of overheating and igniting hydraulic fluid. This upgrade will engineer, qualify, and procure form fit function replacement pumps. Also, as part of this upgrade, the unused Engine Exhaust Device System (EEDS) plumbing in the H-46E will be removed.
2. UPPER DUAL BOOST ACTUATOR: This actuator has been cited as the causal factor in a Class A mishap. In addition, recurring inspections are required to prevent additional failures. The upgrade will eliminate the failure mode in the control valve assembly which caused the mishap and result in improved reliability.
3. FWD TRANSMISSION SUPPORT STUCTURE: To date, 5 cracks have been detected in this critical structure and several HAZREPS prior to catastrophic failure. This failure trend is expected to continue and recurring inspections have been imposed. The upgrade will strengthen the structure to preclude this failure mode and eliminate the recurring inspection.
4. NIGHT VISION GOGGLE (NVG) COMPATIBLE COCKPIT: Navy H-46D aircraft do not have integrated NVG lighted cockpit. Shipboard OPS require all aircraft to be NVG equipped.
5. RUNNING ENGINE WASH: The T58-16/402 engine performance is due to dirt and oil residue in the compressor section. Maintenance requires daily wash after over shipboard operations to remove salt encrustation. Improved nozzle design better atomizes cleaning fluid, allows engine wash to be performed with the engine running, and is environmentally friendly.
6. SLIDING RESCUE HATCH (HELL HOLE DOOR): Sixty-six H-46 aircraft are equipped with a hinged rescue hatch which cannot be secured in flight. With the door open, watertight integrity is lost and the aircraft will fill with water following a controlled landing into the water. This upgrade will retrofit remaining aircraft with a sliding door configuation which may be secured in flight.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

1. HYDRAULIC SYSTEM UPGRADE: The Engineering Change Proposal (ECP) has been requested from Boeing Helicopters. Boeing will propose a derivative of the F-22 hydraulic pump. The ECP is due in June 1997 and contract go ahead in July 1997. Qualification testing is scheduled six months after receipt of order (ARO), with production pumps nine months after qualification. The replacement pumps will be installed by the fleet. Kit deliveries and removal of the unused EEDS plumbing by a Government-Owned, Contractor-Operated (GOCO) Field Mod Team (FMT) are scheduled to start 4th quarter FY97.
2. UPPER DUAL BOOST ACTUATOR: The ECP, preliminary engineering design, testing, verification is scheduled to be completed during FY01; anticipate initial kit procurement to begin FY02 with kit deliveries and O-Level installations to begin in FY03.
3. FWD TRANSMISSION SUPPORT STUCTURE: The ECP, preliminary engineering design, testing, verification is scheduled to be cmpleted during FY01; anticipate initial kit procurement to begin FY01 with kit deliveries and installations by Depot/GOCO FMT to begin in FY02.
4. NVG COMPATIBLE COCKPIT: The preliminary ECP has been received. Validation/verification and ramp type EMC test are scheduled 1st quarter FY98. Kit deliveries and installs by GOCO FMT are scheduled to begin 2nd quarter FY98 and are scheduled to complete 4th quarter FY99.
5. T58-16/402 RUNNING ENGINE WASH: The ECP will be received 2nd quarter FY97. EVAL schedule for 1st quarter FY98 followed by validation/verification 2nd quarter FY98. Kit deliveries and O-Level installations to commence 3rd quarter FY98.
6. SLIDING RESCUE HATCH (HELL HOLE DOOR): Because the sliding door configuration was cut into the original H-46 production line, the ECP and drawings are available. Requests for proposal (kit and install) have been issued. Installation by GOCO FMT will be concurrent with the NVG Compatible Cockpit (2nd quarter FY98).

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits							980	5.1	273	3.0	22	0.3			100	0.1	160	0.9	40	0.8	140	2.8	1,715	13.0
Installation Kit - Unit Price								*		*		*				*		*		*		*		
Installation Kits N/R								1.2		0.3						1.5								2.9
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data								0.1		*						*								0.2
Training Equipment							4	*						*		*	2	*		*		*	6	0.1
Support Equipment								0.1																0.1
ILS								0.3		0.1		0.1				0.2		0.1		*				0.8
Other Support								0.2		0.3		0.3		0.1		0.2		*		*		*		1.0
Interim Contractor Support																								
Installation Cost							22	*	181	1.0	179	1.0					73	0.5	73	0.5	74	0.5	602	3.5
TOTAL PROCUREMENT								**7.1**		**4.6**		**1.7**		**0.1**		**2.0**		**1.5**		**1.3**		**3.3**		**21.6**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **H-46**

MODIFICATION TITLE: **Safety Improvement OSIP 25-97**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **HYDRAULIC SYSTEM UPGRADE: PUMPS INSTALLED O-LEVEL, EEDS REMOVAL GOCO FMT; UPPER DUAL BOOST ACTUATOR: O-LEVEL; FWD TRANSMISSION STRUCTURE: DEPOT/GOCO FMT; NVG COMPATIBLE COCKPIT: GOCO FMT; RUNNING ENGINE WASH: O-LEVEL; SLIDING RESCUE HATCH: GOCO FMT CONCURRENT WITH NVG COMPATIBLE COCKPIT**

ADMINISTRATIVE LEADTIME: **Varies** Months

PRODUCTION LEADTIME: Varies Months

CONTRACT DATES: FY 1997: **Jun-97** FY 1998: **Oct-97** FY 1999: N/A

DELIVERY DATE: FY 1997: **Jan-98** FY 1998: **Oct-98** FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 (227) kits							**22**	*	**180**	**1.0**	**25**	**0.1**											**227**	**1.2**
FY 1998 (155) kits									**1**	*	**154**	**0.8**											**155**	**0.9**
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 (100) kits																	**73**	**0.5**	**27**	**0.2**			**100**	**0.7**
FY 2002 (120) kits																			**46**	**0.3**	**74**	**0.5**	**120**	**0.8**
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL							22	*	181	1.0	179	1.0					73	0.5	73	0.5	74	0.5	602	3.5

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					22	26	51	52	52	46	45	44	44									18	18	18	19
Out					12	10	26	51	52	52	46	45	44	44									18	18	18

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	18	18	18	19	74	602
Out	19	18	18	18	93	602

H-46 SAFETY IMPROVEMENT

OSIP 25-97

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP# /Hydraulic Sys Upgr (Pumps)				**2.5**	**1.7**	**0.3**						**4.5**
Proc. Qty.				173	118	22						313
Proc. Unit Cost				0	0	0						
Installation Cost												
Install Qty												
ECP# H-46-62/NVG Compatible Cockpit				**1.7**	**0.7**							**2.4**
Proc. Qty.				57	25							82
Proc. Unit Cost				0	0							
Installation Cost					0.2	0.2						0.5
Install Qty					42	40						82
ECP#H-46-70/T58-16/402 Running Eng Wash				**0.5**								**0.5**
Proc. Qty.				584								584
Proc. Unit Cost				0								
Installation Cost												
Install Qty												
ECP#H-46-69/Sliding Rescue Hatch				**0.4**	**0.5**							**0.9**
Proc. Qty.				32	34							66
Proc. Unit Cost				0	0							
Installation Cost					0.6	0.6						1.1
Install Qty					33	33						66
ECP#H-46-74/Hydraulic System Upgr (EEDS Removal)				**0.1**	**0.0**							**0.1**
Proc. Qty.				138	96							234
Proc. Unit Cost				0	0							
Installation Cost				0.0	0.2	0.2						0.5
Install Qty				22	106	106						234
ECP# /FWD Transmission Structure								**0.1**	**0.1**			**0.2**
Proc. Qty.								100	120			220
Proc. Unit Cost								0	0			
Installation Cost								0.0	0.5	0.5	0.5	1.5
Install Qty									73	73	74	220
ECP# /Upper Dual Boost Actuator									**0.8**	**0.8**	**2.8**	**4.4**
Proc. Qty.									42	40	140	222
Proc. Unit Cost									0	0	0	
Installation Cost												
Install Qty												
TOTAL Other Cost				**1.9**	**0.7**	**0.4**	**0.1**	**1.9**	**0.1**	**0.0**	**0.0**	**5.1**
TOTAL Procurement Cost				**5.2**	**3.0**	**0.3**		**0.1**	**1.0**	**0.8**	**2.8**	**13.1**
TOTAL Proc. Qty.				984	273	22		100	162	40	140	1,721
TOTAL Installation Cost				**0.0**	**1.0**	**1.0**			**0.5**	**0.5**	**0.5**	**3.5**
Total Install Qty.				22	181	179			73	73	74	602

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/APR-39A(V)2 UPGRADE (OSIP 03-98)

MODELS OF SYSTEM AFFECTED: CH-46E

TYPE MODIFICATION: Combat Enhancement (HONA category C)

DESCRIPTION/JUSTIFICATION:

This change is being incorporated to provide vital protection and increase the survivability in hostile environments by providing warning and protection against radar guided missile threats. The change consists of the AN/APR-39A(V)2 radar warning receiver. The AN/APR-39A(V)2 is designed to provide an air defense warning system against radar and radar aided threats by providing central control and display functions consisting of five antennas, pilot control indicator, display unit receivers, and a processor. This OSIP procures only the H-46 peculiar items; the GFE is being procured by PMA-272 in a common OSIP (OSIP 14-90).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Engineering Change Proposal (ECP) will be ordered in FY98.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits									3	0.1	27	0.4			44	0.7	50	0.8	45	0.7	48	0.8	217	3.4
Installation Kit - Unit Price										*		*				*		*		*		*		
Installation Kits N/R										0.3														0.3
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data												0.3		*										0.3
Training Equipment											4	0.2											4	0.2
Support Equipment																								
ILS										0.3														0.3
Other Support										0.1		0.3		0.2		0.3		0.3		0.3				1.5
Interim Contractor Support																								
Installation Cost											3	0.1	16	0.3	15	0.3	44	0.9	50	1.1	93	2.0	221	4.6
TOTAL PROCUREMENT										**0.7**		**1.3**		**0.5**		**1.2**		**2.0**		**2.1**		**2.8**		**10.6**

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-46E**

MODIFICATION TITLE: AN/APR-39A(V)2 UPGRADE (OSIP 03-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Government Owned Contractor Operated (GOCO) FMT**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1997: N/A FY 1998: Nov-97 FY 1999: Apr-99

DELIVERY DATE: FY 1997: N/A FY 1998: Nov-98 FY 1999: Apr-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 (3) kits											**3**	**0.1**											**3**	**0.1**
FY 1999 (31) kits													**16**	**0.3**	**15**	**0.3**							**31**	**0.6**
FY 2000 ( ) kits																								
FY 2001 (44) kits																	**44**	**0.9**					**44**	**0.9**
FY 2002 (50) kits																			**50**	**1.1**			**50**	**1.1**
FY 2003 (45) kits																					45	1.0	**45**	**1.0**
To Complete (48) kits																					48	1.0	48	1.0
TOTAL											3	0.1	16	0.3	15	0.3	44	0.9	50	1.1	93	2.0	221	4.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In										1		1	1			7	9	7	8			11	11	11	11
Out											1		1	1			7	9	7	8			11	11	11

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	12	13	12	13	93	221
Out	11	12	13	12	106	221

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Tactical Air Mission Planning System (TAMPS) (OSIP 04-98)

MODELS OF SYSTEM AFFECTED: CH-46E

TYPE MODIFICATION: Combat Enhancement (HONA Category C)

DESCRIPTION/JUSTIFICATION:

The Tactical Air Mission Planning System (TAMPS) is a computer-based mission planning system. This system uses platform specific software to aid in preparation of flight plans for tactical scenarios.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

TAMPS has been identified as the only mission planning system for all Naval mission planning systems. This direction stems from a CNO memo Ser N8/3U653136 of 10 Sep 93.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support										0.5														0.5
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT										**0.5**														**0.5**

Notes:

1. Totals do not add due to rounding
2. Asterick indicates amount less than 51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-46E**

MODIFICATION TITLE: TAMPS

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **N/A**

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL																								

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																									
Out																									

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						
Out						

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40	DATE: September 1997
APPROPRIATION/BUDGET ACTIVITY **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**	P-1 ITEM NOMENCLATURE **AH-1W Series Modifications**
Program Element for Code B Items:	Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)					23.2	34.5	22.9	12.7	7.6	3.8	1.0		105.8

This line item funds modifications to the AH-1W aircraft. There are 202 AH-1W's (168 active/34 reserve). The AH-1W is a tandem seat, two place (pilot and gunner/co-pilot) attack helicopter designed and built to provide the high speed and manueverability required by the attack mission. The armament of the AH-1W includes the SIDEWINDER, TOW and the HELLFIRE missile systems, a chin-mounted 20mm turret gun, and wide variety of forward and dropable external stores. The overall goal of the modifications budgeted in FY 1999 is to continue to fulfill the operational requirement to detect, identify and destroy tactical sized amored targets with precision guided munitions during the day, at night and during adverse weather, as well as providing enhanced conventional weapons delivery by utilizing the systems laser ranging system. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
8-90	AH-1T/W Night Targeting System	18.0	22.3	9.1	1.8					51.2
3-93	AH-1 Embedded GPS/ARC-210 NAV Upgrade	4.8	10.3	12.5	8.0	6.3	2.5			44.3
25-94	AH-1W Helicopter Night Vision Goggle (NVG) Compatible Exterior Lighting	0.4	1.5							1.9
16-98	AH-1W APR-39A(V) 2		0.5	1.2	1.8	0.5				3.9
XX-00	H-1 Mission Planning Module Program				1.2	0.9	1.3	1.0		4.4
TOTAL		**23.2**	**34.5**	**22.9**	**12.7**	**7.6**	**3.8**	**1.0**		**105.8**

RESERVE FUNDING INCLUDED IN TOTAL 0.5

NOTE: FY 1996 and prior year AH-1W OSIPS were previously budgeted for in the H-1 Series P-1 line item
NOTE: Totals do not add due to rounding.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AH-1 Night Targeting System (OSIP 8-90)

MODELS OF SYSTEM AFFECTED: AH-1W TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The U.S. Marine Corps (USMC) has an operational requirement to detect, identify and destroy tactical sized armored targets with precision guided munitions during day, night and adverse weather conditions. The AH-1W can deliver TOW missiles during day operations and HELLFIRE with autonomous terminal guidance. The Night Targeting System (NTS) provides a night/adverse weather TOW and autonomous HELLFIRE capability. In addition, NTS will provide enhanced conventional weapons delivery by utilizing the systems laser ranging system. An Inflatable Body and Head Restraint System (IBAHRS) and the Night Vision Goggle Helmet mounted Display completes the NTS modification. NTS will accomplish the USMC requirement for night operations by incorporating a high resolution stabilized forward looking infra-red sensor, charged couple device camera system, automatic target tracking, and laser range finder/designator into the current M65 telescopic sight unit.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This is a joint effort with the Israel Air Force and is being developed under research development test and evaluation (RDT&E) program element 604213N, project W1378 which began in FY 1987. A Memorandum of Understanding was signed with the Government of Israel in August 1987, and implemented the acquisition strategy. This modification has two key parts: (1) the modification of the cockpit and the canopy (places a radar altimeter in the front cockpit for the first time: and (2) the NTS itself. Authorization to commence cockpit/canopy modifications (CCMOD) to the aircraft was granted ahead of FRP for the NTS because of the safety advantage of getting the radar altimeter in the front cockpit. NTS installations are accomplished by squadron personnel upon kit delivery. A milestone IIA decision (approval for limited production) was approved in July 1992. Approval for full production was granted February 1994.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	50	86.5	29	24.5	17	17.3	10	12.0	17	17.2	5	2.1											128	159.6
Installation Kit - Unit Price		*1.7*		*0.8*		*1.0*		*1.2*		*1.0*		*0.4*												
Installation Kits N/R		19.2																						19.2
Installation Equipment	50	3.5	29	3.0	17	1.3	10	1.4	17	2.2	5	0.5											128	12.0
Installation Equipment N/R		2.0																						2.0
Engineering Change Orders		4.1		2.2						0.9														7.2
Data		0.3		0.2																				0.5
Training Equipment	2	3.0	2	0.4			1	0.4															5	3.8
Support Equipment		8.8		6.0																				14.8
ILS		12.4		1.7																				14.1
Other Support		13.3		3.8		1.6		0.4		1.3		0.6												21.0
Interim Contractor Support																								
Installation Cost	52	15.9	26	10.6	17	4.9	11	3.8		0.7	17	6.0	5	1.8									128	43.6
TOTAL PROCUREMENT		**169.0**		**52.5**		**25.2**		**18.0**		**22.3**		**9.1**		**1.8**										**297.8**

NOTE: Totals do not add due to rounding.

NOTE: Five kits in Prior Years were for FMS Turkey payback and do not require installation. See Addendum for individual kit data.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **AH-1W**

MODIFICATION TITLE: **AH-1 Night Targeting System (OSIP 8-90)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Drive-in Modification (turn-key) through FY 1997. FY 1998 & FY 1999 contractor Drive-in Modification**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1997: Dec-96 FY 1998: Dec-97 FY 1999: Dec-98

DELIVERY DATE: FY 1997: Dec-97 FY 1998: Dec-98 FY 1999: Dec-99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (95) kits*	**52**	**15.9**	**26**	**10.6**	**17**	**5.3**																	**95**	**31.8**
FY 1997 (11) kits*							**11**	**3.8**															**11**	**3.8**
FY 1998 (17) kits										**0.7**	**17**	**6.0**											**17**	**6.7**
FY 1999 (5) kits													**5**	**1.8**									**5**	**1.8**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	52	15.9	26	10.6	17	5.3	11	3.8		0.7	17	6.0	5	1.8									128	44.0

NOTE: Five kits in Prior Years were for FMS Turkey payback and do not require installation. See Addendum for individual kit data. ***Includes trainers**.

Addition errors due to rounding.

NOTE: FY 1997 and prior years are turn-key installations; FY 1998 and out are annualized installations.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	72	7	6	6	4	1	4	3	3	4	4	5	4	3	2										
Out	64	6	8	5	6	6		3	4	3	5	4	4	5	2	3									

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						128
Out						128

AH-1W Series Mod

OSIP 8-90

ECP#/Name	PRIOR YEAR	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
AH-1T/W Night Targeting System												
Cockpit Canopy Kit	**17,972**	**7,017**	**4,155**	**3,066**	**6,351**	**2,114**						**40,675**
Proc. Qty.	50	29	17	10	17	5						128
Proc. Unit Cost	359	242	244	307	374	423						
Installation Cost	15,925	10,591	4,933	3,755		5,982	1,789					42,975
Install Qty	52	26	17	11		17	5					128
Install (IBAHRS)					672							
Night Targeting System Kit	**68,520**	**17,496**	**13,192**	**8,916**	**10,845**							**118,969**
Proc. Qty.	50	24	17	12	15							118
Proc. Unit Cost	1,370	729	776	743	723							
Installation Cost												
Install Qty (NSP from Cockpit Install)												
OTHER	**66,541**	**17,381**	**2,885**	**2,243**	**4,401**	**1,037**						
TOTAL Procurement Cost	**153,033**	**41,894**	**20,232**	**14,225**	**21,597**	**3,151**						**254,132**
TOTAL Proc. Qty.	50	29	17	10	17	5						**128**
TOTAL Installation Cost	**15,925**	**10,591**	**4,933**	**3,755**	**672**	**5,982**	**1,789**					**43,647**
Total Install Qty.	52	26	17	11		17	5					**128**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AH-1 Embedded GPS/ARC-210 Navigation Upgrade Program (OSIP 3-93)

MODELS OF SYSTEM AFFECTED: AH-1W TYPE MODIFICATION: Upgrade

DESCRIPTION/JUSTIFICATION:

The Department of Defense has mandated that all U.S. military aircraft incorporate Global Positioning System (GPS) as their primary navigation equipment. GPS will provide precise location information anywhere on the globe. Incorporation of this navigation system will allow the AH-1W weapon system to remove equipment that is approaching obsolescence while improving the operational capability and reducing the overall weight of the aircraft. The ARN-118 TACAN, and ARN-89 Automatic Direction Finder, ASN-75 Gyrocompass and APN-217 doppler Radar Set will be replaced with an Embedded GPS INS (EGI) and ARN-153(V)4 TACAN. The navigation solution will be displayed on a modified AN/ASQ-205 Cockpit Control System.

The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistent radio that was developed to allow for Electronic Protection (EP) interoperability with the Air Force, Army and NATO. It will be installed with this modification. The radio provides a dual UHF capability for CV based TACAIR; VHF-FM for close air support and maritime channels; VHF-AM for air traffic control; and EP capabilities using the Air Force waveform (UHF-FM HAVEQUICK I AND II), and the Army developed waveform (UHF-FM SINCGARS). The EP parameters and single channel preset information can be loaded via CYZ-10 Data Transfer Device (DTD). The ARC-210 system needs accurate time signatures to perform the frequency hopping functions. These time signatures will be provided from the EGI systems. The TAMPS mission planning module which capitalizes on the improved communications capability and more accurate navigation provided by GPS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES

The EGI is a non developmental item (NDI) being procured through the Air Force as DOD C31. The Air Force approved a Milestone III full Production Decision March 1994. The first AN/ARC-210 Integration units were procured in FY 1993. AN/ARC-210 Milestone III Full Rate Production was approved April 1994.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	2		24	3.2	24	2.2	24	3.4	30	4.3	40	6.0	18	2.7	19	2.9							181	24.6
Installation Kit - Unit Price				0.1		0.1		0.1		0.1		0.1		0.1		0.2								
Installation Kits N/R		3.1																						3.1
Installation Equipment	4	0.3	48	0.8	48	0.5	48	0.9	60	1.1	80	1.5	36	0.7	38	0.8							362	6.5
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1																						0.1
Training Equipment			2	0.3																			2	0.3
Support Equipment				0.1																				0.1
ILS		0.9		0.1																				1.0
Other Support		2.7		0.7		0.6		0.6		1.0		1.5		0.8										7.9
Interim Contractor Support																								
Installation Cost	2	0.2	26	3.5	24	2.3			24	3.8	22	3.5	34	3.9	26	2.6	25	2.5					183	22.3
TOTAL PROCUREMENT		**7.3**		**8.7**		**5.6**		**4.8**		**10.3**		**12.5**		**8.0**		**6.3**		**2.5**						**66.0**

NOTE: Totals do not add due to rounding.

NOTE: The Mission Data Loader, antenna, Signal Data Converter and Mounts are procured in GPS OSIP 71-88. The AN/ARC-210 radios are procured in OSIP 4-94. The EGI is procured in OSIP 38-95.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **AH-1W**

MODIFICATION TITLE: **AH-1 Embedded GPS/ARC-210 Navigation Upgrade Program (OSIP 3-93)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Drive-in Modification (turn-key) for kit procurements through FY 1996. FY 1997 & FY 1998 contractor drive-in modification; and FY 1999 & out contractor field modification team.**

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1997: Feb-97 FY 1998: Feb-98 FY 1999: Feb-99

DELIVERY DATE: FY 1997: Feb-98 FY 1998: Jan-99 FY 1999: Mar-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (52) kits	**2**	**0.2**	**26**	**3.5**	**24**	**2.3**																	**52**	**6.0**
FY 1997 (24) kits									**24**	**3.8**													**24**	**3.8**
FY 1998 (30) kits											**22**	**3.5**	**8**	**0.9**									**30**	**4.5**
FY 1999 (40) kits													**26**	**3.0**	**14**	**1.4**							**40**	**4.4**
FY 2000 (18) kits															**12**	**1.2**	**6**	**0.6**					**18**	**1.8**
FY 2001 (19) kits																	**19**	**1.9**					**19**	**1.9**
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	2	0.2	26	3.5	24	2.3			24	3.8	22	3.5	34	3.9	26	2.6	25	2.5					183	22.3

*A kit and installation cost for prototype included in kit nonrecurring. **Includes two Composite Maintenance Trainers.

NOTE: FY 1996 and prior years are turn-key installations; FY 1997 and out are annualized installations.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	10	9	9	8	8	8	8	8	8		7	8	7	8	8	9	9	14	4	4	4	6	6	6	7
Out	4	6	9	9	8	8	8	8	8	8		7	8	7	8	8	9	9	14	4	4	4	6	6	6

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						183
Out	7					183

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AH-1 Helicopter Night Vision Goggle (NVG) Compatible Exterior Lighting (OSIP 25-94)

MODELS OF SYSTEM AFFECTED: AH-1W TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

Marine Corps helicopters are equipped with night vision compatible internal cockpit lighting. External lights compatible with night vision goggles increase pilot safety and mission effectiveness during nighttime operations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This program utilizes off the shelf hardware to improve night vision compatibility exterior lighting on Marine helicopters. IR beacon ring lights and IR strip lights will be installed.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	148.0	1.0	101.0	1.1	132.0	1.3																	381.0	3.3
Installation Kit - Unit Price		*		*		*																		
Installation Kits N/R		*		*																				*
Installation Equipment																							*	*
Installation Equipment N/R																								*
Engineering Change Orders																								*
Data																								*
Training Equipment	2.0	*	2.0	*																			4.0	*
Support Equipment																								*
ILS								0.1																0.1
Other Support						0.4		0.3																0.7
Interim Contractor Support																								*
Installation Cost					253.0	1.5			132.0	1.5													385.0	3.0
TOTAL PROCUREMENT		**1.0**		**1.1**		**3.1**		**0.4**		**1.5**														**7.2**

NOTE: * indicates amounts less then $51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **AH-1W**

MODIFICATION TITLE: AH-1 Helicopter Night Vision goggle (NVG) Compatible Exterior Lighting (OSIP 25-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: N/A FY 1998: Jan-98 FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (385) kits					**253**	**2.0**			**132**	**1.5**													**385**	**3.5**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL					253	2.0			132	1.5													385	3.5

*Quantities reflect kits; includes two composite maintenance trainers.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In			40	75	79	56	69	33	33																
Out				40	75	79	56	69	33	33															

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						385
Out						385

AH-1W Series Mod

OSIP 25-94

ECP#/Name	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
AH-1W Helicopter NVG Compatible Exterior Lighting												
IR Beacon Ring Kit	962	221										1,183
Proc. Qty.	148	34										182
Proc. Unit Cost	7	7										
Installation Cost			207		108							337
Install Qty			125		59							184
IR Strip Light Kit		829	1,270									2,463
Proc. Qty.		67	132									199
Proc. Unit Cost		12	10									
Installation Cost			1,275		1,012							
Install Qty			128		73							
RIM					377							
OTHER	38	50	365	438								
TOTAL Procurement Cost	1,000	1,100	1,635	438								4,530
TOTAL Proc. Qty.	148	101	132									381
TOTAL Installation Cost			1,482		1,497							3,505
Total Install Qty.			253		132							385

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AH-1W APR-39A(V)2 (OSIP 16-98)

MODELS OF SYSTEM AFFECTED: AH-1W TYPE MODIFICATION: Survivability

DESCRIPTION/JUSTIFICATION:

Existing AH-1W aircraft self-protection/survivability systems are inadequate to cope with present-day threats. This engineering change provides the pilot with an integrated aircraft survivability system that reduces aircrew workload, centralizes control functions and increases the helicopter's survivability during operations in or near hostile territory by providing additional threat detection capabilities; and enhanced missile and laser detection system.

The Radar Warning Receiver System consists of:

a. Provisions for the ID-2464/AAR-47 Control Indicator
b. Modification to the existing wiring for installation of the APR-39(V)2 RWR
c. Removal of the AN/APR-44(3) Radar Warning System (MWS), and required interfaces.
d. Installation of the AN/AVR-2 Laser Detecting Set (LDS)

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This program utilizes operationally approved hardware to increase aircraft self protection and survivability.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits									4	*	54	0.6	19	0.2									77	0.9
Installation Kit - Unit Price										*		*		*										
Installation Kits N/R										0.1														0.1
Installation Equipment																								*
Installation Equipment N/R																								*
Engineering Change Orders																								*
Data										*														*
Training Equipment									2	*													2	*
Support Equipment																								*
ILS										*		*		*										0.1
Other Support										0.1		0.1		0.1		*								0.2
Interim Contractor Support																								*
Installation Cost									6	0.2	14	0.4	44	1.4	15	0.5							79	2.5
TOTAL PROCUREMENT										**0.5**		**1.2**		**1.8**		**0.5**								**3.9**

NOTE: * indicates amounts less then $51K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **AH-1W**

MODIFICATION TITLE: AH-1W APR-39A(V)2 (OSIP 16-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Teams**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1998: Dec-97 FY 1999: Dec-98 FY 2000: Dec-99

DELIVERY DATE: FY 1998: Jun-98 FY 1999: Jun-99 FY 2000: Jun-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 (6) kits*									**6**	**0.2**													**6**	**0.2**
FY 1999 (54) kits											**14**	**0.4**	**40**	**1.3**									**54**	**1.7**
FY 2000 (19) kits													**4**	**0.1**	**15**	**0.5**							**19**	**0.6**
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL									6	0.2	14	0.4	44	1.4	15	0.5							79	2.5

*Includes two composite maintenance trainers.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								3	3			7	7	20	20		4	15							
Out									3	3			7	7	20	20		4	15						

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						79
Out						79

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: September 1997

APPROPRIATION/BUDGET ACTIVITY: Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE: H-53 Series Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	92.2		54.3	41.0	58.3	35.7	33.8	32.8	25.3	21.4	37.6	709.9	1,142.2

This line item funds modifications to the CH-53D/CH/MH-53E aircraft. There are 44 MH-53E Helicopters (12 Reserve/32 Active); 163 CH-53E Helicopters (6 Reserve/159 Active); and 47 CH-53D Helicopters (47 Active). The CH-53E is a seven blade main rotor and a four-blade canted tail rotor helicopter (powered by three T64-GE-416A turbo shaft engines on the CH-53E and two T64-GE-413 engines, while the CH-53D has six main rotor blades and two T64-GE-413 engines. The CH-53D/E aircraft are capable of both land and ship based transport of heavy equipment, supplies, and personnel. The MH-53E is similar to the CH-53E with additional capabilities for Airborne Mine Countermeasures (AMCM), Vertical On-Board Delivery (VOD), and Special Missions which require longer range and more precise navigation than that of the CH-53E. The overall goal of the modifications budgeted in FY99 is increased communication and navigation, night vision capability, and fleet operation and safety performance in the H-53 community.

The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
23-91	MH-53E Engine Upgrade T64-GE-419	28.7	4.4	3.8	3.4	1.0	0.9	1.4					43.6
11-92	AN/ARC-210 ECCM Radio	3.0	2.1	2.6	4.4	2.9	2.9	2.4	3.3	0.3	0.3	1.0	25.2
12-92	CH-53E Helicopter Night Vision Sys	39.8	25.7	16.8	13.9	0.8	2.6						99.6
20-92	MH Global Positioning System (NCS)	7.7	10.5	6.7	3.7	3.0	2.6	3.1	2.1	1.6	1.2	0.8	43.1
24-93	H-53 Global Positioning Sys (GPS)	6.1	2.6	3.7	6.5	4.0	2.6	0.9					26.3
20-94	Incorp of #2 Engine Fire Detect	0.3	0.2	0.7	1.2	1.3	0.9	0.7	0.3				5.6
21-94	(ANVIS/HUD) AN/AVS-7	2.3	2.2	1.5	2.5	1.2	2.3	4.3	3.2	3.4	1.7	3.5	28.0
22-94	Crashworthy Pilot and Co-Pilot Seats	1.6	2.1	3.8	0.9	0.0							8.4
26-94	(NVG) Compatible Exterior Lighting	2.6	0.2	0.1	1.4	1.4	0.9						6.5
35-94	TRDS Shaft Disconnect Coupling Monitor		4.3	1.3	11.8	12.2	1.0						30.6
20-97	Attenuating Troop Seats				8.7								8.7
6-98	AN/APR-39A (V) 2 Upgrade	0.2				0.7	0.8	1.2	1.4	1.5	1.4	5.6	12.8
7-98	Integrated Mechanical Diagnostic System					6.7	15.7	16.2	11.1	6.0	6.4	68.2	130.3
8-98	Tactical Mission Planning System (TAMPS)					0.6	0.6	0.2	0.2				1.5
-00	SLEP							2.4	3.6	8.6	26.6	630.9	672.1
TOTAL		92.2	54.3	41.0	58.3	35.7	33.8	32.8	25.3	21.4	37.6	709.9	1,142.2

Note: Totals do not add due to rounding.

Note: Reserve funds included in Total			1.2	1.8	0.3	2.3	0.2	1.3	0.0	7.0		

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **MH-53E Engine Upgrade T64-GE-419 (OSIP 23-91)**

MODELS OF SYSTEM AFFECTED: **CH-53E & MH-53E** TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

The T64-GE-419 engine will produce 5,000 shaft horsepower at sea level, which will correct an OPEVAL deficiency concerning MH-53E One Engine Inoperative performance during mine countermeasure operations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The engine modification will be accomplished in two phases: the first phase forward fitted more durable, internal components (blades, shrouds, etc.) into 416 production engines beginning in FY99. These internally modified 416 engines are designed 416A. The components offer immediate rewards of longer engine life and reduced probability of engine failure. Early incorporation has saved a total of $7M in down-stream retrofit costs. In addition, the components serve as the core of the longer range effort to upgrade power to 5,000 horsepower. Qualification was completed in FY90. The second phase will backfit the applicable upgraded external engine components (fuel controls and pump) plus associated airframe changes (engine/engine-bay cooling and torque/fire warning mods.) FY91 procurred VAL/VER for MH-53E. FY93 procurred VAL/VER for CH-53E. The upgraded engine is designated the T64-GE-419.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		6.1																						6.1
PROCUREMENT																								
Installation Kits	11	2.8	11	2.8	16	3.5	7	1.9															45	11.0
Installation Kit - Unit Price		*0.3*		*0.3*		*0.2*		*0.3*																
Installation Kits N/R		19.5						*																19.5
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		1.6		0.6				*																2.2
Training Equipment	2	0.1	1	0.4	2.0	*		*		0.2		0.1											5	0.8
Support Equipment		0.8																						0.8
ILS		0.4						0.1																0.6
Other Support		2.9		0.6		0.3		0.4		0.1		0.1												4.4
Interim Contractor Support																								
Installation Cost	3	0.6					8	0.9	12	0.7	13	0.8	12	1.4									48	4.4
TOTAL PROCUREMENT		**28.7**		**4.4**		**3.8**		**3.4**		**1.0**		**0.9**		**1.4**										**43.6**

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53E & MH-53E

MODIFICATION TITLE: MH-53E Engine Upgrade T64-GE-419 (OSIP 23-91)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Naval Aviation Depot (NADEP) will modify the engines. Airframe modifications and engines will be performed concurrent with (SDLM) by NADEP and Interservice Field Mod Teams (FMT) .

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 33 Months

CONTRACT DATES: FY 1997: 12/96 FY 1998: FY 1999:

DELIVERY DATE: FY 1997: 9/99 FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (43) kits *	3	0.6		**			8	0.9	12	0.7	13	0.8	5	0.6									41	3.6
FY 1997 (7) kits													7	0.8									7	0.8
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	3	0.6					8	0.9	12	0.7	13	0.8	12	1.4									48	4.4

NOTE: Installation Costs includes A/C + Engines.

*Includes 2 Engine Trainer kit(s) that are not installed (1 CMT trainer kit and 1 OFT/1AVI trainer kit.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	3	2	2	2	2	3	3	3	3	1	4	4	4	5	3	4									
Out	3		2	2	2	3	3	3	3	2	1	4	4	4	5	3	4								

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						48
Out						48

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **AN/ARC-210 ECCM Radio (OSIP 11-92)**

MODELS OF SYSTEM AFFECTED: **CH-53D, CH-53E, MH-53E** TYPE MODIFICATION: MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION:

The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistant radio that was developed for ECCM interoperability with the Air Force, Army, and NATO. The radio provides dual UHF capability for CV based TACAIR; VHF FM for close air support and maritime channels; VHF AM for air traffic control; and ECCM capabilities using the Air Force developed waveforms (UHF-AM HAVE QUICK I and II), and the Army developed waveform (VHF-FM SINCGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The ECCM parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVE QUICK and the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Procurement of the validation/verification kits occurred in August 1992. CH validation/verification efforts were procured in FY 1995. Procurement of validation/verification for the MH-53E will take place in FY97. Due to the deactivation of RH-53D's, the incorporation of modifications in RH-53D aircraft was canceled.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	26	0.3	22	0.2	24	0.3	56	0.5	25	0.3	26	0.3	47	0.5	5	0.1	5	0.1	9	0.1	9	0.1	254	2.6
Installation Kit - Unit Price		*		*		*		*		*		*		*		*		*		*		*		
Installation Kits N/R		0.3		0.7		0.5		0.1		*														1.6
Installation Equipment	4	0.5																					4	0.5
Installation Equipment N/R		0.1																						0.1
Engineering Change Orders																								
Data		0.4		*		0.4		0.7		0.1		0.3												1.8
Training Equipment	2	*	2	*		0.1		0.2	2	0.2	1	0.3		*									7	0.8
Support Equipment																								
ILS		*		0.2		*		*		*														0.3
Other Support		0.8		0.5		0.7		2.0		0.6		0.8		0.7		0.7								6.9
Interim Contractor Support																								
Installation Cost	2	0.5	24	0.5	15	0.7	26	0.9	50	1.7	35	1.3	29	1.2	52	2.5	5	0.2	5	0.2	18	0.9	261	**10.6**
TOTAL PROCUREMENT		**3.0**		**2.1**		**2.6**		**4.4**		**2.9**		**2.9**		**2.4**		**3.3**		**0.3**		**0.3**		**1.0**		**25.2**

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-53D, CH-53E, MH-53E**

MODIFICATION TITLE: **AN/ARC-210 ECCM Radio (OSIP 11-92)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with Naval Aviation Depot (NADEP) standard depot level maintenance (SDLM), augmented by NADEP and interservice field modification teams (FMTs).

ADMINISTRATIVE LEADTIME: **2** Months

PRODUCTION LEADTIME: **13** Months

CONTRACT DATES: FY 1997: **11/96** FY 1998: **11/97** FY 1999: **11/98**

DELIVERY DATE: FY 1997: **12/97** FY 1998: **12/98** FY 1999: **12/99**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (76) kits	2	0.5	24	0.5	15	0.7	26	0.9	8	0.3	1	*											76	2.8
FY 1997 (56) kits									42	1.4	14	0.6											56	2.0
FY 1998 (27) kits											20	0.7	7	0.3									27	1.0
FY 1999 (27) kits													22	0.9	5	0.2							27	1.1
FY 2000 (47) kits															47	2.3							47	2.3
FY 2001 (5) kits																	5	0.2					5	0.2
FY 2002 (5) kits																			5	0.2			5	0.2
FY 2003 (9) kits																					9	0.4	9	0.4
To Complete (9) kits																					9	0.5	9	0.5
TOTAL	2	0.5	24	0.5	15	0.7	26	0.9	50	1.7	35	1.3	29	1.2	52	2.5	5	0.2	5	0.2	18	0.9	261	10.6

'NOTE: B-kits and common logistics requirements are funded in the AN/ARC-210 Common Avionics OSIP 4-94.

* 2 per aircraft Reduction of (2) in A/C Quantity since PB98 represents (2) RH-53D A/C put in Desert/Mothballed.

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	41	7	7	6	6	6	15	15	14	14	7	7	7	7	8	7	7	13	13	13	13	2	1	1	1
Out	36	5	7	7	6	6	6	15	15	14	14	7	7	7	7	8	7	7	13	13	13	13	2	1	1

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In	1	1	1	2	18	261
Out	1	1	1	1	20	261

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE **CH-53E Helicopter Night Vision System (HNVS) (OSIP 12-92)**

MODELS OF SYSTEM AFFECTED: **CH-53E** TYPE MODIFICATION MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION:

The Helicopter Night Vision System (HNVS) will provide an infrared night vision system for the CH-53E transport helicopters. The HNVS provides an improved night/all weather mission capability. This OSIP includes integration of the off the shelf APN-217(V)6 Doppler Navigation System and AAQ-16B FLIR.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AAQ-16B FLIR is a non-developmental Item (NDI) currently installed on a number of U.S. Army, Air Force, and Navy helicopters. DT-IIIA on the CH-53E/HNVS was completed in the third quarter FY94. Extension of application for CH-53E was granted first quarter FY95.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	16	3.2	23	1.4	49	2.3	50	2.4															138	9.3
Installation Kit - Unit Price		*0.2*		*0.1*		*		*																
Installation Kits N/R		3.1																						3.1
Installation Equipment	16	15.2	23	22.1	49	9.8	50	9.6															138	56.8
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.5		*																				0.5
Training Equipment	3	8.4		*																				8.4
Support Equipment																								
ILS		0.8		*		0.2																		1.0
Other Support		6.9		0.8		0.7		1.9		*														10.3
Interim Contractor Support																								
Installation Cost	17	1.8	23	1.3	49	3.8			12	0.8	38	2.6											139	10.2
TOTAL PROCUREMENT		**39.8**		**25.7**		**16.8**		**13.9**		**0.8**		**2.6**												**99.5**

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-53E**

MODIFICATION TITLE: **CH-53E Helicopter Night Vision System (HNVS) (OSIP 12-92)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Team (FMT - Turn-Key) FY96 and Prior.
Concurrent with Naval Aviation Depot (NADEP) standard depot level maintenance (SDLM), augmented by NADEP and interservice field modification teams (FMTs) FY98/FY99..

ADMINISTRATIVE LEADTIME: 5 Months

PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 1997: ***11/96** FY 1998: FY 1999:

DELIVERY DATE: FY 1997: ***2/98** FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (91) kits	**17**	**1.8**	**23**	**1.3**	**49**	**3.8**																	**89**	**6.8**
FY 1997 (50) kits									**12**	**0.8**	**38**	**2.6**											**50**	**3.4**
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	17	1.8	23	1.3	49	3.8			12	0.8	38	2.6											139	10.2

NOTE: Prior years include FY 1992 funding for CH-53E GPS validation, verification, and lab integration; FY 1993 and subsequent funding for CH-53E GPS is contained in OSIP 24-93

* In FY 1992, only one of the 3 kits was installed with APN funds; one kit installation was executed using SPAWAR RDT&E,N funds and the remaining kit was used only for integration lab and therefore did not require installation.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	18	6	8	8	11	12	13	13	12	12	13	13													
Out	17	6	6	5	6	11	12	13	13	12	12	13	13												

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						139
Out						139

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE **MH Global Positioning System (NCS) (GPS) (OSIP 20-92)**

MODELS OF SYSTEM AFFECTED: MH-53E TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

The Global Positioning System (GPS) is a space-based radio positioning navigation system designed to provide highly accurate navigation data (position, velocity, and time) to properly equipped users. The GPS integration into the MH-53E is called the Navigation/Communication System (NCS). The NCS will provide the MH-53E with an improved navigation capability necessary to meet (GIG) and AMCM mission requirements. GPS operational characteristics and requirements in Naval Aircraft are specified in DCP No. 133, NAVSTAR GPS, of April 1990 and Joint Chiefs of Staff Master Navigation Plan, JCS-SM-266-83 of 27 May 1983. The MH-53E Mission Planning Station (MPS) will be used for pre-flight planning, initializing the GPS receiver, post mission analysis, and as a trainer for the MH-53E NCS integration. Forty MPSs will be procured; funding provided under training equipment. (Eight MPSs were funded with RDT&E.)

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The NAVSTAR GPS program completed Milestone IIIB in January 1992. Operational Testing (OT-IIIC) commenced in the third quarter FY95. Validation kit installation occurred second quarter FY 1997 and verification kit installation is scheduled for fourth quarter FY97.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		32.3																						32.3
PROCUREMENT																								
Installation Kits			2	5.7					8.0	0.3	12.0	0.2	19.0	0.4	25.0	0.6	13.0	0.4	13.0	0.4			92	8.0
Installation Kit - Unit Price				*2.8*						*														
Installation Kits N/R		1.2						0.4		0.2		0.2		0.7										2.7
Installation Equipment												0.6												0.6
Installation Equipment N/R																								
Engineering Change Orders								0.1		0.1		0.2												0.3
Data		0.5		1.1						0.1		0.1		0.4		0.3		0.1						2.4
Training Equipment		4.6		1.2	2	4.6							2.0	0.6		0.1								11.0
Support Equipment						0.2																		0.2
ILS				0.9				0.1				*		*		*								1.0
Other Support		1.4		1.3		1.9		3.2		1.7		0.5		0.8		0.5		0.3		0.1		*		11.6
Interim Contractor Support																								
			1	0.4					1	0.8	7.0	0.9	12.0	0.2	21.0	0.7	25.0	0.8	13.0	0.8	13.0	0.8	93	5.3
TOTAL PROCUREMENT		**7.7**		**10.5**		**6.7**		**3.7**		**3.0**		**2.6**		**3.1**		**2.1**		**1.6**		**1.2**		**0.8**		**43.1**

Total Kit Quantity includes 2 VAL/VER Kits and 2 Reconfigured Kits

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **MH-53E**

MODIFICATION TITLE: MH Global Positioning System (NCS) (GPS) (OSIP 20-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Initial validation kit installation is a turn key with verification installation by NADEP Cherry Point. Subsequent installs will be accomplished by Field Mod Teams or concurrent with Standard Depot Level Maintenance (SDLM).

ADMINISTRATIVE LEADTIME: **5** Months

PRODUCTION LEADTIME: **7** Months

CONTRACT DATES: FY 1997: **9/97** FY 1998: **2/98** FY 1999: **2/99**

DELIVERY DATE: FY 1997: **2/98** FY 1998: **9/98** FY 1999: **9/99**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (4) kits			**1**	**0.4**																			**1**	**0.4**
FY 1997 (0) kits																								
FY 1998 (8) kits									**1**	**0.8**	**7.0**	**0.9**											**8**	**1.6**
FY 1999 (12) kits													**12.0**	**0.2**									**12**	**0.2**
FY 2000 (21) kits															**21.0**	**0.7**							**21**	**0.7**
FY 2001 (25) kits																	**25.0**	**0.8**					**25**	**0.8**
FY 2002 (13) kits																			**13.0**	**0.8**			**13**	**0.8**
FY 2003 (13) kits																					**13.0**	**0.8**	**13**	**0.8**
To Complete (0) kits																								
TOTAL			1	0.4					1	0.8	7.0	0.9	12.0	0.2	21.0	0.7	25.0	0.8	13.0	0.8	13.0	0.8	93	5.3

(93) = (88) PhaseI/II GPS + (1) NCS VAL + (2) NCS Recong. + (2) GPS Trnrs. ** Trainer Kit Installs not separately priced in FY96 contract, so included in procurement cost.

Note: GPS hardware is procured in Common Avionics OSIP 71-88.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1					1				2	2	2	1	3	3	3	3	6	5	5	5	7	6	6	6
Out	1						1				2	2	2	1	3	3	3	3	6	5	5	5	7	6	6

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In	4	3	3	3	13	93
Out	6	4	3	3	16	93

* VERIFCATION KIT WILL NOT BE INSTALLED. ** DECONFIGURATION OF THE PROTOTYPE AND VALIDATION AIRCRAFT WILL BE DONE BY CONTRACTOR.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **H-53 Global Positioning System (GPS) (OSIP 24-93)**

MODELS OF SYSTEM AFFECTED: **CH-53D/E** TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

The Global Positioning System (GPS) is a space-based radio positioning navigation system designed to provide highly accurate navigation data (position, velocity, and time) to properly equipped users. It will provide the CH-53E with an improved navigation capability necessary to meet overall navigation and mission requirements. GPS operational characteristics and requirements in Naval Aircraft are specified in DCP No. 133, NAVSTAR GPS, of April 1990 and Joint Chiefs of Staff Master Navigation Plan, JCS-SM-266-83 of 27 May 1983. GPS will replace the current airborne navigation systems (VOR/TACAN), as a primary means of navigation in CONUS, by the year 2000.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The GPS is a non-developmental item currently being installed in all Navy aircraft. GPS completed CH-53E DT/OT testing in May 1993 with extension of application granted third quarter FY 1995. Due to deactivation of RH-53's the incorporation of this modification in RH-53D was cancelled.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	44	0.9	26	0.9	57	2.4	60	2.6	26	1.0													213	7.7
Installation Kit - Unit Price		*		*		*		*		*														
Installation Kits N/R		1.5		0.1																				1.6
Installation Equipment	3	0.5																					3	0.5
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.6		0.1		0.1		0.1		*														1.0
Training Equipment	3	0.4	1	1.0	2	0.1		0.2		0.2		*											6	1.9
Support Equipment																								
ILS						*																		0.0
Other Support		1.6		0.2		0.7		2.5		0.5		0.3		0.1										5.8
Interim Contractor Support																								
Installation Cost	16	0.6	5	0.2	17	0.4	34	1.0	68	2.4	51	2.3	19	0.8									210	7.8
TOTAL PROCUREMENT		**6.1**		**2.6**		**3.7**		**6.5**		**4.0**		**2.6**		**0.9**										**26.3**

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K. *** FY 95 Buy includes 2 RH-53D Kits and 1 Lab Kit** **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CH-53D/E **MODIFICATION TITLE:** H-53 Global Positioning System (GPS) (OSIP 24-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with Standard Depot Level Maintenance (SDLM) augmented by Interservice Field Mod Teams.

ADMINISTRATIVE LEADTIME: 2 Months **PRODUCTION LEADTIME:** 18 Months

CONTRACT DATES: FY 1997: 11/96 **FY 1998:** 11/97 **FY 1999:**

DELIVERY DATE: FY 1997: 5/98 **FY 1998:** 5/99 **FY 1999:**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (132) kits *	16	0.6	5	0.2	17	0.4	34	1.0	48	1.7	4	0.2											124	4.2
FY 1997 (60) kits *									20	0.7	40	1.8											60	2.6
FY 1998 (26) kits											7	0.3	19	0.8									26	1.0
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	16	0.6	5	0.2	17	0.4	34	1.0	68	2.4	51	2.3	19	0.8									210	7.8

*** 126 Kits + 6 Trainers INCLUDES TRAINER KIT(S).**

Prior years include one system for integration lab only (no installation required) funded in FY 1992 and 6 systems procured with FY 1994 funds that are being installed with Lot XVII (out of station) at no cost to this OSIP.

NOTE: FOR FY1996 & PY Cancellation of incorporation of GPS into the RH-53D was implemented subsequent to the FY-95 procurement & fabrication of VAL/VER Kits.

NOTE: Install Equipment ("B" kits) are being procured under Common Avionics GPS OSIP 71-88. FY 1992, which is included in Prior Years column, was funded under OSIP 12-92 and is reported here for information purposes only.

NOTE: (213) versus (210) are (2) RH-53D Kits and 1 Lab Kit not planned to be Installed for life of OSIP.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				
In *	38	8	8	8	10	16	16	17	19	16	14	14	7	7	6	6										
Out	38	8	8	8	10	16	16	17	19	16	14	14	7	7	6	6										

*** FOR PRIOR YEARS & FY1999 1ST QUARTER INCLUDE TRAINER KIT(S).**

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						210
Out						210

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Incorporation of #2 Engine Fire Detectors (OSIP 20-94)**

MODELS OF SYSTEM AFFECTED: **CH/MH-53E** TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

The H-53E has experienced two Class "A" mishaps and several incidents as a result of undetected fires and/or overheating in the #2 engine compartment. The program will install a Commercial Off-The-Shelf (COTS) temperature sensor in the #2 engine bay to provide aircrews advance warning of overheat conditions that will provide the Aircrew with a warning of potentially hazardous heat build-up in the number two engine compartment.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Contractor has conducted a survey of the #2 engine bay to measure temperatures at various engine power settings and developed a warning system utilizing COTS components. Validation Installation and Testing commenced June 1996. A government field activity will install a COTS temperature sensor and associated cockpit warning lights.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	2	*			52	0.5	48	0.5	48	0.5	48	0.5	13	0.2									211	2.2
Installation Kit - Unit Price		*				*		*		*		*		*										
Installation Kits N/R		0.2																						0.2
Installation Equipment		*																						*
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1						0.1		*														0.2
Training Equipment									6	*													6	*
Support Equipment		*																						*
ILS		*						*																*
Other Support				0.2		0.2		0.4		0.1		0.1		0.1		*								1.1
Interim Contractor Support																								
Installation Cost			1	*			24	0.2	58	0.6	49	0.4	48	0.4	37	0.3							217	1.9
TOTAL PROCUREMENT		**0.3**		**0.2**		**0.7**		**1.2**		**1.3**		**0.9**		**0.7**		**0.3**								**5.6**

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH/MH-53E**

MODIFICATION TITLE: **Incorporation of #2 Engine Fire Detectors (OSIP 20-94)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Concurrent with Naval Aviation Depot (NADEP) Standard Depot Level Maintenance augmented by NADEP and interservice Field Mod Teams.**

ADMINISTRATIVE LEADTIME: **3** Months

PRODUCTION LEADTIME: **15** Months

CONTRACT DATES: FY 1997: **2/96** FY 1998: **2/97** FY 1999: **2/98**

DELIVERY DATE: FY 1997: **3/98** FY 1998: **3/99** FY 1999: **3/00**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (54) kits *			**1**	*			**24**	**0.2**	**29**	**0.3**													**54**	**0.5**
FY 1997 (48) kits *									**29**	**0.3**	**19**	**0.1**											**48**	**0.4**
FY 1998 (54) kits *											**30**	**0.2**	**24**	**0.2**									**54**	**0.4**
FY 1999 (48) kits													**24**	**0.2**	**24**	**0.2**							**48**	**0.4**
FY 2000 (13) kits															**13**	**0.1**							**13**	**0.1**
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL			1	0.0			24	0.2	58	0.6	49	0.4	48	0.4	37	0.3							217	1.9

* Includes Trainer Kit(s)

Note: 52 Aircraft and 3 Trainer Kits were procured in FY-96; however, 2 CH-53E WST Kits and 1 CH-53E APT Kits will be installed as part of trainer block upgrades and do not require funding under this OSIP.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1			12	12	15	15	14	14	11	11	13	14	12	12	12	12	12	12	13					
Out	1				12	12	15	15	14	14	11	11	13	14	12	12	12	12	12	12	13				

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						217
Out						217

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Aviation Night Vision Imaging System Head-Up Display (ANVIS/HUD) AN/AVS-7 (OSIP 21-94)**

MODELS OF SYSTEM AFFECTED: **CH-53D/E** TYPE MODIFICATION: MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION:

This modification incorporates the use of a Head-Up Display (HUD) with the AN/AVS-6 Night Vision Goggles (NVG). Helicopter crews perform missions at night using NVGs. Although NVGs provide aircrews with enhanced capability to operate during periods of darkness, they increase pilot workload due to critical flight instruments being placed outside of the visual scan. The ANVIS/HUD allows critical flight information to be displayed through the NVGs, thereby decreasing pilot workload and enhancing flight safety and mission effectiveness.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ANVIS/HUD is a nondevelopmental system currently in use on the USMC UH-IN and CH-46, and the US Army UH-60 and CH-47. This system is being procured under an Army Contract with validation installation and DT/OT completed in FY 1996.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	2	0.1			28	0.4	42	0.5			15	0.2	30	0.4	20	0.3	27	0.4	14	0.2	29	0.4	207	2.7
Installation Kit - Unit Price		*				*		*				*		*		*		*		*		*		
Installation Kits N/R		1.4		2.2										1.1										4.7
Installation Equipment	2				28	0.5	44	0.9			15	0.5	30	1.6	20	1.1	27	1.5	14	0.8	29	1.8	209	8.6
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1						0.1		*		0.1		*		0.1		0.1						0.5
Training Equipment						0.1	2	0.2	2.0	0.2		0.1		*			1	*					5	0.5
Support Equipment																								
ILS		0.3						*				*				0.2								0.6
Other Support		0.4				0.5		0.6		0.5		0.7		0.8		1.0		0.9						5.5
Interim Contractor Support																								
Installation Cost					1	*	8	0.2	32	0.5	35	0.7	15	0.4	23	0.6	22	0.6	27	0.7	49	1.2	212	4.9
TOTAL PROCUREMENT		**2.3**		**2.2**		**1.5**		**2.5**		**1.2**		**2.3**		**4.3**		**3.2**		**3.4**		**1.7**		**3.5**		**28.0**

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-53D/E**

MODIFICATION TITLE: **Aviation Night Vision Imaging System Head-Up Display (ANVIS/HUD) AN/AVS-7 (OSIP 21-94)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Concurrent with Standard Depot Level Maintenance (SDLM) augmented by Interservice Field Mod Teams.**

ADMINISTRATIVE LEADTIME: **9** Months

PRODUCTION LEADTIME: **7** Months

CONTRACT DATES: FY 1997: **6/97** FY 1998: **6/98** FY 1999: **6/99**

DELIVERY DATE: FY 1997: **1/98** FY 1998: **1/99** FY 1999: **1/00**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (30) kits					1	*	8	0.2	21	0.3													30	0.5
FY 1997 (44) kits *									11	0.2	33	0.7											44	0.9
FY 1998 (2) kits											2	*											2	0.0
FY 1999 (15) kits													15	0.4									15	0.4
FY 2000 (30) kits															23	0.6	7	0.2					30	0.8
FY 2001 (20) kits *																	15	0.4	5	0.1			20	0.5
FY 2002 (28) kits																			22	0.6	6	0.1	28	0.7
FY 2003 (14) kits																					14	0.3	14	0.3
To Complete (29) kits																					29	0.7	29	0.7
TOTAL					1	0.0	8	0.2	32	0.5	35	0.7	15	0.4	23	0.6	22	0.6	27	0.7	49	1.2	212	4.9

*Includes trainer kit(s).

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In *	1		1		7	7	7	7	11	11	12	12			5	5	5		7	8	8	7	5	5	5
Out	1				1		7	7	7		11	11	12	12			5	5	5		7	8	8	7	5

* FY1998 4TH & FY 2003 2ND QUARTERS 11 IN BUYS INCLUDES TRAINER KIT(S).

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In	5	8	7	7	49	212
Out *	5	5	5	8	70	212

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Crashworthy Pilot and Co-Pilot Seats (OSIP 22-94)**

MODELS OF SYSTEM AFFECTED: **CH/MH-53E** TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

The Simula Armored Crash Attenuating seats for the pilot and co-pilot are designed to provide enhanced crash survivability. Production installation of this seat began with CH-53E 153059 and MH-53E 163051. Retrofit of the remaining H-53E aircraft provides enhanced aircrew protection and also standardizes configuration throughout the fleet.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Simula Armored Crash Attenuating seats were first qualified for use on the CH/RH-53D aircraft. Qualification and production incorporation of the seats on the CH/MH-53E aircraft was accomplished under Sikorsky Aircraft ECP 2160S1/2632S1. This program retrofits CH/MH-53E aircraft delivered prior to production incorporation crash-attenuating seats.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	28	0.1	28	*	56	0.2																	112	0.2
Installation Kit - Unit Price		*		*		*																		
Installation Kits N/R		*																						*
Installation Equipment	56	1.5	60	1.7	114	3.3																	230	6.4
Installation Equipment N/R																								
Engineering Change Orders																								
Data		*		*		*		0.1																0.1
Training Equipment			2	*	1	*																	3	*
Support Equipment		*																						*
ILS		*																						*
Other Support				*		0.1																		0.1
Interim Contractor Support																								
Installation Cost	1	*	27	0.3	12	0.2	72	0.8	3.0	*													115	1.3
TOTAL PROCUREMENT		**1.6**		**2.1**		**3.8**		**0.9**		**0.0**														**8.4**

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH/MH-53E**

MODIFICATION TITLE: Crashworthy Pilot and Co-Pilot Seats (OSIP 22-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with Naval Aviation Depot (NADEP) Standard Depot Level Maintenance (SDLM), and by NADEP/interservice Field Mod Teams.

ADMINISTRATIVE LEADTIME: **6** Months

PRODUCTION LEADTIME: **11** Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (115) kits *	**1**	*	**27**	**0.3**	**12**	**0.2**	**72**	**0.8**	**3.0**	*													**115**	**1.3**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	1	0.0	27	0.3	12	0.2	72	0.8	3.0	*													115	1.3

*Includes trainer kit(s).

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	40	18	19	19	16	3																			
Out	34	6	18	19	19	16	3																		

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						115
Out						115

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Helicopter Night Vision Goggle (NVG) Compatible Exterior Lighting (OSIP 26-94)**

MODELS OF SYSTEM AFFECTED: **CH-53D/E, MH-53E and RH-53D** TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

Current doctrine requires Naval Helicopters to be operated at night by aircrew utilizing NVGs. Standard aircraft exterior position lights are not compatible with NVGs and can compromise mission accomplishments. Installation of NVG Compatible Exterior Lighting increases both safety and tactical mission effectiveness during flights involving multiple aircraft utilizing NVGs.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This Congressionally mandated program uses off the shelf hardware to modify exterior lighting on H-53 helicopters. Initial installation and test for the CH-53E commenced fourth quarter of FY 1995 and continued through 2nd QTR FY96. Validation installation/testing completed in 2nd quarter FY96 & Verification in 1st quarter FY97 for the CH-53D. Validation 2nd quarter FY97 and Verification starting 3rd quarter FY97 for the MH-53E.

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FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	255	1.8																					255	1.8
Installation Kit - Unit Price		*																						
Installation Kits N/R		0.4																						0.4
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1						0.1		*														0.2
Training Equipment	7	*		*		*		*															7	0.1
Support Equipment		*																						*
ILS		0.1						0.1																0.2
Other Support		0.2		0.1				0.3																0.6
Interim Contractor Support																								
Installation Cost			1	0.1	4	0.1	83	0.8	92	1.3	82	0.9											262	3.2
TOTAL PROCUREMENT		**2.6**		**0.2**		**0.1**		**1.4**		**1.4**		**0.9**												**6.5**

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-53D/E, MH-53E and RH-53D**

MODIFICATION TITLE: Helicopter Night Vision Goggle (NVG) Compatible Exterior Lighting (OSIP 26-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with Naval Aviation Depot (NADEP) Standard Depot Level Maintenance (SDLM) and by NADEP/interservice Field Mod Teams.

ADMINISTRATIVE LEADTIME: **6** Months

PRODUCTION LEADTIME: **15** Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (262) kits *		**0.1**	**1**	**0.1**	**4**	**0.1**	**83**	**0.8**	**92**	**1.3**	**82**	**0.9**											**262**	**3.3**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL		0.1	1	0.1	4	0.1	83	0.8	92	1.3	82	0.9											262	3.3

*Includes trainer kit(s).

Note: Kit quantities reflect 2 RH-53D Kits (VAL/VER) procured in FY-94 that will not be installed due to deactivation of RH-53Ds.

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	5	22	21	20	20	23	23	23	23	20	20	21	21												
Out	5	22	21	20	20	23	23	23	23	20	20	21	21												

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						262
Out						262

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Tail Rotor Drive Shaft Disconnect Coupling Monitor (OSIP 35-94)**

MODELS OF SYSTEM AFFECTED: **CH/MH-53E** TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

The H-53E community has experienced several Class "A" mishaps due to failure of the Tail Rotor Drive Shaft disconnect coupling duplex bearing. This program will install a vibration/temperature sensor on the disconnect coupling to warn aircrews of duplex bearing degradation or impending failure.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Four prototype bearing monitors were successfully tested in the fleet for one year, starting July of 1992. Two validation and two verification kits, one of each type for the CH-53E and MH-53E, were procured in FY95. Follow-on buys will commence in FY97. The FY-97 funding included the start of the Non-Recurring Engineering effort associated with incorporating swashplate temperature and vibration monitoring functions into the coupling monitor system. The Original system procurred (4) Kits of which (2) were Installed. The (2) Installs of FY95 will be replaced with the new system in FY97. The Total Installs represents (2) original system, (210) new systems and (5) trainers for (217) Installs.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			4	0.1			86	5.3	124	7.6													214	13.0
Installation Kit - Unit Price				*				*0.1*		*0.1*														
Installation Kits N/R				2.5		1.3		3.1																7.0
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.7								0.4												1.1
Training Equipment				*			5	0.3															5	0.3
Support Equipment				0.1																				0.1
ILS				0.7				0.1		0.1		0.2												1.0
Other Support						*		0.2		0.5		0.3												1.0
Interim Contractor Support																								
Installation Cost			2	0.2			86	2.8	124	4.1	5	0.1											217	7.2
TOTAL PROCUREMENT				**4.3**		**1.3**		**11.8**		**12.2**		**1.0**												**30.6**

FY 97 Buy includes 2 VAL/VER Kits

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH/MH-53E**

MODIFICATION TITLE: **Tail Rotor Drive Shaft Disconnect Coupling Monitor (OSIP 35-94)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Team (FMT - Turn-Key)**

ADMINISTRATIVE LEADTIME: **3** Months

PRODUCTION LEADTIME: **12** Months

CONTRACT DATES: FY 1997: **6/97** FY 1998: **6/98** FY 1999:

DELIVERY DATE: FY 1997: **2/98** FY 1998: **2/99** FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (4) kits			**2**	**0.2**																			**2**	**0.2**
FY 1997(91) kits *							**86**	**2.8**			**5**	**0.1**											**91**	**2.9**
FY 1998 (124) kits									**124**	**4.1**													**124**	**4.1**
FY 1999 () kits																								
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
To Comple () kits																								
TOTAL			2	0.2			86	2.8	124	4.1	5	0.1											217	7.2

*Includes trainer kit(s).

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2				2		12	36	36	36	36	36	21												
Out	2				2		12	36	36	36	36	36	21												

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						217
Out						217

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Attenuating Troop Seats (OSIP 20-97)**

MODELS OF SYSTEM AFFECTED: **CH-53D** TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

Utility and Troop transport mission increasing in importance. Current troop/passenger seats are 1950 generation. Design does not provide impact protection of current rotorcraft seat designs. The impulsive type loading experienced during survivable mishaps produces amplified seat/floor anchor loads and potentially injurious occupant deceleraions. Due to this operational deficiency, NDI crashworthy troop seat program established. NDI are lightweight off-the-shelf seats that provide protection by limiting an occupants inertial loading to survivable levels by attenuating impact forces to below survivable ranges and enables the occupant to rapidly egress a downed aircraft was being sought.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

NDI procedures utilized for the Procurement, Installation and Support of the seats for all 47 CH-53D Helicopters. Funding for the 47 seats and associated requirements has been appropriated in 1997. Program consists of a one-time procurement with a turn-key installation approach.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits							47	4.4															47	4.4
Installation Kit - Unit Price								*0.1*																
Installation Kits N/R								0.9																0.9
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data								0.3																0.3
Training Equipment							1	*															1	*
Support Equipment																								
ILS								0.3																0.3
Other Support								1.4																1.4
Interim Contractor Support																								
Installation Cost							47	1.4															47	1.4
TOTAL PROCUREMENT								**8.7**																**8.7**

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-53D**

MODIFICATION TITLE: **Attenuating Troop Seats (OSIP 20-97)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Team (FMT - Turn-Key)**

ADMINISTRATIVE LEADTIME: **6** Months

PRODUCTION LEADTIME: **11** Months

CONTRACT DATES: FY 1997: **7/97** FY 1998: FY 1999:

DELIVERY DATE: FY 1997: **6/98** FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																								
FY 1997 (47) kits							**47**	**1.4**															**47**	**1.4**
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL							47	1.4															47	1.4

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								2	11	11	11	12													
Out								2	11	11	11	12													

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						47
Out						47

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **AN/APR-39A (V) 2 Upgrade (OSIP 6-98)**

MODELS OF SYSTEM AFFECTED: **CH-53E / MH-53E** TYPE MODIFICATION: MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION:

The AN/APR-39A (V) 2 is a passive threat warning system primarily intended for use on helicopters and slow fixed-wing aircraft. Its purpose is to monitor the RF environment and detect, analyze, discriminate, identify, and prioritize threats, unknown and friendly radar and missile guidance signals. Aircrew warning is provided by means of alphanumeric symbology on a 3-inch CRT cockpit display an an aural warning via the aircraft Interconnecting Communication System (ICS). This change is being incorporated to improve aircraft survivability by providing for detection and display of surface-to-air missile and anti-aircraft radar threats. GFE "P" kits are to be procured under common OSIP 14-90 by PMA-272

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Retrofit installations were originally scheduled to commence in FY92 (OSIP 6-91), however, the APR-39A (V) 2 failed technical evaluation delaying modifications as originally planned. System successfully passed a Combined OPEVAL/TECHEVAL on UH-1N aircraft, during Oct 95 system was approved for retrofit on other platforms

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	2.0	*								*	25	0.3	28	0.3	30	0.4	30	0.4	30	0.4	62	0.8	207	2.7
Installation Kit - Unit Price		*0.0*										*		*		*		*		*		*		
Installation Kits N/R		0.2								*												0.2		0.4
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		*								0.2		0.1										0.2		0.5
Training Equipment											4	0.1									2	0.2	6	0.2
Support Equipment										*		*												*
ILS		*								*				*								0.1		0.1
Other Support		*								0.3		0.2		0.2		0.3		0.3		0.2		1.2		2.7
Interim Contractor Support																								
Installation Cost									1	0.1	1	0.1	29	0.7	28	0.7	30	0.8	30	0.8	94	2.9	213	6.1
TOTAL PROCUREMENT		**0.2**								**0.7**		**0.8**		**1.2**		**1.4**		**1.5**		**1.4**		**5.6**		**12.8**

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-53E / MH-53E** MODIFICATION TITLE: **AN/APR-39A (V) 2 Upgrade (OSIP 6-98)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Concurrent with Naval Aviation Depot (NADEP) Standard Depot Level Maintenance (SDLM), augmented by NADEP and interservice field mod teams,

ADMINISTRATIVE LEADTIME: **5** Months PRODUCTION LEADTIME: **6** Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999: **2/99**

DELIVERY DATE: FY 1997: FY 1998: FY 1999: **8/99**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (0) kits																								
FY 1997 (0) kits																								
FY 1998 (2) kits									**1**	**0.1**	**1**	**0.1**											**2**	**0.1**
FY 1999 (29) kits *													**29**	**0.7**									**29**	**0.7**
FY 2000 (28) kits															**28**	**0.7**							**28**	**0.7**
FY 2001 (30) kits																	**30**	**0.8**					**30**	**0.8**
FY 2002(30) kits																			**30**	**0.8**			**30**	**0.8**
FY 2003 (30) kits																					**30**	**0.9**	**30**	**0.9**
To Complete (64) kits																					**64**	**2.0**	**64**	**2.0**
TOTAL									1	0.1	1	0.1	29	0.7	28	0.7	30	0.8	30	0.8	94	2.9	213	6.1

Note: PRIOR YEAR = FY91 $$ PROCUREMENTS & SUPPORT

*Includes Trainer Kit Procurements (Total 6)

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							1					1		7	7	7	8	7	7	7	7	7	7	8	8
Out								1				1		7	7	7	8	7	7	7	7	7	7	8	8

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In	7	7	8	8	94	213
Out	7	7	8	8	94	213

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Helicopter Integrated Mechanical Diagnostic System (IMDS) (OSIP 7-98)**

MODELS OF SYSTEM AFFECTED: **CH-53E & MH-53E** TYPE MODIFICATION: SAFETY, READINESS AND MAINTAINABILITY

DESCRIPTION/JUSTIFICATION:

IMD is a helicopter monitoring and diagnostics system that provides continuous on board monitoring and diagnostics of engine health, gearbox and drive train vibrations, oil debris, rotor track and balance, and crash protected Cockpit Voice and Flight Data recorder (CVFDR). CVFDR, an integral part of the IMD system, will perform the required function of a Flight Incident Recorder (FIR). An Early Operational Assessment (EOA) of a commercial off-the-shelf (COTS) system on two CH-53E's is scheduled for FY 1996-1998. Lessons learned from this effort will be incorporated into the solicitation for the fleet wide IMD effort of which the H-53E is the lead platform.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The H-53E effort in FY 1998-1999 is a pilot program conducted at HMT-302 to validate a production representative system for all Navy helicopters. Remaining platforms will begin in FY 1999 with an integration verification period followed by production in FY 2001.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits											5	0.5	5	0.6			5	0.4	10	0.7	182	14.2	207	16.4
Installation Kit - Unit Price												*0.1*		*0.1*				*0.1*		*0.1*		*0.1*		
Installation Kits N/R										3.9		10.2												14.1
Installation Equipment												0.8		0.9				0.7		1.0		29.4		32.8
Installation Equipment N/R																								
Engineering Change Orders																								
Data										0.3		0.4		0.8		3.6								5.1
Training Equipment																	1	0.2	3	0.7	4	0.2	8	1.1
Support Equipment												0.1		0.1				0.1		0.1	14	0.2		0.4
ILS										1.2		0.6		2.6		1.3	1	1.3		0.8		0.4		8.2
Other Support										1.3		3.2		8.2		4.7		2.6		2.7		6.3		29.0
Interim Contractor Support														2.6		1.1		0.8						4.4
Installation Cost													5	0.4	5	0.4			6	0.5	199	17.4	215	18.7
TOTAL PROCUREMENT										**6.7**		**15.7**		**16.2**		**11.1**		**6.0**		**6.4**		**68.2**		**130.3**

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CH-53E & MH-53E**

MODIFICATION TITLE: **Helicopter Integrated Mechanical Diagnostic System (IMDS) (OSIP 7-98)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Concurrent with Naval Aviation Depot (NADEP) Standard Depot Level Maintenance (SDLM) and by NADEP/interservice Field Mod Teams.**

ADMINISTRATIVE LEADTIME: **3** Months

PRODUCTION LEADTIME: **9** Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999: **12/98**

DELIVERY DATE: FY 1997: FY 1998: FY 1999: **9/99**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (0) kits																								
FY 1997 (0) kits																								
FY 1998 (0) kits																								
FY 1999 (5) kits													**5**	**0.4**									**5**	**0.4**
FY 2000 (5) kits															**5**	**0.4**							**5**	**0.4**
FY 2001 (0) kits																								
FY 2002 (6) kits *																			**6**	**0.5**			**6**	**0.5**
FY 2003 (13) kits *																					**13**	**1.0**	**13**	**1.0**
To Complete (186) kits *																					**186**	**16.4**	**186**	**16.4**
TOTAL													5	0.4	5	0.4			6	0.5	199	17.4	215	18.7

Note: FY 98/99 Procurement Installs (Qty 10) through Contractor.

*Includes Trainer Kits

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In														1	1	1	2	1	1	1	2				
Out															1	1	1	2	1	1	1	2			

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In	1	2	1	2	199	215
Out		1	2	1	201	215

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Tactical Mission Planning System (TAMPS) (OSIP 8-98)**

MODELS OF SYSTEM AFFECTED: **CH-53D/E & MH-53E** TYPE MODIFICATION: MISSION/PERFORMANCE ENHANCEMENT

DESCRIPTION/JUSTIFICATION:

The Tactical Air Mission Planning System (TAMPS) is a computer based mission planning system. This system uses platform specific software to aide in the preparation of flight plans for tactical scenarios. Current H-53 program reflects the base minimum needed to be incorporated in the TAMPS core without specific platform requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

TAMPS has been identified as the only mission planning system for all Naval Mission Planning Systems. This direction stems from a CNO memo SER N8/3U653136 of 10 Sept 93.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support										0.6		0.6		0.2		0.2								1.5
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT										**0.6**		**0.6**		**0.2**		**0.2**								**1.5**

Note: Totals do not add due to rounding. Asterisks represent dollars less than $51K. **Exhibit P-3a**

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **SEPTEMBER 1997**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
H-60 Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	132.4		58.4	64.6	46.4	74.3	111.5	62.6	0.6	0.0	0.0	0.0	550.8

This line item funds modifications to H-60 series aircraft. The H-60 series current inventory comprises: 40 HH-60H; 168 SH-60B; and 75 SH-60F aircraft. The SH-6OB is the vehicle component of the LAMPS MK III Weapon System on surface combatants. Primary mission of the SH-60B are Anti-Submarine (ASW) and Anti-Surface Warfare (AUSW). The SH-6OF is an ASW, dipping sonar helicopter assigned to carrier airwings based aboard aircaraft carriers (CV). The SH-60F primary mission is protection of the CV inner zone. The HH-60H is a Combat Search and Rescue (CSAR) and Special Warfare Support (SWS) helicopter assigned to carrier airwings aboard CVs and in two reserve squadrons. SH-60B requirements are driven by the number of LAMPS MK III ships to be supported. Reductions in the number of carrier airwings and a change in CV Helo squadron PAA/mix to 3 SH-60F and 2 HH-60H in FY 1995 and 4 HH-60Hs only in FY 2002 have percipitated the FY 1998 program to convert SH-60F helos to HH-60H helos. The overall goal of the modifications budgeted in FY 1999 is to continue the Block I upgrade and Forward Looking Infrared (FLIR) efforts for the SH-60B and to initiated various efforts to upgrade the Active Navy HH-60Hs to the same configuration as the Reseve HH-60Hs. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
4-91	Block Upgrade (SH-60B)	113.5	25.5	16.3	16.3	24.4	1.6	0.1					197.8
48-92	FLIR/Hellfire (HH-60H)	7.1			0.5	1.0							8.7
14-94	GPS MAR Compliance (SH-60F & HH-60H)	1.9	1.0	0.3	0.5	0.5	0.2						4.5
15-94	FLIR (SH-60B)	9.9	12.7	8.9	9.1	28.9	29.1	30.2					128.8
23-95	Downed Aircrew Locating Sys. (HH-60H)		0.5	0.7	*								1.3
24-95	Wirestrike Protection System (HH-60H)		1.8	0.9	0.3								2.9
25-95	IR Formation Lights (HH-60h)		0.6	0.3	0.2								1.1
26-95	Aircraft Survivability Equipment (HH-60H)		14.4	8.9	0.4	1.6	21.0						46.2
27-95	NVG HUD (HH-60H)		1.9	1.3	0.1	0.7							3.9
8-96	H-60 T-700 Engine Impr.			6.9	2.5	0.3	3.1	2.5	0.6				16.0
10-96	H-60 Armed Helos			20.0	16.5	16.9	56.4	29.7					139.5
TOTAL		**132.4**	**58.4**	**64.6**	**46.4**	**74.3**	**111.5**	**62.6**	**0.6**	**0.0**	**0.0**	**0.0**	**550.8**

* Indicates a value less than $51K.

"Totals may vary due to rounding".

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Block Upgrade 1 (OSIP 4-91)

MODELS OF SYSTEM AFFECTED: SH-60B TYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION:

This block retrofit is to upgrade previously delivered aircraft to the latest production configuration. Improvements are in the areas of armament and avionics. The alternative to this retrofit would be multiple configuration or over half of the LAMPS MK III inventory in a less than current configuration. Effectivity will occur during the Lot IX FY 1990 aircraft.

The SH-60B Block Upgrade 1 consists of the following mission enhancements: 1) Advanced Light Weight Torpedo - Integrating the capability to carry and launch the MK-50 Torpedo/Penguin Missile 2) 99 Channel - Integrating the capability to utilize 99 channel sonobuoys 3) Global Positioning System (GPS) - Integrating and installing the GPS components 4) AN/ARC-182- Radio set 5) Maintainability/Operability Items - Tail rotor cable guides, floatation upgrade, hoist control, tail rotor disconnect coupling, high speed shaft improvements and electronic support measures antenna upgrade 6) Survivability - Provides capability for missile jamming, detection and evasion and 7) Powertrain Upgrade - Modifies selected engine componenyts to upgrade a T700-401 engine to a T700-401C engine.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

All development milestones were completed prior to FY 91.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits **		52.3		12.6		10.0		4.7																79.6
Installation Kit - Unit Price**																								
Installation Kits N/R		11.3																						11.3
Installation Equipment		26.6		11.2		6.2		2.2																46.1
Installation Equipment N/R																								
Engineering Change Orders																								
Data		4.3																						4.3
Training Equipment				0.2						7.6														7.8
Support Equipment																								
ILS																								
Other Support				0.8		0.2		0.6		0.7		0.2		0.1										2.4
Interim Contractor Support																								
Installation Cost**		19.0		0.8				8.8		16.2		1.5												46.3
TOTAL PROCUREMENT		**113.5**		**25.5**		**16.3**		**16.3**		**24.4**		**1.6**		**0.1**										**197.8**

Totals may vary due to rounding

**See attachment for install kit quantities, unit price and installation quantity / data.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **SH-6OB** MODIFICATION TITLE: BLOCK UPGRADE I (OSIP 4-91)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR FIELD AND PLANT MOD TEAMS**

ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 18 Months Months

CONTRACT DATES: FY 1997: Mar--97 FY 1998: FY 1999:

DELIVERY DATE: FY 1997: Sep-98 FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (89) kits	**52**	**19.0**	**4**	**0.8**			**15**	**8.8**	**18**	**13.3**													**89**	**41.9**
FY 1997 (6) kits									**4**	**2.9**	**2**	**1.5**											**6**	**4.4**
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	52	19.0	4	0.8			15	8.8	22	16.2	2	1.5											95	46.3

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	56	1	5	4	5	5	6	5	6	2															
Out	37	2	7	5	5	6	4	4	6	6	5	2	4	2											

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	95
Out					0	95

H-60 MODS

OSIP 04-91

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	Total
ECP-3158 SIK BLK I UPGRADE								
Airframe Kits	**26.6**	**3.5**	**3.7**	**1.4**				**35.2**
Proc. Qty.	56	19	14	6				**95**
Proc. Unit Cost	0.5	0.2	0.3	0.2				
Installation Cost	**11.4**	**0.5**		**5.7**	**9.0**	**0.9**		**27.5**
Install Qty	52	4		15	22	2		**95**
Mission Kits	**0.8**		**0.1**	**0.1**				**1.0**
Proc. Qty.	60		14	14				**88**
Proc. Unit Cost	*		*	*				
Installation Cost**								**0.0**
Install Qty								**0**
Penguin	**2.4**							**2.4**
Proc. Qty.	22							**22**
Proc. Unit cost	0.1							
Installation Cost**								**0.0**
Install Qty								**0**
Engine	**2.5**							**2.5**
Proc. Qty.	46							**46**
Proc. Unit cost	0.1							
Installation Cost**								**0.0**
Install Qty								**0**
Antenna	**1.3**	**0.7**						**2.0**
Proc. Qty.	260	224						**484**
Proc. Unit cost	*	*						
Installation Cost**								**0.0**
Install Qty								**0**

H-60 MODS

OSIP 04-91	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	Total
AN/ARR-84	**0.2**							**0.2**
Proc. Qty.	45							**45**
Proc. Unit cost	*							
Installation Cost**								**0.0**
Install Qty								**0**
ECP-258 AVIONICS KITS	**18.5**	**8.4**	**6.2**	**3.2**				**36.3**
Proc. Qty.	56	19	14	6				**95**
Proc. Unit Cost	0.3	0.4	0.4	0.5				
Installation Cost	**7.6**	**0.3**		**3.1**	**7.2**	**0.6**		**18.8**
Install Qty	52	4		15	22	2		**95**
Total Other Cost	**61.2**	**12.9**	**6.2**	**11.6**	**24.4**	**1.6**	**0.1**	**118.1**
Total Proc. Cost	**113.5**	**25.5**	**16.3**	**16.3**	**24.4**	**1.6**	**0.1**	**197.8**
Total Proc. Qty.	545	262	42	26				**875**
Total Install Cost	**19.0**	**0.8**	**0.0**	**8.8**	**16.2**	**1.5**	**0.0**	**46.3**
Total Install Qty	104	8		30	44	4		**190**

* Indicates a value less than $51K.

** Installations concurrent with Airframe and Avionics Kit availability.

P-1 SHOPPING LIST-ITEM NO. 25-5

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: HH-60H FLIR/HELLFIRE (48-92)

MODELS OF SYSTEM AFFECTED: HH-60H TYPE MODIFICATION: Operational Enhancement

DESCRIPTION/JUSTIFICATION:
The Forward Looking Infrared (FLIR) Sensor and Hellfire weapons system, is being incorporated on the HH-60H aircraft. This is required to meet mission requirements for forward firing weapons and FLIR. This OSIP procures and installs 24 FLIR/Hellfire "A" kits and 18 "B" kits (mission kit).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	24	3.5																					24	3.5
Installation Kit - Unit Price		0.1																						
Installation Kits N/R		2.0																						2.0
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.4																						0.4
Training Equipment		0.1																						0.1
Support Equipment		0.1																						0.1
ILS		0.5																						0.5
Other Support		0.4																						0.4
Interim Contractor Support																								
Installation Cost	1	0.1					8	0.5	15	1.0													24	1.6
TOTAL PROCUREMENT		**7.1**						**0.5**		**1.0**														**8.7**

Totals may vary due to rounding **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **HH-60H** MODIFICATION TITLE: FLIR/HELLFIRE (OSIP 48-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR FIELD MOD TEAM**

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (24) kits	**1**	**0.1**					**8**	**0.5**	**15**	**1.0**													**24**	**1.6**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	1.0	0.1					8	0.5	15	1.0													24	1.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1				8	7	8																		
Out	1				8	7	8																		

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	24
Out					0	24

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: GPS MAR Compliance - Mission Data Loader (MDL) (OSIP 14-94)

MODELS OF SYSTEM AFFECTED: SH-60F/HH-60H TYPE MODIFICATION: Operational Enchancement

DESCRIPTION/JUSTIFICATION:
The GPS integration into the SH-60F/H must meet the requirements of the "DoD Minimum Avionics Requirements (MAR) for the Global Positioning System Sole Means of Navigation" document This change will add a Mission Data Loader (MDL) to the existing GPS suite, thereby providing the appropriation number of Waypoints required to achieve MAR compliance.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
Installation of the basic GPS into the SH-60F was accomplished under ECP 3508R1-2. Installation of the basic GPS into the HH-60H was accomplished under AEL ECP 90-2. The preliminary design review (PDR) was completed November 1990 and the critical design review (CDR) was completed in April 1991. Developmental testing is complete with operational testing being performed with the sofware upgrade which is currently in process. PMW-167 is procuring the MDL under common OSIP 71-88.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	2	*	12	*	34	0.1	45	0.2	27	0.1													120	0.5
Installation Kit - Unit Price		*		*		*		*		*														*
Installation Kits N/R		1.5		0.9																				2.4
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.2																						0.2
Training Equipment		0.2																						0.2
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost			2	0.1	12	0.2	34	0.3	45	0.4	27	0.2											120	1.2
TOTAL PROCUREMENT		**1.9**		**1.0**		**0.3**		**0.5**		**0.5**		**0.2**												**4.5**

Totals may vary due to rounding. Two kits required for: (1) trainers; and (1) testing requirements.

* Indicates value less than $51K.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **SH-6OF/HH-60H**

MODIFICATION TITLE: GPS MAR COMPLIANCE (OSIP 14-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NAVY FIELD MOD TEAMS**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 14 Months

CONTRACT DATES: FY 1997: Feb-97 FY 1998: Nov-97 FY 1999:

DELIVERY DATE: FY 1997: Apr-98 FY 1998: Jan-99 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (48) kits			**2**	**0.1**	**12**	**0.2**	**34**	**0.3**															**48**	**0.6**
FY 1997 (45) kits									**45**	**0.4**													**45**	**0.4**
FY 1998 (27) kits											**27**	**0.2**											**27**	**0.2**
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL			2	0.1	12	0.2	34	0.3	45	0.4	27	0.2											120	1.2

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	14		4	15	15		15	15	15		13	14													
Out	14			15	15	4	15	15	15		13	14													

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	120
Out					0	120

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Forward Looking Infrared (FLIR) (OSIP 15-94)

MODELS OF SYSTEM AFFECTED: SH-60B TYPE MODIFICATION: Operational Enchancement

DESCRIPTION/JUSTIFICATION:
The FLIR mission kits consist of FLIR turrets, associated integration electronics, controlling software, required interface cables, and mounts. Linking the FLIR imagery to the ship will be accomplished through modifications to the unique SH-60B data link (ARQ-44). Retrofit kits to accomplish this area included herein.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
FLIR is a non-developmental item that is not currently in the military inventory. Its design represents a composite of existing electro-optic components reconfigured in a manner to meet unique H-60 requirements. FOT&E began in the 3rd quarter FY 1995.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	37	1.6	34	2.2	36	2.3	42	2.6	24	1.7	5	0.3											178	10.7
Installation Kit - Unit Price		*		0.1		0.1		0.1		0.1		0.1												
Installation Kits N/R																								
Installation Equipment		8.3		5.4		6.6		6.4		10.5		20.6		26.8										84.6
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment										16.7		8.2		3.4										28.2
Support Equipment				4.8																				4.8
ILS																								
Other Support				0.4				0.0																0.4
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT		**9.9**		**12.7**		**8.9**		**9.1**		**28.9**		**29.1**		**30.2**										**128.8**

Totals may vary due to rounding. Ten kits required for: (4) lab requirements; (2) testing requirements; and (4) trainers. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **SH-60B**

MODIFICATION TITLE: Forward Looking Infrared (FLIR) (OSIP 15-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **"O " LEVEL INSTALL**

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 16 Months Months

CONTRACT DATES: FY 1997: Mar-97 FY 1998: Mar-98 FY 1999:

DELIVERY DATE: FY 1997: Jul-98 FY 1998: Jul-99 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL																								

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	46	9	9	7	9	9	9	9	10	11	10	11	11	10	8										
Out	37	9	9	9	7	9	9	9	9	10	11	10	11	11	10	8									

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	178
Out					0	178

* Reflects ARQ-44 delivery installation schedule

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Downed Aircrew Locating System (OSIP 23-95)

MODELS OF SYSTEM AFFECTED: HH-60H TYPE MODIFICATION: SURVIVABILITY/ SAFETY

DESCRIPTION/JUSTIFICATION:
The HH-60H DALS installation incorporates the AN/ARS-6 Locating system. The ARS-6 operates with the PRC-112 survival radio for precise survivor location. This equipment will be incorporated to meet the primary mission requirements as dictated in OR# 085-05-86. Incorporation of this change will greatly enhance the ability of the HH-60H to perform search a rescure of downed aircrewman in hostile or friendly territory and will upgrade the Active Navy HH-60Hs to the same configuration as the Reserve HH-60Hs.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
Installation of the DALS equipment was initiated under Naval Aviation Depot (NADEP) Pensacola ECP H-60-PN-1. Approval for DALS full production was received in August 1990.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			4	0.1	20	0.5																	24	0.6
Installation Kit - Unit Price				*		*																		
Installation Kits N/R				0.3																				0.3
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.1																				0.1
Training Equipment																								
Support Equipment																								
ILS				*																				*
Other Support																								
Interim Contractor Support																								
Installation Cost					20	0.2	4	*															24	0.3
TOTAL PROCUREMENT				**0.5**		**0.7**		*																**1.3**

Totals may vary due to rounding.

* Indicates value less than $51K.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **HH-60H** MODIFICATION TITLE: DOWNED AIRCREW LOCATING SYS (OSIP 23-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR FIELD MOD TEAM**

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (24) kits					**20**	**0.2**	**4**	*															**24**	**0.3**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL					20	0.2	4	*															24	0.3

* Indicates value less then $51K.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	20	4																							
Out	20	4																							

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	24
Out					0	24

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Wirestrike Protection System (OSIP 24-95)

MODELS OF SYSTEM AFFECTED: HH-60H TYPE MODIFICATION: SAFETY IMPROVEMENT

DESCRIPTION/JUSTIFICATION:

The HH-60H Wirestrike Protection System upgrade incorporates a passive wire cutting system onto the aircraft structure to provide a measure of protection in the event of inadvertant flight into horizontally struing mechanical, electrical, and communication wires and cables. The HH-60H mission, as dictated in OR# 085-05-86, requires night low-level flights to avoid radar and visual detection. This change will signigicantly enhance flight safety and will upgrade the Active Navy HH-60Hs to the same configuration as the Reserve HH-60Hs.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The WSPS effort was initiated in 1992 with NGRE funds.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			27	0.8	13	0.4																	40	1.2
Installation Kit - Unit Price				*		*																		
Installation Kits N/R**			2	0.7		0.1																	2	0.7
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.2																				0.2
Training Equipment																								
Support Equipment																								
ILS				*																				*
Other Support																								
Interim Contractor Support																								
Installation Cost					29	0.4	13	0.3															42	0.7
TOTAL PROCUREMENT				**1.8**		**0.9**		**0.3**																**2.9**

Totals may vary due to rounding

* Indicates value less than $51K.

**Two (2) prototype kit purchases are included as part of the validation/verification effort under the install kit non-recurring engineering line.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **HH-60H**

MODIFICATION TITLE: WIRESTRIKE PROTECTION SYSTEM (OSIP 24-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR FIELD MOD TEAM**

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (42) kits					**29**	**0.4**	**13**	**0.3**															**42**	**0.7**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL					29	0.4	13	0.3															42	0.7

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	29	6	6	1																					
Out	10	16	15	1																					

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	42
Out					0	42

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: EL Formation Lights (OSIP 25-95)

MODELS OF SYSTEM AFFECTED: HH-60H TYPE MODIFICATION: OPERATIONAL / SAFETY

DESCRIPTION/JUSTIFICATION:
The HH-60H EL Formation Lights upgrade incorporates Electroluminescent light strips to provide for safe nighttime formation flight. This equipment will be incorporated to meet the primary mission requirements as dictated in the HH-60H OR# 085-05-86. This change will update the active Navy HH-60Hs to the same configuration as the reserve HH-60Hs.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
EL Formation Lights are being designed by the Naval Air Warfare Center Aircraft Division (NAWCAD)Lakehurst and Indianapolis. The design of the upgrade is based on the Army UH-60 installation. The initial procurement of the IR Formation Light kits for the reserve HH-60Hs was conducted with FY 1992 NGRE funding.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			9	0.1	15	0.2																	24	0.3
Installation Kit - Unit Price				*		*																		
Installation Kits N/R				0.4																				0.4
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS				*																				*
Other Support																								
Interim Contractor Support																								
Installation Cost					9	0.1	15	0.2															24	0.3
TOTAL PROCUREMENT				**0.6**		**0.3**		**0.2**																**1.1**

Totals may vary due to rounding.

* Indicates value less than $51K.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **HH-60H**

MODIFICATION TITLE: IR FORMATION LIGHTS (OSIP 25-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR FIELD MOD TEAM**

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: _____ FY 1998: _____ FY 1999: _____

DELIVERY DATE: FY 1997: _____ FY 1998: _____ FY 1999: _____

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (24) kits					**9**	**0.1**	**15**	**0.2**															**24**	**0.3**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL					9	0.1	15	0.2															24	0.3

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	9	5	5	5																					
Out	9	5	5	5																					

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	24
Out					0	24

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Aircraft Survivability Equipment (ASE) (OSIP 26-95)

MODELS OF SYSTEM AFFECTED: HH-60H TYPE MODIFICATION: OPERATIONAL SAFETY

DESCRIPTION/JUSTIFICATION:
The HH-60H ASE upgrade includes the following: APR-39A(V)2 Radar Warning System, AAR-47 Missile Plume Detector, AVR-2 Laser Detecttor, and ALE-47 Countermeasures Dispensor. This equipment will be incorporated to meet the primary mission requirements as dictated in HH-60H OR* 085-05-86. This change will upgrade both the Active Navy and the Reserve HH-60Hs the same configuration.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
Installation of the ASE equipment was initiated under AEL ECP 89-03. DT was successfully completed in April 1992 and OT was completed in February 1993. The initial procurement of the ASE suites for the Reserve HH-60Hs was conducted in 1993 with NGRE funding.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$		$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			18	1.2	20	1.0																	38	2.2
Installation Kit - Unit Price				*0.1*		*0.1*																		
Installation Kits N/R **			4	2.8																				2.8
Installation Equipment				9.6		7.5																		17.1
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.1																				0.1
Training Equipment				*								21.0												21.1
Support Equipment				0.5																				0.5
ILS				0.1																				0.1
Other Support				0.1		0.4																		0.5
Interim Contractor Support																								
Installation Cost							8	0.4	30	1.6													38	1.9
TOTAL PROCUREMENT				**14.4**		**8.9**		**0.4**		**1.6**		**21.0**												**46.2**

Totals may vary due to rounding. Two kits required for: (1) testing requirements; and (1) trainer.

* Indicates value less than $51K.

** A total of Four (4) kits were procured and installed as part of validation verification efforts under the install kit N/R line.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **HH-60H**

MODIFICATION TITLE: Aircraft Survivability Equipment (ASE) (OSIP 26-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR FIELD MOD TEAM**

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (38) kits							**8**	**0.4**	**30**	**1.6**													**38**	**1.9**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL							8	0.4	30	1.6													38	1.9

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					8	8	9	7	6																
Out					8	8	8	8	6																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	38
Out					0	38

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: NVG HUD (OSIP 27-95)

MODELS OF SYSTEM AFFECTED: HH-60H TYPE MODIFICATION: OPERATIONAL ENCHANCEMENT

DESCRIPTION/JUSTIFICATION:

The HH-60H NVG HUD upgrade provides flight and navigation information to be displayed to the flight crew through the Night Vision Goggles. The existing systems require substantial in cockpit viewing by the flight crew. This change provides the flight crew with a heads up displaly of flight and navigation information reducing in cockpit viewing and enchances the pilot's response time in the hostile environment. This change will bring the Active Navy HH-60H's to the same configuration.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

NVG HUD is a joint service (Army/Navy) competition which was awarded to an AEL/CROSS SYSTEM/ELBIT team. Installation of the NVG/HUD upgrade was initiated under AVRADA Delivery Order 0079. The initial procurement of 18 NVG HUD suites for the Reserve HH-60H was conducted in 1992 with NGRE funding.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			12	0.7	12	0.7																	24	1.5
Installation Kit - Unit Price				*0.1*		*0.1*																		
Installation Kits N/R				0.7		0.1																		0.8
Installation Equipment				0.4		0.4																		0.8
Installation Equipment N/R																								
Engineering Change Orders																								
Data				*								*												*
Training Equipment																								
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost							2	0.1	22	0.7													24	0.8
TOTAL PROCUREMENT				**1.9**		**1.3**		**0.1**		**0.7**														**3.9**

Totals may vary due to rounding. Two kits required for: (1) trainer; and (1) testing requirement.

* Indicates value less than $51K.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **HH-60H** MODIFICATION TITLE: NVG HUD (OSIP 27-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NAVY FIELD MOD TEAM**

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (24) kits							**2**	**0.1**	**22**	**0.7**													**24**	**0.8**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL							2	0.1	22	0.7													24	0.8

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In				2		5	5	6	6																
Out				2		5	5	6	6																

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In					0	24
Out					0	24

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: T-700 Engine Improvements (OSIP 8-96)

MODELS OF SYSTEM AFFECTED: SH-60B, SH-60F,HH-60H TYPE MODIFICATION OPERATIONAL ENHANCEMENT

DESCRIPTION/JUSTIFICATION:
The Navy H-60 helicopter engine improvement modifications include the following safety and realiability improvements; auto ignition, which activates a time delay relay enabling ignition during an overspeed event and subsequent re-light; transient droop improvement (TD) which minimizes NR droop in hot/heavy gross weight environment and suitable contingency power making increased power available at high gross weight.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
The planned engine improvements are already developed and in production in Army Blackhawk helicopters. The Navy will conduct flight testing of the FY 1996 validation/verification period in order to verify the operation in the Naval Hawk application.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits					51	0.7	41	0.6			96	1.0	95	1.0									283	3.2
Installation Kit - Unit Price						*		*				*		*										
Installation Kits N/R						2.3																		2.3
Installation Equipment						2.9		1.8				1.5		0.8										7.0
Installation Equipment N/R																								
Engineering Change Orders																								
Data						0.6																		0.6
Training Equipment						*	14	0.1															14	0.1
Support Equipment																								
ILS						0.1																		0.1
Other Support						0.4		0.1		0.1		0.1		0.1		*								0.7
Interim Contractor Support																								
Installation Cost									44	0.3	62	0.5	96	0.7	95	0.6							297	2.1
TOTAL PROCUREMENT						**6.9**		**2.5**		**0.3**		**3.1**		**2.5**		**0.6**								**16.0**

Totals may vary due to rounding

* Indicates value less than $51K.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **SH-6OB, SH-60F/HH-60H** MODIFICATION TITLE: T-700 ENGINE IMPROVEMENT

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACT FIELD MOD TEAM**

ADMINISTRATIVE LEADTIME: 10 Months PRODUCTION LEADTIME: 5 Months

CONTRACT DATES: FY 1997: Jul-97 FY 1998: Jul-98 FY 1999: Jul-99

DELIVERY DATE: FY 1997: Nov-97 FY 1998: Nov-98 FY 1999: Nov-99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (51) kits									**44**	**0.3**	**7**	*											**51**	**0.3**
FY 1997 (55) kits											**55**	**0.5**											**55**	**0.5**
FY 1998 ( ) kits																								
FY 1999 (96) kits													**96**	**0.7**									**96**	**0.7**
FY 2000 (95) kits															**95**	**0.6**							**95**	**0.6**
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL									44	0.3	62	0.5	96	0.7	95	0.6							297	2.1

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								22	22	15	15	16	16	17	24	24	31	27	27	27	14				
Out								22	22	15	15	16	16	17	24	24	31	27	27	27	14				

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	297
Out					0	297

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: H-60 Armed Helos (OSIP 10-96)

MODELS OF SYSTEM AFFECTED: SH-60B TYPE MODIFICATION: OPERATIONAL ENHANCEMENT

DESCRIPTION/JUSTIFICATION:
Procure weapons kits and Incorporate provisions for a weapons capability into the SH-50B and HH-60H helicopter. Provisions include capability for supporting the Hellfire missile crew served GAU-16A machine gun and FLIR nose mount . Modification required due to increasing ASUW role of the SH-60B in the littoral environment and HH-60H missions of Strike Rescue and Special Warfare Support which requires better defensive and survival capabilities.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
The weapons capability for the SH-60B and HH-60H will utilize at NDI equipments. A contract for the rapid deployment capability consisting of eight (8) aircraft was awarded in June 1996 with installations in December 1996.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits *					10	2.0	6	7.5	13	7.5	35	20.7	23	13.9									87	51.5
Installation Kit - Unit Price						*0.2*		*1.3*		*0.6*		*0.6*		*0.6*										
Installation Kits N/R						14.6		3.5																18.1
Installation Equipment						1.6		0.4		2.5		3.0		4.8										12.2
Installation Equipment N/R																								
Engineering Change Orders																								
Data						0.1		0.4		0.7														1.2
Training Equipment												26.2		4.9										31.0
Support Equipment						0.2		0.2		0.8		0.8												2.0
ILS						0.5		0.7		1.2														2.4
Other Support						0.9		3.1		4.0		2.1		4.9										15.0
Interim Contractor Support																								
Installation Cost							10	0.7	10	0.3	44	3.7	23	1.4									87	6.1
TOTAL PROCUREMENT						**20.0**		**16.5**		**16.9**		**56.4**		**29.7**										**139.5**

Totals may vary due to rounding

* FY97 includes upgrade of FY96 Rapid Deployment kits to core SH-60 configuration.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **SH-60B** MODIFICATION TITLE: H-60 ARMED HELO (OSIP 10-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR FIELD MOD TEAM**

ADMINISTRATIVE LEADTIME: 3 Months PRODUCTION LEADTIME: 8 Months Months

CONTRACT DATES: FY 1997: Mar-97 FY 1998: Dec-97 FY 1999: Dec-98

DELIVERY DATE: FY 1997: Aug-97 FY 1998: Aug-98 FY 1999: Jun-99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (10) kits							**10**	**0.7**															**10**	**0.7**
FY 1997 (6) kits									**6**	**0.2**													**6**	**0.2**
FY 1998 (13) kits									**4**	**0.1**	**9**	**0.7**											**13**	**0.8**
FY 1999 (35) kits											**35**	**3.0**											**35**	**3.0**
FY 2000 (23) kits													**23**	**1.4**									**23**	**1.4**
FY 2001 () kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL							10	0.7	10	0.3	44	3.7	23	1.4									87	6.1

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		2	6		2			4	6	4	4	3	2	4	4	4	4	4	4	4	4	5	5	5	7
Out				2	6	2			4	6	4	4	3	2	4	4	4	4	4	4	4	4	5	5	5

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	87
Out	7				0	87

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET P-40	DATE: September 1997
APPROPRIATION/BUDGET ACTIVITY **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**	P-1 ITEM NOMENCLATURE **H-1 Series Modifications**
Program Element for Code B Items:	Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	**257.1**		**100.7**	**65.2**	**18.2**	**12.9**	**14.6**	**6.7**	**0.3**	**0.2**	**0.2**	**0.0**	**475.8**

This line item funds modifications to the AH-1W, HH-1N and UH-1N aircraft though FY 1996. There are 103 UH-1Ns (85 active/18 reserve) and 30 active HH-1Ns for a total of 133. However, beginning in FY 1997 this line item funds only the HH-1N and UH-1N aircraft; therefore, no AH-1W information is provided herein. The UH-1N provides command and control and combat assault support under day/night and adverse weather conditions. Additional UH-1N missions include special operations support, control/coordination/guidance of supportring fire and aeromedical evacuation. The overall goal of the modifications budgeted in FY 1999 through FY 2003 is to eliminate safety hazards, remedy obsolescence and maintain significant mission capability until the planned retirement date of 2020.

(TOA, $ in Millons)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
24-82	UH-1 APR-44	2.2	*										2.2
95-85	UH-1 ASQ-177 PLRS	1.7	*										1.7
141-85	UH-1 Defense Armament	2.5	*										2.5
64-88	UH-1 AAR-47 MWS	4.9	0.1										5.0
8-90	AH-1W Night Targeting System	170.0	52.5	25.2									247.6
15-90	UH-1 AN/APR-39A(V)2 AN/AVR-2	8.1	*	*	*								8.1
15-92	UH-1 COMNAV Block Upgrade	24.0	16.6	9.9	8.1	7.5	5.6	2.2					73.8
16-92	UH-1 Night Vis Enhance.	10.6	0.7	0.8	1.0								13.0
31-92	UH-1 NTIS	16.1	10.0	16.5	9.1								51.7
40-92	UH-1 M240 Machine Gun	2.5	0.1										2.6
3-93	AH-1 GPS/ARC-210 NAV Upgrade	7.3	8.7	5.6									21.6
25-93	UH-1 Main Drive Shaft	17.5	10.8	4.1	*								32.5
25-94	AH-1W Helo NVG Comp Ext Lightin	1.0	1.1	3.1									5.2
15-98	AN/APR-39A(v)2					0.3	0.2	0.1					0.6
18-98	H-1N Safety Upgrades					5.1	8.8	4.4	0.3	0.2	0.2		19.0
TOTAL		**257.1**	**100.7**	**65.2**	**18.2**	**12.9**	**14.6**	**6.7**	**0.3**	**0.2**	**0.2**	*****	**475.8**
RESERVE FUNDING INCLUDED IN TOTAL				1.5	1.5	1.8	2.3	0.5					

NOTE: * indicates amounts less then $51K, totals do not add due to rounding

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: COMNAV BLOCK UPGRADE (OSIP 15-92)

MODELS OF SYSTEM AFFECTED: UH-1N

TYPE MODIFICATION: UPGRADE

DESCRIPTION/JUSTIFICATION:

The Marine Corps UH-1N helicopters require self-contained navigation and jam-proof over-the-horizon (OTH) VHF and UHF communications in order to successfully execute all weather, day/night ship launched Marine Expeditionary Unit (Special Operations Capable) MEU (SOC), assault support missions and command and control missions.

The AN/APN-217(V) Doppler NAV, AN/ARN-153 TACAN, and MAGR GPS provide precise navigation and hover information. The AN/ARC-210 radio with HAVEQUICK/SINCGARS provides the required secure voice communications An AN/ARC-210 radio installed with a satellite communications antenna provides timely, secure voice OTH communications between the assault forces and the task force commander. The AN/APN-217(V) Doppler, the MAGR GPS and the AN/ARC-210 radios are integrated through the cockpit display navigation unit (CDNU) via a MIL-STD-1553B Data Bus. The compatibility change (AFC #281) is required to relocate the searchlight, remove the AN/ARN-89 ADF system, install circuit breaker panel and center pedestal extensions.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/APN-217(V) Doppler NAV, AN/ARN-153 TACAN, MAGR GPS system and Cockpit Display Navigation Unit (CDNU) have been individually qualified. The AN/ARC-210 radio Low Rate Initial Production Decision was approved 30 June 1992 and Full Rate Production Decision occurred in April 1994. COMNAV AFC 275 kit completed DT III in the second quarter FY 1995 and completed OT III in the second quarter FY 1996.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	129	3.4	30	4.1	15	2.2			17	2.5	13	1.9											204	14.1
Installation Kit - Unit Price		*		0.1		0.1				0.1		0.1												
Installation Kits N/R	4	5.2		1.2				*															4	6.4
Installation Equipment		7.5		5.6		2.9				1.6		1.2											*	18.8
Installation Equipment N/R		0.7		0.5				1.8																3.0
Engineering Change Orders																								*
Data		0.2		0.1				0.1																0.4
Training Equipment	4	1.9		2.0		0.8		*															4	4.7
Support Equipment		0.2				*		0.1																0.4
ILS Support		0.6		0.1		0.3																		1.0
Other Support		3.2		3.0		1.9		3.2		1.8		0.9		1.1										15.0
Interim Contractor Support																								
Installation Cost	110	1.0	**	*	14	1.8	40	2.9	18	1.7	17	1.5	13.0	1.1									212	10.1
TOTAL PROCUREMENT		**24.0**		**16.6**		**9.9**		**8.1**		**7.5**		**5.6**		**2.2**										**73.8**

NOTE: * indicates amounts less then $51K

NOTE: Totals may not add due to rounding ** SUPPORT O F INSTALLS FUNDED IN PRIOR YEARS FY97 KIT & GFE BUY REPROGRAMMED TO FY95

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **UH-1N**

MODIFICATION TITLE: **COMNAV BLOCK UPGRADE (OSIP 15-92)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: INSTALLED AT INTERSERVICE SDLM, CONTRACTOR FIELD MOD TEAM, AND ORGANIC MOD

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 8 Months

CONTRACT DATES: FY 1997: Jan-97 FY 1998: Jan-98 FY 1999: Jan-99

DELIVERY DATE: FY 1997: Sep-97 FY 1998: Sep-98 FY 1999: Sep-99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (182) kits*	**110**	**1.0**	**	*	**14**	**1.8**	**40**	**2.9**	**18**	**1.7**													**182**	**7.5**
FY 1997 (0) kits																								
FY 1998 (17) kits											**17**	**1.5**											**17**	**1.5**
FY 1999 (13) kits													**13**	**1.1**									**13**	**1.1**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	110	1.0	**	*	14	1.8	40	2.9	18	1.7	17	1.5	13	1.1									212	10.1

NOTE: * indicates amounts less then $51K

** SUPPORT OF INSTALLS FUNDED IN PRIOR YEARS FY97 KIT/GFE BUY WAS REPROGRAMMED TO FY95

NOTE: Totals may not add due to rounding

Installation Schedule

*INCLUDES 4 TRAINER KITS

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	72	26	22	21	23	5	5	5	3	5	4	4	4	3	6	4									
Out	65	25	20	19	23	9	8	5	5	3	5	4	4	4	3	6	4								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						212
Out						212

ATTACHMENT FOR EXHIBIT P-3A

UH-1N SERIES MODS

OSIP 15-92

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
AFC-275	**3,106**	**4,128**	**2,183**		**2,472**	**1,948**						**13,837**
Proc. Qty.	30	30	15		17	13						105
Proc. Unit Cost	104	138	146		145	150						
Installation Cost	508	26	1,838	2,796	1,660	1,530	1,132					9,490
Install Qty	10		14	33	18	17	13					105
AFC-281	**335**											**335**
Proc. Qty.	107											107
Proc. Unit Cost	3											
Installation Cost	478			146								624
Install Qty	100			7								107
SPARES PROC												
OTHER	19,527	12,425	5,846	5,206	3,380	2,117	1,062					
TOTAL Procurement Cost	**23,954**	**16,579**	**9,867**	**8,148**	**7,512**	**5,595**	**2,194**					**14,172**
TOTAL Proc. Qty.	137	30	15		17	13						212
TOTAL Installation Cost	**986**	**26**	**1,838**	**2,942**	**1,660**	**1,530**	**1,132**					**10,114**
Total Install Qty.	110		14	40	18	17	13					212

FY97 KIT AND GFE BUY REPROGRAMMED TO FY95

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: UH-1N NIGHT VISION ENHANCEMENTS (OSIP 16-92)

MODELS OF SYSTEM AFFECTED: UH-1N TYPE MODIFICATION: SAFETY UPGRADE

DESCRIPTION/JUSTIFICATION:

The Marine Corps UH-1N helicopter aircrew is required to operate at night in the nap-of-the-earth environment or in formation with other helicopters. Use of night vision goggles (NVG's) in this environment limits the aircrews ability to transition visual reference from inside the cockpit to outside the cockpit and retain situational awareness. Also, when flying with NVG's in formation, conventional exterior lighting cannot be turned on, thus limiting the ability of aircrews to see and avoid other aircraft.

The NVG mounted Head Up Display (HUD) will provide essential flight and navigation data to the pilot and/or copilot via imagery applied directly through the NVG's. The NVG compatible exterior lighting will consist of dual mode electro-luminescent/IR strip lights, strobe light and an IR beacon to provide NVG compatible visual reference for adjacent aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The NVG HUD is currently in use in U.S. Army helicopters as well as Israeli H-53 and H-1 helicopters. The NVG external lighting is in use with the U.S. Army and U.S. Air Force. Navy testing on the UH-1N commenced in the fourth quarter of FY 1993 with Approval Full Rate Production received in the first quarter of FY 1994.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	210	3.8																					210	3.8
Installation Kit - Unit Price		*																						
Installation Kits N/R		2.2																						2.2
Installation Equipment**		2.0																						2.0
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1		0.1																				0.3
Training Equipment	4	0.3																					4	0.3
Support Equipment		*						0.2																0.2
ILS Support		0.5				0.1																		0.7
Other Support		1.2		0.1				*																1.3
Interim Contractor Support																								
Installation Cost***	69	0.5	16	0.4	51	0.6	86	0.8															222	2.4
TOTAL PROCUREMENT		**10.6**		**0.7**		**0.8**		**1.0**																**13.0**

NOTE: * indicates amounts less then $51K

NOTE: Totals may not add due to rounding **AFC 270 HAS GFE, AFC 271 DOES NOT ***INCLUDES FUNDING FOR 8 SPARES PURCHASED WITH APN-6 FUNDING

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **UH-1N**

MODIFICATION TITLE: **UH-1N NIGHT VISION ENHANCEMENTS (OSIP 16-92)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **INSTALLED AT INTERSERVICE SDLM AND NADEP CONTRACTOR MOD TEAM**

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Thousands)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (222) kits	**69**	**0.5**	**16**	**0.4**	**51**	**0.6**	**86**	**0.8**															**222**	**2.4**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	69	0.5	16	0.4	51	0.6	86	0.8															222	2.4

NOTE: Totals may not add due to rounding

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	104	20	29	37	32																				
Out	97	12	14	34	41	24																			

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	222
Out					0	222

ATTACHMENT FOR EXHIBIT P-3A

UH-1N SERIES MODS

OSIP 16-92

NIGHT VISION	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
AFC-270	**2,641**											**2,641**
Proc. Qty. *	107											107
Proc. Unit Cost	25											
Installation Cost	**206**	99	36	242								583
Install Qty	40	7	6	54								107
AFC-271	**3,209**											**3,209**
Proc. Qty. *	107											107
Proc. Unit Cost	30											
Installation Cost	**256**	323	608	556								1,743
Install Qty	21	9	45	32								107
SPARES PROC (APN-6)	8											8
OTHER	4,290	228	143	115								
TOTAL Procurement Cost	**10,602**	**670**	**787**	**981**								**5,850**
TOTAL Proc. Qty.	214											222
TOTAL Installation Cost	**462**	**442**	**644**	**798**								**2,326**
Total Install Qty.	69	16	51	86								222

8 SPARE KITS TO MODIFY SPARE TAILBOOMS WERE PURCHASED WITH APN-6 FUNDING, KITS INSTALLED WITH APN-5

*INCLUDES TWO TRAINER KITS EACH AFC

Exhibit P-3a

INDIVIDUAL MODIFICATION

MODIFICATION TITLE: UH-1N NAVIGATION THERMAL IMAGING SYSTEM (NTIS) (OSIP 31-92)

MODELS OF SYSTEM AFFECTED: UH-1N

TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

The UH-1N requires a Thermal Imaging System (TIS) to provide the U.S. Marine Corps with a night/day warfighting capability in the NOE/smoke/dust/haze environment. This capability reduces the safety risk by allowing the aircrew to see and avoid flight obstructions and locate objectives that might not be visible with the naked eye or night vision goggles. A low cost, stabilized gimbaled navigation TIS will provide this capability in the form of high quality real time imagery displayed through an instrument mounted nine inch (diagonal) display. Control of the NTIS will be through a cockpit mounted hand controller. The system will also include a laser range finder to identify and to determine the range to landmarks and reference points. In FY 1997, 65 units will be upgraded to make the NTIS more combat effective & increase crew coordination to allow the crew to focus on safe flight operations and mission completion. Also, additional units are procured for the maintenance trainer and to support operations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This is an off-the-shelf-item. MID-STD-810C testing is completed. DT-III testing was completed in the fourth quarter 1994 and FOT&E was completed in the second quarter FY 1996.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	105	2.6																					105	2.6
Installation Kit - Unit Price		*																						*
Installation Kits N/R		2.7																						2.7
Installation Equipment**	22	6.8	22	8.9	40	14.6	65	7.6															149	37.8
Installation Equipment N/R		0.4						0.3																0.7
Engineering Change Orders																								
Data		0.2						0.1																0.3
Training Equipment	2	0.1						0.4															2	0.5
Support Equipment		0.3		0.3		0.5																		1.1
ILS Support		0.1						*																0.1
Other Support		1.2		0.4		0.8		0.5																3.0
Interim Contractor Support																								
Installation Cost	65	1.8	14	0.4	23	0.6	5	0.2															107	3.1
TOTAL PROCUREMENT		**16.1**		**10.0**		**16.5**		**9.1**																**51.7**

NOTE: * indicates amounts less then $51K

NOTE: Totals may not add due to rounding **GFE EQUIP: AVC UPGRADE

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **UH-1N** MODIFICATION TITLE: UH-1N NAVIGATION THERMAL IMAGING SYSTEM (NTIS) (OSIP 31-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **INSTALLED AT INTER-SERVICE SDLM AND BY CONTRACTOR FIELD MOD TEAM**

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (107) kits	**65**	**1.8**	**14**	**0.4**	**23**	**0.6**	**5**	**0.2**															**107**	**3.1**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	65	1.8	14	0.4	23	0.6	5.0	0.2															107	3.1

NOTE: Totals may not add due to rounding

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	61	14	11	8	13																				
Out	61	14	11	8	13																				

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	107
Out					0	107

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: UH-1N/HH-1N MAIN DRIVE SHAFT INSTALLATION (OSIP 25-93)

MODELS OF SYSTEM AFFECTED: UH/HH-1N TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

The UH/HH-1N helicopter fleet has experienced four related mishaps, three resulting in fatalities, directly attributable to failure of the spline coupling on the main drive shaft. The drive shaft installation has been plagued by grease leakage from the couplings and has stringent and burdensome maintenance requirements to insure the shaft is adequately lubricated and safe for flight. A similar shaft design was originally used in the UH-1E, UH-1L and HH-1K, but was replaced by a KAFLEX (unlubricated flex beam) coupling design after experiencing similar problems. Bell Helicopter Textron has completed preliminary qualification testing for commercial certification of a KAFLEX drive shaft for their commercial 212 (UH-1N equivalent) and 412 helicopters. Incorporation of the KAFLEX drive shaft requires strengthening of the T400-CP-400 TwinPac combining gearbox to withstand higher loads imposed by the KAFLEX shaft. This change modifies 91 Twinpacs, 40 spare combining gearboxes and procures and installs KAFLEX drive shafts in 131 aircraft. Installs commenced the second quarter FY 1995 and will complete fourth quarter FY 1997. No Navy test is required.

The Hydraulic Servo Cylinder used on the HH/UH-1N helicopter has a history of incorrect seal/piston cyclinder wall compatibility. This has resulted in fluid discloration, flight control binding, "chattering" and unsafe flight conditions. This upgrade to the Hydraulic Servo Cylinder will increase the MTBF from 300 to 800 hrs and prevent fluid discloration, flight control binding, "chattering" by the rework of existing servo cyclinder actuators to an improved configuration currently used by the commercial community thereby eliminating current problems.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Bell Helicopter Textron is qualifying the KAFLEX drive shaft for their commercial 212 (UH-1N equivalent) and 412 models. Additional government tests will be performed concurrently with commercial qualification testing and include military qualification, fatigue, endurance and instrumented flight tests on a UH-1N aircraft. All contractor tests were completed in the fourth quarter of FY 1994, and no additional Navy test will be required. Milestone III Approval was received in the first quarter FY 1994.

The upgraded hydraulic servo cyclinder configuration has been fully qualified by BHTI and has logged over 10 years of flight time on the commercial 212 helicopter. Flight clearance was granted for three servoactuators installed on a UH-1N assigned to HMT 303 which resulted in increased responsiveness and have logged over 100 flight hours with flawless performance. 426 AYC-1081 kits were procured under ECP 1-CP-5-95 in FY 1995 with modifications began at the intermediate maintenance level in 3rd Qtr FY 1997 and will be completed by 2nd Qtr FY 1998.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								*
PROCUREMENT																								
Installation Kits	196	6.7	568	6.1	133	0.2																	897	13.1
Installation Kit - Unit Price		*		*		*																		
Installation Kits N/R		8.3		*		*																		8.4
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		1.2		*		0.1																		1.3
Training Equipment	1	*																					1	*
Support Equipment		0.1																						0.1
ILS Support		0.3		0.3		*																		0.6
Other Support		0.7		0.8		0.1																		1.6
Interim Contractor Support																								
Installation Cost	5	0.1	211	3.6	161	3.7	2	*															**379	7.4
TOTAL PROCUREMENT		**17.5**		**10.8**		**4.1**		*****																**32.5**

NOTE: * indicates amounts less then $51K

NOTE: Totals may not add due to rounding

** AFC 1081 KITS INSTALLED AT INTERMEDIATE LEVEL (FY96 BUY)

** AFC TBD KITS INSTALLED AT ORGANIZATIONAL LEVEL

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **UH-1N/HH-1N** MODIFICATION TITLE: **UH-1N/HH-1N MAIN DRIVE SHAFT INSTALLATION (OSIP 25-93)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: INSTALLATION BY SDLM, CONTRACTOR FIELD MOD TEAM. INSTALLATION AT INTERMEDIATE LEVEL.

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (379) kits	**5**	**0.1**	**211**	**3.6**	**161**	**3.7**	**2**	*****															**379**	**7.4**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	5	0.1	211	3.6	161	3.7	2	*															379	7.4

NOTE: * indicates amounts less then $51K

NOTE: Totals may not add due to rounding

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	377			2																					
Out	377			2																					

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	379
Out					0	379

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/APR-39A(V)2 WARNING RECEIVER SYSTEM (OSIP 15-98)

MODELS OF SYSTEM AFFECTED: UH-1N TYPE MODIFICATION: SURVIVABILITY

DESCRIPTION/JUSTIFICATION:

The AN/APR-39A(V)2 is a programmable, low-cost, light weight Radar Warning Receiver (RWR) providing warning of radar guided Surface-to-Air Missiles and AAA, as well as Air-to-Air threats to low/slow flying aircraft. Additionally, the RWR will serve as the Electronic Warfare (EW) data-bus controller and provide a centralized control and display for other existing components of the EW suite. The AN/APR-39A(V)2 system consists of five antennas, a pilot control indicator, display unit receivers, and a processor.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

AFC 240 Part II kits were procured under OSIP-15-90 and are in storage awaiting delivery of AN/APR-39A(V)2 production units. Production deliveries of the APR-39A(V)2 are scheduled for 2nd quarter of FY 1999. FY 1998 funding is required for TD verification support, data, and field activity support.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								0.0
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data										0.1														0.1
Training Equipment																								
Support Equipment																								
Other Support										0.1		*												0.1
Interim Contractor Support																								
Installation Cost											72.0	0.2	35.0	0.1									107	0.3
TOTAL PROCUREMENT										**0.3**		**0.2**		**0.1**										**0.6**

NOTE: * indicates amounts less then $51K

NOTE: Totals may not add due to rounding

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **UH-1N** MODIFICATION TITLE: **AN/APR-39A(V)2 WARNING RECEIVER SYSTEM (OSIP 15-98)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **INSTALLATION FOR AFC 240 PART II KITS AT INTERSERVICE SDLM AND BY CONTRACTOR FIELD MOD TEAM**

ADMINISTRATIVE LEADTIME: N/A Months PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (107) kits											**72**	**0.2**	**35**	**0.1**									**107**	**0.3**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL											72	0.2	35	0.1									107	0.3

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0										24	24	24	24	11										
Out	0										24	24	24	24	11										

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	107
Out					0	107

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: H-1N SAFETY UPGRADES (18-98)

MODELS OF SYSTEM AFFECTED: HH-1N/UH-1N TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

The UH/HH-1N helicopter fleet were designed in the 1960s, introduced in the 1970s and are projected to remain in the Department of Navy inventory until FY-09. This program is designed to address safety issues, such as mishap causal factors and occupancy crash protection, associated with maintaining an older type model series aircraft. Specifically, this safety upgrade program replaces the Tail Drive System (TDS), increases available T-400 engine power and enhances aircrew coordination training. The existing TDS is subject to failure resulting in complete loss of tail rotor drive. Since 1991, 44 malfunctions or failures have been reported on current TDS components. In the same time period, two Class A mishaps occurred as result of catastrophic faulure of the hanger assembly in flight. These mishaps resulted two deaths, major and minor injuries in seven others and the destruction of two aircraft. NAWC Lakehurst projects one Class A mishap to occur every two to three years at the current flight usage rates in a safety assessment report published on 3 June 1996.

The T-400 engine with torque limiter installed does not provide sufficient power to recover from *in extremis* situations. Since 1977, 17 mishaps may have been avoided or downgraded if sufficient power was available for recovery. This change will reset the T-400 engine torque limiter to a higher value, replace the existing torque sensor and add a monitoring/recording system. This will allow a one-time over-torque and provide support personnel insights to identify required maintenance actions subsequent to an over-torque.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

These upgrades are proprietary, non-developmental items used in other BHTI produced military and FAA certified commercial helicopters. Installation of the prototypes will be accomplished at BHTI on one GFP UH-1N aircraft in December 1998 for theT-400 Emergency Power and April 1999 for the TDS upgrade. Combined Validation/Verification is expected in February and May 1999 respectively and the retrofit of aircraft commencing in March 1999 for the T-400 Emergency Power and July 1999 for TDS.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits									48	1.6	149	7.2	36	2.4									233	11.3
Installation Kit - Unit Price										*		*		0.1										0.1
Installation Kits N/R										1.1														1.1
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data										0.7		0.2												0.9
Training Equipment									5	0.2				0.3		0.1							5	0.6
Support Equipment										0.1														0.1
ILS Support										0.5		0.1		0.1										0.6
Other Support										0.8		0.8		0.5		*		0.2		0.2				2.6
Interim Contractor Support																								
Installation Cost											48	0.5	154	1.1	36	0.1							238	1.7
TOTAL PROCUREMENT										5.1		8.8		4.4		0.3		0.2		0.2				19.0

NOTE: * indicates amounts less then $51K

NOTE: Totals may not add due to rounding

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **HH-1N/UH-1N** MODIFICATION TITLE: H-1N SAFETY UPGRADES (OSIP 18-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: INSTALLATION BY SDLM, CONTRACTOR FIELD TEAM AND ORGANIC MOD TEAM

ADMINISTRATIVE LEADTIME: 2 Months PRODUCTION LEADTIME: 11 Months

CONTRACT DATES: FY 1998: Nov-97 FY 1999: Nov-98 FY 2000: Nov-99

DELIVERY DATE: FY 1998: Dec 98 & Apr 99 FY 1999: Sep-99 FY 2000: Jul-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																								
FY 1997 ( ) kits																								
FY 1998 (53) kits											**48**	**0.5**	**5**	**0.1**									**53**	**0.6**
FY 1999 (149) kits													**149**	**1.0**									**149**	**1.0**
FY 2000 (36) kits															**36**	**0.1**							**36**	**0.1**
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL											48	0.5	154	1.1	36	0.1							238	1.7

NOTE: Totals may not add due to rounding

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0									1	3	18	26	33	40	42	39	24	9	3					
Out	0										3	16	22	36	42	42	41	23	9	4					

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	238
Out					0	238

ATTACHMENT FOR P-3A EXHIBIT

UH-1N SERIES MODS

OSIP 18-98

H-1N SAFETY UPGRADES	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 01	TC	Total
TAIL DRIVE SYSTEM	**559**	**5,440**	**2,371**						**8,370**
Proc. Qty.	9	85	36						130
Proc. Unit Cost	62	64	66						
Installation Cost		43	270	149					462
Install Qty		10	85	36					131
T-400 EMERGENCY POWER	**1,073**	**1,808**							**2,881**
Proc. Qty.	39	64							103
Proc. Unit Cost	28	28							
Installation Cost		437	841						1,278
Install Qty		38	69						107
SPARES PROC									
TOTAL Procurement Cost	1,632	7,248	2,371						**11,251**
TOTAL Proc. Qty.	48	149	36						233
TOTAL Installation Cost		**480**	**1,111**	**149**					**1,740**
Total Install Qty.		48	154	36					238

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
H-3 Series Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	273.2		3.7	9.9	2.6	1.4	*	*	0.1	5.5	3.4	4.5	304.2

This line item funds modifications to H-3 aircraft. The H-3 is a twin-engine, single main rotor helicopter utilized in anti-submarine warfare, utility, and search and rescue missions. The overall goal of the modifications budgeted in FY 1999 is to replace obsolete systems and equipment to enhance mission performance and to ensure supportability until the planned retirement of the H-3 aircraft in 2010. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
46-83	SH-3H/G/D SLEP (BLOCK UPGRADE)	271.6	1.6	3.3	0.9								277.4
14-93	UH-3H GPS	1.5	0.9	1.4	0.2	0.7							4.7
36-95	EXECUTIVE TRANSPORT CONVERSION		1.1	0.6	1.5	0.8						4.5	8.5
17-96	IBIS			4.5									4.5
03-99	AN/ASN-162 C/AHRS						*	*	0.1	3.3	3.4		6.9
-02	COMM/NAV UPGRADE									2.2			2.2
TOTAL		**273.2**	**3.7**	**9.9**	**2.6**	**1.4**	*****	*****	**0.1**	**5.5**	**3.4**	**4.5**	**304.2**
Funding for Reserve Forces				1.4	0.2	0.1				*	0.1		1.8

* Indicates funding less than 0.051 Million.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: SH-3H SERVICE LIFE EXTENSION PROGRAM (OSIP 46-83)

MODELS OF SYSTEM AFFECTED: SH/UH-3H TYPE MODIFICATION: Reliability

DESCRIPTION/JUSTIFICATION: The SH-3 Service Life Extension Program (SLEP) will extend the service life of the SH/UH-3H to the year 2010 (17,500 flight hours) in order to provide required aircraft carrier helo and station search and rescue capabilities. To provide the required station search and rescue capability, modifications are being incorporated as follows: (1) AFC-483 installation of AN/ARC-182 radio to provide ship/hospital/police - SAR helo communications capability; and (2) AFC-471 addition of external cargo hook capability. In addition, this OSIP contains provisions to perform specific airframe fatigue testing and T-58-GE-402 engine testing to extend the UH-3H Airframe Service Life limit to 17,500 hours and the year 2010 to meet the operational requirement.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Contractor/Government testing has commenced at NAWCAD Patuxent River for specific airframe fatigue and -402 engine testing.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	2,003	112.2	500	0.1																			2,503	112.3
Installation Kit - Unit Price		*0.1*		*																				
Installation Kits N/R		33.3																						33.3
Installation Equipment	1,035	41.6																					1,035	41.6
Installation Equipment N/R		0.6																						0.6
Engineering Change Orders																								
Data		5.2		0.2		0.2		0.1																5.6
Training Equipment		0.5																						0.5
Support Equipment		4.2																						4.2
ILS		7.8																						7.8
Other Support		12.8		0.9		3.0		0.1																16.8
Interim Contractor Support																								
Installation Cost	979	53.4	62	0.5	3	*	50	0.7															1,094	54.6
TOTAL PROCUREMENT		**271.6**		**1.6**		**3.3**		**0.9**																**277.4**

NOTE: * indicates amount less than 0.051 Million.

Totals do not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: SH/UH-3H

MODIFICATION TITLE: SH-3 SLEP (Block Upgrade) (OSIP 46-83)

INSTALLATION INFORMATION:

DEPOT-LEVEL CONVERSION/UPGRADE OF SH-3D/G/H WITH SERVICE LIFE EXTENSION PROGRAM

METHOD OF IMPLEMENTATION: DRIVE-IN MODIFICATION/CONCURRENT WITH SDLM/DEPOT FIELD MOD TEAM/CONTRACTOR FIELD MOD TEAM

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (1094) kits	979	53.4	62	0.5	3	*	50	0.7															1,094	54.6
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	979	53.4	62	0.5	3	0.0	50	0.7															1,094	54.6

NOTE: * indicates amount less than 0.051 Million.
Totals do not add due to rounding.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1044			30	20																				
Out	1044			20	30																				

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						1,094
Out						1,094

H-3 Series Mod

OSIP 46-83

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
SLEP ECPs	**111.6**	**0.1**										**111.6**
Proc. Qty.	1,912	500										2,412
Proc. Unit Cost	0.1	*										
Installation Cost	53.0	0.5										53.5
Install Qty	950	62										1,012
AFC-483 ARC-182 RADIO	**0.4**											**0.4**
Proc. Qty.	60											60
Proc. Unit Cost	*											
Installation Cost			*	0.7								0.7
Install Qty			3	50								53
AFC-471 CARGO HOOK	**0.2**											**0.2**
Proc. Qty.	31											31
Proc. Unit Cost	*											
Installation Cost	0.4											0.4
Install Qty	29											29
TOTAL All Other	**106.1**	**1.0**	**3.2**	**0.2**								**110.5**
TOTAL Procurement Cost	**218.3**	**1.1**	**3.2**	**0.2**								**222.8**
TOTAL Proc. Qty.	**2,003**	**500**										**2,503**
TOTAL Installation Cost	**53.4**	**0.5**	*****	**0.7**								**54.6**
Total Install Qty.	**979**	**62**	**3**	**50**								**1,094**

* Indicates amount less than 0.051 Million.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: UH-3H GPS (OSIP 14-93)

MODELS OF SYSTEM AFFECTED: UH-3H TYPE MODIFICATION: Reliability

DESCRIPTION/JUSTIFICATION: Installation of the Miniaturized Airborne GPS Receiver (MAGR) system in the UH-3H Aircraft will provide independent 24 hour all weather Navigation coverage. Integrating the MAGR into the H-3 AN/ASN-123 Tactical Navigational Computer (TACNAV) allows for back-up Navigational Coverage and Doppler aiding. This will greatly enhance the UH-3H navigation and mission capabilities.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Developmental (DT III) testing and Operational (OT III) testing, funded by PMW-187 under Common Avionics GPS OSIP 71-88, are complete. There are three major kits provided under this OSIP: Airframe modification kit (provisions only) and two AN/ASN-123 TACNAV modification kits (Hardware/Software). The Global Positioning Sytstem User Equipment (i.e. MAGR, Mission Data Loader (MDL), antennas, mounts) will be furnished as GFE by SPAWARSYSCOM PMW/PMA-187 and is funded under OSIP 71-88.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	14	0.2	17	0.2	29	0.5																	60	0.9
Installation Kit - Unit Price		*		*		*																		
Installation Kits N/R		0.7																						0.7
Installation Equipment	13	0.2	17	0.4	30	0.3																	60	0.9
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.1		*		*																		0.1
Training Equipment		0.1		0.2		0.2																		0.5
Support Equipment																								
ILS						*																		0.0
Other Support		0.1																						0.1
Interim Contractor Support																								
Installation Cost	14	0.2	17	0.1	30	0.3	17	0.2	42	0.7													120	1.5
TOTAL PROCUREMENT		1.5		0.9		1.4		0.2		0.7														**4.7**

NOTE: * indicates amount less than 0.051 Million.
Totals do not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: UH-3H

MODIFICATION TITLE: UH-3H GLOBAL POSITIONING SYSTEM (OSIP 14-93)

INSTALLATION INFORMATION: DEPOT LEVEL

METHOD OF IMPLEMENTATION: CONTRACTOR FIELD MODIFICATION TEAM

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (120) kits	**14**	**0.2**	**17**	**0.1**	**30**	**0.3**	**17**	**0.2**	**42**	**0.7**													**120**	**1.5**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	14	0.2	17	0.1	30	0.3	17	0.2	42	0.7													120	1.5

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	61			10	7	12	12	12	6																
Out	61			8	9	12	12	12	6																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						120
Out						120

H-3 Series Mod

OSIP 14-93

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
AFC-495 MAGR GPS	**0.2**	**0.2**	**0.5**									**0.9**
Proc. Qty.	14	17	29									60
Proc. Unit Cost	*	*	*									
Installation Cost	0.1			0.2	0.7							0.9
Install Qty	1			17	42							60
AVC-4576, ASC-5, SEC-5287	**0.2**	**0.4**	**0.3**									**0.8**
Proc. Qty.	13	17	30									60
Proc. Unit Cost	*	*	*									
Installation Cost	0.1	0.1	0.3									0.5
Install Qty	13	17	30									60
TOTAL All Other	**1.0**	**0.2**	**0.3**									**1.5**
TOTAL Procurement Cost	**1.3**	**0.8**	**1.1**									**3.3**
TOTAL Proc. Qty.	**27**	**34**	**59**									**120**
TOTAL Installation Cost	**0.2**	**0.1**	**0.3**	**0.2**	**0.7**							**1.5**
Total Install Qty.	**14**	**17**	**30**	**17**	**42**							**120**

* Indicates amounts less than 0.051 Million.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: UH-3H EXECUTIVE TRANSPORT CONVERSION (OSIP 36-95)

MODELS OF SYSTEM AFFECTED: UH-3H TYPE MODIFICATION: Reliability

DESCRIPTION/JUSTIFICATION: VH-3A aircraft are currently used to provide CINCLANTFLT with Executive Transport mission support. However, these aircraft will reach their airframe service life limit in FY 1998 while critical systems and components are becoming increasingly unsupportable due to obsolescence and uniqueness compared to the rest of the H-3 Fleet. This program will convert four (4) logistically supportable UH-3H aircraft for CINCLANTFLT Executive Transport missions. The modification includes addition of an Auxiliary Power Unit, Environmental Control System, and interior passenger accomodations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Design and installation of components and systems common to other U.S. Government helicopters will be utilized to the maximum extent possible to minimize cost and the amount of testing and qualification required. Preliminary Design Review (PDR) is complete.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits							1	0.4													3	1.1	4	1.6
Installation Kit - Unit Price								*0.4*														*0.4*		
Installation Kits N/R				0.7	[a]	0.6		0.6														0.2		2.1
Installation Equipment								0.4														1.2		1.6
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.2																				0.2
Training Equipment																								
Support Equipment																								
ILS				0.1		*				0.2														0.3
Other Support				0.1				0.1		0.6												0.6		1.4
Interim Contractor Support																								
Installation Cost							1	[a]													3	1.4	4	1.4
TOTAL PROCUREMENT				**1.1**		**0.6**		**1.5**		**0.8**												**4.5**		**8.5**

NOTE: * indicates amount less than 0.051 Million.

Totals do not add due to rounding.

[a] Prototype installation funded on a turn-key basis as part of the Installation Kits N/R cost in FY 1997.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: UH-3H

MODIFICATION TITLE: UH-3H EXECUTIVE TRANSPORT UPGRADE (OSIP 36-95)

INSTALLATION INFORMATION: DEPOT LEVEL UPGRADE

METHOD OF IMPLEMENTATION: DEPOT CONTRACTOR DRIVE-IN MODIFICATION

ADMINISTRATIVE LEADTIME: 11 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1997: 8/97 FY 1998: FY 1999:

DELIVERY DATE: FY 1997: 8/98 FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 (1) kit (Prototype)									1	[a]													1	[a]
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete (3) kits																					3	1.1	3	1.1
TOTAL									1	[a]											3	1.1	4	1.1

[a] Prototype installation funded on a turn-key basis as part of the Installation Kits N/R cost in FY 1997.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In						1																			
Out								1																	

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					3	4
Out					3	4

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: H-3 INFLIGHT BLADE INSPECTION SYSTEM (OSIP 17-96)

MODELS OF SYSTEM AFFECTED: SH/UH-3H AIRCRAFT TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION: THE H-3 Inflight Blade Inspection System (IBIS) Program upgrades the H-3 aircraft and blades to provide the pilots with an in-flight cockpit warning of main rotor blade spar pressure loss and potential catastrophic main rotor blade failure. This program corrects a safety-of-flight deficiency and is a result of Sikorsky recommendations for reduced Visual Blade inspection intervals which severely restrict H-3 operational capability. These restrictions will be eliminated with IBIS incorporated

DEVELOPMENT/STATUS/MAJOR DEVELOPMENT MILESTONES: This system is currently used on the VH-3D and H-53 Helicopters. Use of this common system will improve supportability while reducing program cost and risk. Integration testing of this upgrade will be performed to confirm correction of deficiencies identified in previous testing of this system on the SH-3H.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits					62	0.2																	62	0.2
Installation Kit - Unit Price						*																		
Installation Kits N/R						0.2																		0.2
Installation Equipment					62	3.8																	62	3.8
Installation Equipment N/R																								
Engineering Change Orders																								
Data						0.1																		0.1
Training Equipment						*																		0.1
Support Equipment																								
ILS																								
Other Support						0.2																		0.2
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT						**4.5**																		**4.5**

NOTE: * indicates amount less than 0.051 Million.
Totals do not add due to rounding.
Kits are to be installed by Organizational level maintenance.

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/ASN-162 COMPASS/ATTITUDE HEADING REFERENCE SYSTEM (OSIP 03-99)

MODELS OF SYSTEM AFFECTED: UH-3H AIRCRAFT TYPE MODIFICATION: Reliability

DESCRIPTION/JUSTIFICATION: The C/AHRS will replace the unsupportable A24G-39 Attitude Heading Reference System (AHRS) and 1080Y Vertical Gyro. C/AHRS provides improved state-of-the-art navigation capability and coupled with GPS serves as a back-up navigational aid to the GPS system.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: The new AN/ASN-162 C/AHRS will be in production FY98-02. Only Integration Testing will be performed.

FINANCIAL PLAN (TOA, $ in Millions)

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																	25	0.2	31	0.2			56	0.4
Installation Kit - Unit Price																		*		*				
Installation Kits N/R												*		*		0.1		*						0.2
Installation Equipment																	25	2.3	31	3.0			56	
Installation Equipment N/R																								
Engineering Change Orders																								
Data																		0.1						0.1
Training Equipment																		0.1						0.1
Support Equipment																		0.1						0.1
ILS																		0.1		*				0.1
Other Support																		0.2						0.2
Interim Contractor Support																								
Installation Cost																	25	0.2	31	0.2			56	0.4
TOTAL PROCUREMENT												*		**0.1**		**0.1**		**3.3**		**3.4**				**1.5**

NOTE: * indicates amount less than 0.051 Million.
Totals do not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: UH-3H

MODIFICATION TITLE: AN/ASN-162 COMPASS/ATTITUDE HEADING REFERENCE SYSTEM (OSIP 03-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: DEPOT-LEVEL FIELD MODIFICATION TEAMS

ADMINISTRATIVE LEADTIME: 1 Month

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 2002: 11/01 FY 2003: 10/02 FY 2004:

DELIVERY DATE: FY 2002: 05/02 FY 2003: 02/03 FY 2004:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 (25) kits																	25	0.2					25	0.2
FY 2003 (31) kits																			31	0.2			31	0.2
To Complete ( ) kits																								
TOTAL																	25	0.2	31	0.2			56	0.4

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																								10	15
Out																								10	15

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	10	10	11			56
Out	10	10	11			56

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: September 1997

APPROPRIATION/BUDGET ACTIVITY: Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE: EP-3 Series Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)			16.4	31.7	37.3	4.4	5.5	1.7	20.1	16.8	18.9	103.1	255.9

This line item funds modifications to the EP-3E aircraft. The EP-3E is a land based, long range aircraft, with electronic intercept devices for detection and tracking of enemy RADARs and radios. The overall goal of the modifications budgeted in FY 1999 is to improve ESM operational capability and aircrew productivity will be achieved by expanding the ESM frequency coverage, applying state-of-the-art signal exploitation/processing/display techniques, expanding direction finding (DF) frequency coverage, and expanding proforma signal processing capability.

Research and Development for Tactical Intelligence and Related Activities (TIARA) is funded with National Security Agency (NSA) Tactical Cryptologic Program (TCP) funds. TCP R&D funds the integration of Non-Developmental Items (NDI) under the Navy's Airborne Sensor System Improvement line. The NSA line for Navy Airborne Sensor System improvement funds sensor improvements with application to the EP-3E. TCP R&D PE: 0305885G refers. The Defense Airborne Reconnaissance Office (DARO) will be responsible for the development and acquisition of manned and unmanned platforms, their sensors, data links, data relays, and ground stations to achieve and maintain interoperability with Defense-wide airborne reconnaissance assets. The intent is that the EP-3E program will come under the purview of the DARO. Active PAA inventory is 12.

OSIP No.	Description	Prior Year	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
14-95	EP-3 Sensor Improvement		16.4	29.2	36.2	3.6	2.7	1.7	0.3				90.0
2-96	Common Impr. (AN/ARC-187)			2.5	1.1	0.8							4.4
17-99	EP-3 GPS Upgrade						2.8						2.8
-01	JSAF								19.9	16.8	18.9	103.1	158.7
TOTAL			16.4	31.7	37.3	4.4	5.5	1.7	20.1	16.8	18.9	103.1	255.9

Totals may vary due to rounding

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **EP-3 Sensor System Improvement (OSIP 14-95)**

MODELS OF SYSTEM AFFECTED: **EP-3E** TYPE MODIFICATION: **Operational Improvement / Modernization**

DESCRIPTION/JUSTIFICATION:

This Sensor System Improvement Program (SSIP) is directly responsive to Operational Requirement (OR) #057-095-87. The program procures, integrates, and installs new capabilities into the EP-3 Electronic Warfare Support Measures (ESM) weapon system to cope with the increasingly complex and dense threat environment. The required improvements in productivity will be achieved by applying state-of-the-art signal exploitation/processing/display technique, expanding direction finding (DF) frequency coverage, and expanding Program signal processing capability. Tactical communications connectivity improvements include TRE Related Applications (TRAP), Tactical Digital Information Exchange System-B (TADIXS-B), Tactical Digital Information Link-A (TADIL-A), Tactical Information Broadcast Services (TIBS), Tactical Reconnaissance Information Exchange System (TRIXS), USN/USAF Advisory Support Network (ASN) and Intelnet. Integration and testing in the EP-3 Integrated Test Facility (ITF) prior to installation in the first production aircraft will ensure integrated system functional integrity. The Sensor System Improvement Program will provide the systems engineering required to modify hardware and software essential for timely situational analysis and reporting to the fleet tactical commands. The Sensor System Improvement Program emphasizes ES-3A/EP-3E subsystem commonality and is directly related to future ES-3A systems improvement efforts. LESPA requirement includes NRE for qualifying LESPA parachutes in both EP-3E and Special Project Aircraft. Procurement of parachutes is limited to the EP-3E requirement.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Initial testing at the Integrated Test Facility (ITF) was completed in the 2nd quarter of FY95. Based on this testing and an early operational assessment by COMOPTEVFOR, PEO(A) approved the production procurement of the first two system installs for Phase I of SSIP. Production approved for the FY96 procurement of 4 shipsets was based on follow-on qualification testing at the ITF and a COMOPTEVFOR operational assessment in the 2nd quarter FY96. Combinec DT/FOT&E is scheduled for the 2nd and 3rd quarter FY98. Fleet introduction is scheduled for 2nd quarter of FY98.

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																						
PROCUREMENT																						
Installation Kits	2	1.0	4	1.4	6	3.2															12	5.7
Installation Kit - Unit Price		*0.5*		*0.3*		*0.4*																
Installation Kits N/R		2.0				0.7																2.7
Installation Equipment	2	8.8	4	17.4	6	16.9			12	1.2	8	0.9									32	45.2
Installation Equipment N/R										1.0												1.0
Engineering Change Orders																						
Data		1.4		1.9		0.9				0.2		0.2										4.6
Training Equipment		0.3		0.5		0.1																0.9
Support Equipment		0.1		0.5		0.1																0.7
ILS		1.0		2.2		1.5																4.7
Other Support		1.7		3.7		2.4		3.6		0.3		0.4										12.0
Interim Contractor Support																						
Installation Cost			2	1.6	10	10.4					4	0.3	8	0.3							24	12.6
TOTAL PROCUREMENT		16.4		29.2		36.2		3.6		2.7		1.7		0.3								90.0

Totals may vary due to rounding

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EP-3E**

MODIFICATION TITLE: **EP-3 Sensor System Improvement (OSIP 14-95)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Commercial Contractor Depot Installation**

ADMINISTRATIVE LEADTIME: **8** Months

PRODUCTION LEADTIME: **6** Months

CONTRACT DATES: FY 1997: 10/96 FY 1998: 10/97

DELIVERY DATE: FY 1997: 9/97 FY 1998: 9/98

($ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (6) kits	2	1.6	4	4.1															6	5.7
FY 1997 (6) kits			6	6.3															6	6.3
FY 1998 () kits																				
FY 1999 (6) kits **									6	.3									6	.3
FY 2000 (6) kits **											6	.3							6	.3
FY 2001 () kits																				
FY 2002 () kits																				
FY 2003 () kits																				
To Complete () kits																				
TOTAL	2	1.6	10	10.4					6	.3	6	.3							24	12.6

*** Indicates value less than $51,000**

**** Reflects continual upgrade of previously procured aircraft with OE-320 antenna. OE-320 modifications will be accomplished at Commercial depot. System is an "O"-level remove and install. Advanced Signal Reconnaissance (ASR) modification will be accomplished by Field Mod Team in FY00 & FY01.**

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& PRIOR	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1				1	1	1	2	1	1	2	2				3	3	3	3						
Out		1				1	1		2	1	2	2	1	1		3	3	3	3						

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						24
Out						24

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **EP-3E Common Improvement Program (OSIP 02-96)**

MODELS OF SYSTEM AFFECTED: **EP-3E**

TYPE MODIFICATION: **Operational Improvement / Obsolescence**

DESCRIPTION/JUSTIFICATION:

The EP-3E has an operational requirement for reliable UHF communications having anti-jam capabilities compatible with multi-service and allied secure UHF communications systems. The current UHF radio (AN/ARC-156) suffers from serious reliability and obsolescence problems, and lacks the intermodulation protection required for proper operation in today's operational environment. The AN/ARC-187 UHF radio to be installed is a derivative of the AN/ARC-164 which is presently utilized by the Air Force and would correct the above mentioned deficiencies. The radio is common with the P-3C, S-3B, and ES-3A aircraft and this commonality will significantly reduce logistic support requirements. Two AN/ARC-187 UHF transceivers will replace three AN/ARC-156 radios in 12 EP-3E's.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This is a non-developmental item. A production contract for ARC-187 (GOTS) Radio Systems was awarded in the fourth quarter of FY 1996. The EP-3E option was awarded in the third quarter of FY97. TEMPEST and EMI testing is scheduled to commence 3rd quarter FY97 and conclude 4th quarter FY 1997 1st quarter FY 1998. Aircraft deliveries are schedules to begin in the fourth quarter of FY 1997 and conclude in the third quarter FY 1999.

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Installation Kits	9	.2			3	.1													12	.3
Installation Kit - Unit Price		*.0*				*.0*														
Installation Kits N/R		.7																		.7
Installation Equipment	9	1.1			3	.4													12	1.6
Installation Equipment N/R																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Testing		.2		.1		.1														.4
ILS		.1		.3		*														.4
Other Support		.2		.3		.1														.7
Interim Contractor Support																				
Installation Cost			12	.4															12	.4
TOTAL PROCUREMENT		2.5		1.1		.8														4.4

Totals may vary due to rounding

*** Indicates value less than $51,000**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EP-3E**

MODIFICATION TITLE: **EP-3E Common Improvement Program (OSIP 02-96)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Team Mod**

ADMINISTRATIVE LEADTIME: **4** Months

PRODUCTION LEADTIME: **8** Months

CONTRACT DATES: FY 1997: ____ FY 1998: 12/97

DELIVERY DATE: FY 1997: ____ FY 1998: 8/98

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (9) kits	9	.3															9	.3
FY 1997 () kits																		
FY 1998 (3) kits	3	.1															3	.1
FY 1999 () kits																		
FY 2000 () kits																		
FY 2001 () kits																		
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL	12	.4															12	.4

*** Indicates value less than $51,000**

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1			1	1	1	2	1	1	2	2													
Out		1			1	1		2	1	2	2	1	1											

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						12
Out						12

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **EP-3 Global Positioning System Inertial Guidance System (OSIP 17-99)**

MODELS OF SYSTEM AFFECTED: **EP-3E** TYPE MODIFICATION: **Operational Improvement / Safety**

DESCRIPTION/JUSTIFICATION:

The EP-3E has an operational requirement to upgrade the current GPS system (ARN-151) to comply with the ICAO standards. This will allow the upgrade/replacement of existing components to meet the FY 2000 requirement.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The procurement of this upgrade will be accomplished in FY 1999. TEMPEST and EMI testing is scheduled fourth quarter FY 1999. Aircraft deliveries are scheduled to begin in the fourth quarter of FY 1999 and conclude in the third quarter FY 2000.

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E														
PROCUREMENT														
Installation Kits	12	.4											12	.4
Installation Kit - Unit Price		*												
Installation Kits N/R		.3												.3
Installation Equipment	12	1.2											12	1.2
Installation Equipment N/R														
Engineering Change Orders														
Data														
Training Equipment														
Support Equipment														
Testing		.1												.1
ILS		.3												.3
Other Support		.2												.2
Interim Contractor Support														
Installation Cost	12	.4											12	.4
TOTAL PROCUREMENT		2.8												2.8

Totals may vary due to rounding

*** Asterick indicates a value of less than $51,000.**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **EP-3E**

MODIFICATION TITLE: **EP-3 Global Positioning System Inertial Guidance System (OSIP 17-99) ECP GPS**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Team**

ADMINISTRATIVE LEADTIME: **3** Months

PRODUCTION LEADTIME: **3** Months

CONTRACT DATES: FY 1999: 1/99

DELIVERY DATE: FY 1999: 4/99

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																		
FY 1997 () kits																		
FY 1998 () kits																		
FY 1999 (12) kits					**12**	**0.4**											**12**	**0.4**
FY 2000 () kits																		
FY 2001 () kits																		
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL					**12**	**0.4**											**12**	**0.4**

*** Indicates value less than $51,000**

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In										**4**	**4**	**4**												
Out											**4**	**4**	**4**											

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						**12**
Out						**12**

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET P-40	DATE: September 1997
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications	P-1 ITEM NOMENCLATURE P-3 Series Modifications
Program Element for Code B Items:	Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	1,002.1		102.8	215.0	216.8	165.0	250.9	239.0	154.5	100.0	97.4	2,753.3	5,250.1

This line item funds modifications to P-3 aircraft. The P-3 Orion is a 4 engine, long-range maritime surveillance aircraft which performs Anti-Submarine (ASW) and Anti-Surface Warfare (ASUW) in support of battle group and littoral operations. The overall goal of the modifications budgeted in FY 1999 is to continue the Special Project aircraft effort, CP-2044 computer installation (part of Update III), weapon system R&M improvements, GPS, upgrading and refurbishing airframe components and systems. Active PAA inventory is 219. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
29-82	Special Project Aircraft	103.1	4.2	12.9									120.2
80-84	Update III Block Upgrade	698.1	38.5	18.5	18.5	27.4	60.7	70.1	49.3	25.5	26.1	247.5	1280.0
53-85	Critical Systems Improvements	11.2	0.4	0.2	1.3	1.7	1.2	1.2	1.0	1.0	0.9	*	20.1
60-86	UHF/VHF Comm. Update	62.6	1.8	5.5	5.6	10.8	11.9	3.2	5.9	3.0	0.7	15.1	126.0
28-92	GPS	3.7	8.1	2.9	3.5	8.4	9.5	2.7					38.7
42-92	CNIP	40.9	2.1	2.6	46.8								46.1
10-94	Sustained Readiness	24.1	39.1	33.1	45.9	41.3	43.0	58.2	68.0	70.5	69.7	854.3	1347.2
29-94	ASUW Improv. Prog.	58.4	8.6	139.2	91.4	74.7	93.8	78.3	10.4				554.8
19-96	P-3 Derivative A/C GPS			0.2	3.8	0.7	1.5	0.4					6.6
2-99	SLAP/SLEP						29.2	24.9	20.0			1636.4	1710.4
TOTAL		1002.1	102.8	215.0	216.8	165.0	250.9	239.0	154.5	100.0	97.4	2753.3	5250.1

Included in OSIP 42-92 for FY 1997 is $46.3 million forwarded to U.S. Customs Service for Counterdrug P-3 ASW Aircraft and not further reflected in budget exhibits.

The amounts listed below show Reserve A/C funding which are included in the amounts above:

					3.5	6.6		1.3			4.4	15.8

* Indicates value less than $51,000.

Totals may vary due to rounding

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: P-3 Special Project Aircraft (OSIP 29-82)

MODELS OF SYSTEM AFFECTED: P-3B/C

TYPE MODIFICATION: **Operational Improvement**

DESCRIPTION/JUSTIFICATION:

This modification replaces obsolete intelligence collection equipment in four P-3 special project aircraft by:

1. **Procurement of common Navy systems for increased capability, reduced operator workload and common logistics**
2. **Installation and support of special mission equipment provided by Intelligence Agencies**
3. **Update of radio frequency distribution hardware for selected intelligence gathering subsystems.**
4. **Procurement of special mission equipment as directed by the Chief of Naval Operations.**
5. **Conversion of interior and exterior aircraft for operations in the 1990's.**

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Approval for full production is not required.

FINANCIAL PLAN (TOA, $ in Millions):

	PRIOR YEARS		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	4	33.4																					4	33.4
Installation Kit - Unit Price		*8.4*																						*8.4*
Installation Kits N/R																								
Installation Equipment		23.3		2.2		4.8																		30.3
Installation Equipment N/R		18.7				5.5																		24.2
Engineering Change Orders																								
Data		0.8		0.2																				1.0
Training Equipment																								
Support Equipment																								
ILS		0.4				0.7																		1.1
Other Support		10.5		1.3		1.9																		13.7
Interim Contractor Support																								
Installation Cost	4	16.0		0.6																			4	16.6
TOTAL PROCUREMENT		103.1		4.2		12.9																		120.2

Totals may vary due to rounding

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **P-3B/C**

MODIFICATION TITLE: P-3 Special Project Aircraft (OSIP 29-82)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Modification**

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES:

DELIVERY DATE:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (4) kits	4	16.0		0.6			4	16.6
FY 1997 () kits								
FY 1998 () kits								
FY 1999 () kits								
FY 2000 () kits								
FY 2001 () kits								
FY 2002 () kits								
FY 2003 () kits								
To Complete () kits								
TOTAL	4	16.0		0.6			4	16.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1.0	2	3.0	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	4																								
Out	4																								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						4
Out						4

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Update III Block Upgrade (OSIP 80-84)**

MODELS OF SYSTEM AFFECTED: **P-3C** TYPE MODIFICATION: **Operational Improvement**

DESCRIPTION/JUSTIFICATION:

The Update III provides the Fleet with significantly improved anti-submarine warfare acoustic detection and classification capabilities which are essential for target prosecution in average and poor water conditions. This program will modify older P-3's to an Update III common configuration. This modification includes associate processors, receivers, displays, and recorders.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Update III received approval for limited production in December 1983 and December 1984. Approval for full production was received in January 1986.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits **		76.5		.3				1.2		1.3		6.0		8.2		5.4		2.1		2.2		18.2		121.4
*Installation Kit - Unit Price ** *																								
Installation Kits N/R		20.6				12.6		1.8		7.0		9.8		1.0						1.1				53.8
Installation Equipment		459.0		10.7				8.0		10.8		39.2		53.1		35.7		15.5		15.9		136.0		783.9
Installation Equipment N/R		32.7		15.0																				47.7
Engineering Change Orders																								
Data		10.1		1.1		1.6		0.5		0.6		0.1		0.5		0.5		0.5		0.5		3.5		19.5
Training Equipment		10.1		1.6		0.6		0.2		0.9		0.4		0.6		0.2				0.3		0.1		14.4
Support Equipment		1.6																						1.6
ILS		.9																						0.9
Other Support		65.4		9.8		4.2		6.5		6.9		4.9		6.3		7.0		6.9		5.6		82.6		206.3
Interim Contractor Support																								
Installation Cost **		21.2				0.1		0.2				0.3		0.4		0.4		0.4		0.5		7.0		30.5
TOTAL PROCUREMENT		698.1		38.5		18.5		18.5		27.4		60.7		70.1		49.3		25.5		26.1		247.5		1280.0

Totals may vary due to rounding

* Indicates value less than $51,000

** See addendum sheet for install kit quantities, unit price, and installation quantity/data.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **P-3C**

MODIFICATION TITLE: **Update III Block Upgrade (OSIP 80-84) USQ-78A**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation will be accomplished on-site by contractor field team**

ADMINISTRATIVE LEADTIME: **4** Months

PRODUCTION LEADTIME: **16** Months

CONTRACT DATES: FY 1997: 1/97 FY 1998: 1/98 FY 1999: 1/99

DELIVERY DATE: FY 1997: 12/98 FY 1998: 12/99 FY 1999: 12/00

($ in Millions)

Cost:	Prior Years		FY 1997		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (2) kits			2	.2													2	.2
FY 1997 (7) kits					7	.3											7	.3
FY 1998 (8) kits							8	.4									8	.4
FY 1999 (8) kits									8	.4							8	.4
FY 2000 (6) kits											6	.4					6	.4
FY 2001 (8) kits													8	.5			8	.5
FY 2002 (12) kits															12	.7	12	.7
FY 2003 (12) kits															12	.7	12	.7
To Complete (89) kits															89	5.7	89	5.7
TOTAL			2	.2	7	.3	8	.4	8	.4	6	.4	8	.5	113	7.0	152	9.3

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In			2							2	2	1	2	2	2	2	2	2	2	2	2	1	2	1	2
Out			2							2	2	1	2	2	2	2	2	2	2	2	2	1	2	1	2

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	2	2	2	2	113	152
Out	2	2	2	2	113	152

Completions same as inductions; one week effort.

- Integration of PEP into USQ-78A including ECP is scheduled for FY98. All USQ-78A procured after FY97 will include PEP. Seven (7) retrofits procured in FY98 will retrofit 7 USQ-78A kits procured in FY97
- USQ-78A to be installed in trainers as depicted in the APN-5 install portion of the OSIP.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **P-3C**

MODIFICATION TITLE: **Update III Block Upgrade (OSIP 80-84) MK-50**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NADEP Jax Installed**

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1999: N/A

DELIVERY DATE: FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (135) kits	128	1.2	7	0.1																	135	1.3
FY 1997 () kits																						
FY 1998 () kits																						
FY 1999 () kits																						
FY 2000 () kits																						
FY 2001 () kits																						
FY 2002 () kits																						
FY 2003 () kits																						
To Complete () kits																						
TOTAL	128	1.2	7	0.1																	135	1.3

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	135																								
Out	135																								

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						135
Out						135

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **P-3C**

MODIFICATION TITLE: **Update III Block Upgrade (OSIP 80-84) Common Configuration**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation will be accomplished on-site by contractor field team**

ADMINISTRATIVE LEADTIME: **4** Months

PRODUCTION LEADTIME: **24** Months

CONTRACT DATES: FY 1999: 1/99

DELIVERY DATE: FY 1999: 1/01

($ in Millions)

Cost:	Prior Years		FY 1997		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																		
FY 1997 () kits																		
FY 1998 () kits																		
FY 1999 (5) kits					**5**	*											**5**	*
FY 2000 (8) kits							**8**	*									**8**	*
FY 2001 (4) kits									**4**	*							**4**	*
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL					**5**	*	**8**	*	**4**	*							**17**	*

* Installs funded via seperate program outside OSIP 80-84.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																			**1**	**2**	**2**	**2**	**2**	**2**	**2**
Out																			**1**	**2**	**2**	**2**	**2**	**2**	**2**

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	**2**	**2**				**17**
Out	**2**	**2**				**17**

80-84 ECP ATTACHMENT

P-3 Series Mod

OSIP 80-84

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP#1/USQ-78A *		**.2**		**1.2**	**1.3**	**1.3**	**1.0**	**1.4**	**2.1**	**2.2**	**18.2**	**28.9**
Proc. Qty.		*2*		*7*	*8*	*8*	*6*	*8*	*12*	*12*	*89*	**152**
Proc. Unit Cost		*.1*		*.2*	*.2*	*.2*	*.2*	*.2*	*.2*	*.2*	*.2*	**0.2**
Installation Cost *				.2		.3	.4	.4	.4	.5	7.0	**9.3**
Install Qty				*2*		*7*	*8*	*8*	*6*	*8*	*113*	**152**
** Includes USQ-78A trainers*												
ECP#P3-1006/MK-50	**4.0**	**.1**										**4.0**
Proc. Qty.	*130*	*5*										**135**
Proc. Unit Cost	***	***										*****
Installation Cost	1.2		.1									**1.3**
Install Qty	*128*		*7*									**135**
ECP# TBD/Common Configuration						**4.7**	**7.2**	**4.1**				**16.0**
Proc. Qty.						*5*	*8*	*4*				**17**
Proc. Unit Cost						*.9*	*.9*	*1.0*				**0.9**
Installation Cost												
Install Qty												
Common Configuration installations funded separately												
ECP# TBD/PEP Retrofits												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost						*						*
Install Qty						*7*						**7**
PEP's install kits part of USQ-78A												
ECP# TBD/USQ-78A Trainers												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost							**.1**	**.1**	**.2**	**.2**	**.4**	**1.0**
Install Qty							*1*	*1*	*2*	*2*	*4*	**10**
USQ-78A install kits included in ECP#1 above												
ECP #1008 / AN/AQH-4	**8.5**											**8.5**
Proc. Qty.	*295*											**295**
Proc. Unit Cost	***											*****
Installation Cost	6.4											**6.4**
Install Qty	*24*											**24**
ECP #LCC953 / Kits (AFC)	**63.5**											**63.5**
Proc. Qty.	*102*											**102**
Proc. Unit Cost	*623*											*****
Installation Cost												
Install Qty												
ECP #UNISYS-58A3 / MLU	***.4***											**.4**
Proc. Qty.	*11*											**11**
Proc. Unit Cost	***											*****
Installation Cost												
Install Qty												
ECP #MAGNA-002 / Aural Monitor	*****											*****
Proc. Qty.	*26*											**26**
Proc. Unit Cost	***											*****
Installation Cost												
Install Qty												

80-84 ECP ATTACHMENT

P-3 Series Mod

OSIP 80-84

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP#58/CP-2044												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost	1.6											**1.6**
Install Qty	*117*											**117**
ECP#57/CMOS												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost	.5											**.5**
Install Qty	*149*											**149**
ECP#972 /UDIII												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost	11.5											**11.5**
Install Qty	*49*											**49**
TOTAL Other Cost	621.6	38.5	18.4	18.3	27.4	60.4	69.7	48.9	25.1	25.6	240.5	**1194.4**
TOTAL Procurement Cost	**698.1**	**38.5**	**18.5**	**18.5**	**27.4**	**60.7**	**70.1**	**49.3**	**25.5**	**26.1**	**247.5**	**1280.0**
TOTAL Proc. Qty.	**576**	**7**		**7**	**8**	**13**	**14**	**12**	**12**	**12**	**89**	**750**
TOTAL Installation Cost	**21.2**		**.1**	**.2**		**.3**	**.4**	**.4**	**.4**	**.5**	**7.0**	**30.5**
Total Install Qty.	**479**		**7**	**2**		**14**	**9**	**9**	**8**	**10**	**117**	**655**

* Indicates value less than $51,000.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Critical Systems Improvements (OSIP 53-85)

MODELS OF SYSTEM AFFECTED: P-3C

TYPE MODIFICATION: **Reliability, Maintainability, Safety**

DESCRIPTION/JUSTIFICATION:

The purpose of this program is to provide the requisite funding to implant various minor cost effective changes to critical P-3 weapon systems. These changes are essential to the operation of the aircraft and/or it's mission systems, but are not currently being addressed by an existing aircraft modification program. The changes can be either airframe, avionic, or procedures.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The changes when identified will be minor and will not require approval for full production.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits **		8.3						1.0		1.4		0.8		0.8		0.6		0.5		0.5				13.9
*Installation Kit - Unit Price **																								
Installation Kits N/R		1.0		.1				0.9		0.5		0.1		0.1		0.1		0.1		0.1				2.0
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		.7		*		.1																		0.8
Training Equipment		.1																						0.1
Support Equipment		*																						*
ILS		*																						
Other Support		.3		.1		.1		0.3		0.3		0.3		0.3		0.3		0.3		0.2				2.2
Interim Contractor Support																								
Installation Cost **		.7		.1																0.1		*		1.0
TOTAL PROCUREMENT		11.2		.4		.2		1.3		1.7		1.2		1.2		1.0		1.0		0.9		*		20.1

Totals may vary due to rounding

*** Indicates value less than $51,000**

**** See attached addendum sheet.**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **P-3C**

MODIFICATION TITLE: **Critical Systems Improvements (OSIP 53-85) ASW-31 IMP**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Team**

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1997: ____ FY 1998: ____ FY 1999: ____

DELIVERY DATE: FY 1997: ____ FY 1998: ____ FY 1999: ____

($ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																				
FY 1997 () kits																				
FY 1998 () kits																				
FY 1999 () kits																				
FY 2000 () kits																				
FY 2001 () kits																				
FY 2002 () kits																				
FY 2003 (11) kits															11	0.1			**11**	**0.1**
To Complete (16) kits																	**16**	*	**16**	
TOTAL															**11**	**0.1**	**16**	*	**27**	**0.1**

*** Indicates value less than $51,000**

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																									
Out																									

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In		**5**	**6**		**16**	**27**
Out			**5**	**6**	**16**	**27**

53-85 ECP ATTACHMENT

P-3 Series Mod

OSIP 53-85

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
AL-778/Low Press Fuel Switch Removal					**.1**							**.1**
Proc. Qty.					*242*							**242**
Proc. Unit Cost					*							
Installation Cost				O-Level - No Cost								
Install Qty					*242*							**242**
TBD / Peanut Gyro Mod					**.4**	**.2**	**.4**	**.2**	**.2**			**1.4**
Proc. Qty.					*79*	*27*	*70*	*40*	*33*			**249**
Proc. Unit Cost					*							
Installation Cost				O-Level - No Cost								
Install Qty					*60*	*162*						**222**
ECP#2509-2RF1/ALR-66 Feedball Mod (4th Increment)	**.7**			**.6**	**.5**	**.7**						**2.5**
Proc. Qty.	*52*			*24*	*21*	*26*						**123**
Proc. Unit Cost	*14*			*	*	*						
Installation Cost					O-Level - No Cost							
Install Qty					*24*	*14*	*26*					**64**
ECP-TBD/ASW-31 IMP									**.3**	**.5**		**.8**
Proc. Qty.									*11*	*16*		**27**
Proc. Unit Cost									*30*	*31*		
Installation Cost										.1	*	**0.1**
Install Qty										*11*	*16*	**27**
ECP **/Prior Year Kits	*7.5*											**7.5**
Proc. Qty.	*171*											**171**
Proc. Unit Cost												
Installation Cost	**.7**	**.1**										
Install Qty												
ECP /EJ Receiver Mod				**0.4**	**0.4**		**0.4**	**0.4**				**1.5**
Proc. Qty.												
Proc. Unit Cost												
Installation Cost												
Install Qty												
TOTAL Other Cost	**10.4**	**0.3**	**0.2**	**1.3**	**1.7**	**1.2**	**1.2**	**1.0**	**1.0**	**0.8**	*	**19.1**
TOTAL Procurement Cost	**11.2**	**0.4**	**0.2**	**1.3**	**1.7**	**1.2**	**1.2**	**1.0**	**1.0**	**0.9**	*	**20.1**
TOTAL Proc. Qty.	*223*			*24*	*342*	*53*	*70*	*40*	*44*	*16*		*812*
TOTAL Installation Cost	**.7**	**.1**								**.1**	*	**1.0**
Total Install Qty.					*326*	*176*	*26*			*11*	*16*	*555*

*** Indicates value less than $51,000**

**** ECP's included in Prior Year Kits are as follows: TI-1203, 990R1, FL-9101, RI-336, 1011-R1, AL-758, AL620R1, P3-1007R1, 018, P3-1012, 720-87, SCI-003, AL-745.**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Ultra High Frequency (UHF)/Very High Frequency (VHF) Communications Update (OSIP 60-86)**

MODELS OF SYSTEM AFFECTED: **P-3A/B/C & 4 Special Projects** TYPE MODIFICATION: **Operational Improvement**

DESCRIPTION/JUSTIFICATION:

P-3 aircraft have an operational requirement for UHF satellite communications (SATCOM) and currently have satellite capable communications suites. JCS Memos MJCS-36-89 anc MJCS-63-89 modify SATCOM access to require ANDVT and DAMA standards by 30 September 96. In addition, the ARC-101 VHF radio does not have a 25KHz channel capability and does no comply with Air Traffic Control regulations and represents a potential safety of flight issue. The older UHF and VHF (ARC-143 and ARC-101) radios suffer from considerable degradec performance because of crosswalk sensitivity, lack of channel selectivity, intermodulation and are not compatible with the JCS satellite access requirements. The ARC-182 is the Navy's standard VHF radio and corrects the VHF deficiencies. The ARC-187 is currently installed in 171 P-3 aircraft and meets all P-3 requirements. In FY 93, Vinson Baseband kits were procured to provide succinct channel identification for the ARC-187 radios currently installed in P-3 aircraft

The FY 94 and subsequent programs will bring all 215 P-3C and 4 Special Project aircraft to a common radio configuration which meets all requirements for SATCOM and Havequick. Due to differences in current aircraft configuration, there are 4 types of kits to be installed: 21 aircraft will receive the AN/ARC-187/182/ANDVT/DAMA SATCOM installation; 19 aircraf will receive the AN/ARC-187/ANDVT/DAMA SATCOM installation; 41 aircraft will receive the AN/ARC-182/ANDVT/DAMA SATCOM installation; 138 aircraft will receive the DAM SATCOM installation. There is one (1) AN/ARC-182 per aircraft receiving this radio (total of 62 aircraft and 62 radios). There are two (2) AN/ARC-187 radios per aircraft receiving this radio (total of 40 aircraft and 80 radios).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The ARC-182 and ARC-187 radios have Approval for Full Production and are verified in the P-3 aircraft.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	996	11.9	1	0.1			1	0.1	42	1.2	55	1.4	5	0.1	35	0.9	10	0.2			70	1.9	1,215	17.8
Installation Kit - Unit Price																								
Installation Kits N/R		12.2		1.2		4.2		4.9																22.5
Installation Equipment		20.1						*		6.0		7.3		0.6		4.2		1.1				10.0		49.3
Installation Equipment N/R		2.7																						2.7
Engineering Change Orders																								
Data		4.5		0.5						0.5														5.5
Training Equipment		0.8						0.2		1.5		0.3		0.2										3.1
Support Equipment		2.3		*																				2.3
ILS		0.3						0.1		0.9		0.3		*		0.1								1.7
Other Support		2.1		*		1.1		0.4		0.6		0.7		*		0.4		0.2		0.2				5.7
Interim Contractor Support																								
Installation Cost	996	5.6			1	0.2			1	*	42	2.0	55	2.2	5	0.2	35	1.5	10	0.5	70	3.2	1,215	15.4
TOTAL PROCUREMENT		62.6		1.8		5.5		5.6		10.8		11.9		3.2		5.9		3.0		0.7		15.1		126.0

Totals may vary due to rounding

* Indicates value less than $51,000.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **P-3A/B/C**

MODIFICATION TITLE: **Ultra High Frequency (UHF)/Very High Frequency (VHF) Communications Update (OSIP 60-86)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **P-3A/B/C & 4 Special Projects**

ADMINISTRATIVE LEADTIME: **4** Months

PRODUCTION LEADTIME: **12** Months

CONTRACT DATES: FY 1997: 6/97 FY 1998: 12/97 FY 1999: 12/98

DELIVERY DATE: FY 1997: 7/97 FY 1998: 12/98 FY 1999: 12/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (997) kits	**996**	**5.6**			**1**	**0.2**																	**997**	**5.8**
FY 1997 (1) kits									**1**	*													**1**	*
FY 1998 (42) kits											**42**	**2.0**											**42**	**2.0**
FY 1999 (55) kits													**55**	**2.2**									**55**	**2.2**
FY 2000 (5) kits															**5**	**0.2**							**5**	**0.2**
FY 2001 (35) kits																	**35**	**1.5**					**35**	**1.5**
FY 2002 (10) kits																			**10**	**0.5**			**10**	**0.5**
FY 2003 () kits																								
To Complete (70) kits																					**70**	**3.2**	**70**	**3.2**
TOTAL	**996**	**5.6**			**1**	**0.2**			**1**	*	**42**	**2.0**	**55**	**2.2**	**5**	**0.2**	**35**	**1.5**	**10**	**0.5**	**70**	**3.2**	**1,215**	**15.4**

* Indicates value less than $51,000.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	**997**					**1**				**10**	**10**	**11**	**11**	**14**	**14**	**14**	**13**	**5**				**9**	**9**	**9**	**8**
Out	**997**						**1**				**10**	**10**	**11**	**11**	**14**	**14**	**14**	**13**	**5**				**9**	**9**	**9**

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	**5**	**5**			**70**	**1215**
Out	**8**	**5**	**5**		**70**	**1215**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Global Positioning System (OSIP 28-92)**

MODELS OF SYSTEM AFFECTED: **P-3C, SPECIAL PROJECTS** TYPE MODIFICATION: **Operational Improvement / Safety**

DESCRIPTION/JUSTIFICATION:

The NAVSTAR Global Positioning System (GPS) is a space-based radio positioning and navigation system that will provide three dimensional position, velocity, and time information to suitably equipped users worldwide in all weather conditions. The GPS equipment consists of a receiver/processor, interface unit, fixed and controlled pattern antennas, and a control display unit. The GPS will provide highly improved navigation accuracy, enhancing mission effectiveness in all areas.

This modification affects 215 P-3C aircraft (active and reserve), and 4 Special Projects aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

NAVSTAR GPS program received approval for limited production (ALP) in June 1986 and received Approval for Full Production (AFP) in January 1992. Developmental testing (DT-III) of the GPS installation in a P-3C was completed in June 1992. Follow-on Test and Evaluation (OT-III) was completed in January 1994.

FINANCIAL PLAN (TOA, $ in Millions):

	PRIOR YEARS		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	**2**	**0.2**	**74**	**4.5**	**17**	**0.7**	**22**	**0.9**	**67**	**2.1**	**37**	**1.2**											**219**	9.5
Installation Kit - Unit Price		***0.1***		***0.1***		*******		*******		*******		*******												*******
Installation Kits N/R		**0.6**																						0.6
Installation Equipment		**1.7**		**2.7**		**0.6**		**1.6**		**4.9**		**2.6**												14.0
Installation Equipment N/R																								
Engineering Change Orders																								
Data		**0.1**		*																				0.1
Training Equipment		**0.2**		**0.2**								**3.1**		**1.1**										4.6
Support Equipment																								
ILS								*																*
Other Support		**0.8**		**0.5**		**0.7**		**0.1**		**0.2**		0.8		**0.1**										3.1
Interim Contractor Support																								
Installation Cost	**2**	**0.2**	**4**	**0.2**	**37**	**1.0**	**33**	**1.0**	**39**	**1.2**	**67**	**1.9**	**37**	**1.5**									**219**	6.8
TOTAL PROCUREMENT		**3.7**		**8.1**		**2.9**		**3.5**		**8.4**		**9.5**		**2.7**										38.7

Totals may vary due to rounding

* Indicates value less than $51,000.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **P-3C, SPECIAL PROJECTS**

MODIFICATION TITLE: **Global Positioning System (OSIP 28-92)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NADEP Jax Field Team**

ADMINISTRATIVE LEADTIME: **5** Months

PRODUCTION LEADTIME: **20** Months

CONTRACT DATES: FY 1997: 2/97 FY 1998: 2/98 FY 1999: 2/99

DELIVERY DATE: FY 1997: 10/98 FY 1998: 10/99 FY 1999: 10/00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (93) kits	**2**	**.2**	**4**	**.2**	**37**	**1.0**	**33**	**1.0**	**17**	**.5**													**93**	**1.8**
FY 1997 (22) kits									**22**	**.6**													**22**	**.6**
FY 1998 (67) kits											**67**	**1.9**											**67**	**1.9**
FY 1999 (37) kits													**37**	**1.5**									**37**	**1.5**
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
To Complete () kits																								
TOTAL	**2**	**.2**	**4**	**.2**	**37**	**1.0**	**33**	**1.0**	**39**	**1.2**	**67**	**1.9**	**37**	**1.5**									**219**	**6.8**

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	**43**	**8**	**8**	**8**	**9**	**9**	**10**	**10**	**10**	**17**	**17**	**17**	**16**	**15**	**15**	**7**									
Out	**33**	**10**	**8**	**8**	**8**	**9**	**9**	**10**	**10**	**10**	**17**	**17**	**17**	**16**	**15**	**15**	**7**								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						**219**
Out						**219**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Counter Narcotics Improvement Program (CNIP) (OSIP 42-92)**

MODELS OF SYSTEM AFFECTED: **P-3C** TYPE MODIFICATION **Improved Capability**

DESCRIPTION/JUSTIFICATION:

Chief of Naval Operations (N-515 has identified a requirement for a bolt-on/bolt-off AN/APG-66 Air-to-Air radar system, electro-optical imaging, and intelligence collection equipment to counter narcotic trafficking operations. These systems will be transportable between standard P-3C aircraft to allow operational flexibility of available airframes. Funding is identified and appropriated on an annual basis for transfer from the DOD Counter Narcotics.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Approval for full production is not required.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$					Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	36	1.3						*															36	1.4
Installation Kit - Unit Price		*																						*
Installation Kits N/R		1.2						0.1																1.3
Installation Equipment	21	23.9			2	2.2		0.1															23	26.2
Installation Equipment N/R		4.8																						4.8
Engineering Change Orders																								
Data		0.7						0.1																0.8
Training Equipment		0.2																						0.2
Support Equipment		0.3																						0.3
ILS		0.5																						0.5
Other Support		4.6		2.1		0.4		0.3																7.3
Interim Contractor Support		0.6																						0.6
Installation Cost	36	2.7						*															36	2.7
TOTAL PROCUREMENT		40.9		2.1		2.6		0.5																92.4

Totals may vary due to rounding

* Indicates value less than $51,000.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3C

MODIFICATION TITLE: **Counter Narcotics Improvement Program (CNIP) (OSIP 42-92)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NADEP Jacksonville Field Modification Team**

ADMINISTRATIVE LEADTIME: **2** Months

PRODUCTION LEADTIME: **3** Months

CONTRACT DATES: FY 1997: ____ FY 1998: ____ FY 1999: ____

DELIVERY DATE: FY 1997: ____ FY 1998: ____ FY 1999: ____

($ in Millions)

Cost:	Prior Years		FY 1997		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (36) kits	**36**	**2.7**															**36**	**2.7**
FY 1997 () kits																		
FY 1998 () kits																		
FY 1999 () kits																		
FY 2000 () kits																		
FY 2001 () kits																		
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL	**36**	**2.7**															**36**	**2.7**

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	**8**	**2**	**4**	**4**	**2**	**2**	**4**	**2**	**2**	**6**															
Out	**4**	**2**	**4**	**4**	**4**	**2**	**4**	**2**	**2**	**4**	**4**														

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						**36**
Out						**36**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Sustained Readiness Program (SRP) (OSIP 10-94)**

MODELS OF SYSTEM AFFECTED: **P-3C** TYPE MODIFICATION: **Sustainment**

DESCRIPTION/JUSTIFICATION:

The Sustained Readiness Program is an Operational Service Life Extension Program which will extend the operational service life of P-3C aircraft through FY 2007 by preemptively replacing and refurbishing airframe components and systems identified as having impact on future aircraft availability due to readiness, safety, corrosion, and unsupportability. If left unchecked, these problems areas collectively will result in significant loss of aircraft from the operational inventory due to operational and support funding limitations. To ensure future aircraft safety and supportability, the program includes a number of cost-effective modifications to a number of systems which are among the principle maintenance degraders on the aircraft. Supportability items include modification to the environmental control system, autopilot, inertial navigation system, radar and the fuel quantity system. The SRP is a critical component to the overall MPA force management strategy to satisfy the Total Force Level Warfighting Requirement of 12 active/7 reserve squadrons for a total of 219 aircraft (as delineated in the Navy Maritime Patrol Aircraft Ten-Year Plan). The SRP will extend the operational service life of those aircraft inducted from 30 years to the aircraft's fatigue life (approximately 38 years). This will allow full realization of the aircraft designed service life but will not extend the fatigue life of those aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Contract awarded 19 September 1994.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits *			11	29.9	12	28.6	15	28.5	11	26.3	8	22.5	12	32.7	18	49.1	18	47.2	11	35.8	104	563.7	220	864.3
Installation Kit - Unit Price				*2.7*		*2.4*		*.0*		*2.4*		*.0*		*.0*		*.0*		*.0*		*.0*		*.0*		
Installation Kits N/R		19.9		2.4																				22.3
Installation Equipment																								
Installation Equipment N/R																						1.6		1.6
Engineering Change Orders																								
Data		1.4		1.7		.2		.3		.3		.4		2.8		.8		.4		.4		3.3		12.0
Training Equipment				.2										.1								.5		.9
Support Equipment				.1																				.1
ILS		.4		2.0		.9		.7		1.0		1.1		1.2		1.0		.8		.8		6.6		16.4
Other Support		2.5		2.8		3.4		3.0		3.2		3.4		3.2		3.4		3.4		3.5		20.9		52.6
Interim Contractor Support																								
Installation Cost							11	13.4	12	10.6	15	15.6	11	18.1	8	13.7	12	18.7	18	29.2	133	257.7	220	377.1
TOTAL PROCUREMENT		24.1		39.1		33.1		45.9		41.3		43.0		58.2		68.0		70.5		69.7		854.3		1347.2

* During SRP testing one (1) aircraft and SRP kit will be destroyed.

Totals may vary due to rounding

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **P-3C**

MODIFICATION TITLE: **Sustained Readiness Program (SRP) (OSIP 10-94)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation will be accomplished by contractor mod teams.**

ADMINISTRATIVE LEADTIME: **1** Months

PRODUCTION LEADTIME: **24** Months

CONTRACT DATES: FY 1997: 11/96 FY 1998: 11/97 FY 1999: 11/98

DELIVERY DATE: FY 1997: 11/98 FY 1998: 11/99 FY 1999: 11/00

($ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (23) kits			**11**	**13.4**	**12**	**10.6**													**23**	**24.0**
FY 1997 (15) kits							**15**	**15.6**											**15**	**15.6**
FY 1998 (11) kits									**11**	**18.1**									**11**	**18.1**
FY 1999 (8) kits											**8**	**13.7**							**8**	**13.7**
FY 2000 (12) kits													**12**	**18.7**					**12**	**18.7**
FY 2001 (18) kits															**18**	**29.2**			**18**	**29.2**
FY 2002 (18) kits																	**18**	**32.0**	**18**	**32.0**
FY 2003 (11) kits																	**11**	**22.1**	**11**	**22.1**
To Complete (104) kits																	**104**	**203.6**	**104**	**203.6**
TOTAL			**11**	**13.4**	**12**	**10.6**	**15**	**15.6**	**11**	**18.1**	**8**	**13.7**	**12**	**18.7**	**18**	**29.2**	**133**	**257.7**	**220**	**377.1**

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		**2**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**4**	**4**	**4**	**2**	**3**	**3**	**3**	**2**	**2**	**2**	**2**	**3**	**3**	**3**	**3**
Out						**2**	**3**	**3**	**3**	**3**	**4**	**4**	**4**	**4**	**4**	**4**	**2**	**3**	**3**	**3**	**2**	**2**	**2**	**2**	**3**

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	**3**	**5**	**5**	**5**	**133**	**220**
Out	**3**	**3**	**3**	**3**	**148**	**220**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Anti-Surface Warfare (ASUW) Improvement Program (OSIP 29-94)**

MODELS OF SYSTEM AFFECTED: **P-3C** TYPE MODIFICATION: **Operational Improvement**

DESCRIPTION/JUSTIFICATION:

The ASUW Improvement Program meets the Navy's requirement to rapidly provide a significant increase while addressing long range deficiencies in the current P-3's ability to perform Anti-Surface Warfare (ASUW), Over-the-Horizon Targeting(OTH-T), and Command, Control, Communications, and Intelligence (C3I). The program procures non-developmental items and commercial off-the-shelf systems which have been used in an aircraft environment. The target aircraft for this modification are the P-3C Update III's which have been previously upgraded with the CP-2044 computer. The resulting weapon system will combat the emerging third world, limited operations, surface, subsurface, and air threats with simultaneous multi-mission capabilities. This modification focuses on improving the weapon system's capability for standoff targeting and classification. Significant advantages in non-acoustic processing and capability are provided by a APS-137B (V) 5 imaging radar, a Cluster Ranger electro optical system, an EP-2060 pulse analyzer, and an increased IRDS focal length. C3I is improved with the Officer in Tactical Command Information Exchange System (OTCIXS), and Tactical Receive Equipment (TRE). Survivability enhancement will include ALE-47/AAR-47 missile warning countermeasures, explosive suppressant foam, and small circular area of probability weapon system to be procured starting in FY 1994. Additional funding in FY 1995 and FY 1996 was utilized to meet an urgent fleet requirement to upgrade 17 Pre-AIP aircraft with Maverick armament control kits. FY98 N/R is for ULQ-16 upgrade incorporation.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

This modification makes maximum use of previously developed subsystems. DT/OT-IIIA (FOT&E) will be performed on the first modified aircraft.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits **		4.9				44.7		32.6		22.0		30.0		28.0										162.2
*Installation Kit - Unit Price ** *																								
Installation Kits N/R		20.9				1.7		3.8		.9														27.3
Installation Equipment		5.0		5.0		51.3		34.4		20.2		28.1		28.9										172.8
Installation Equipment N/R		7.4		1.1																				8.5
Engineering Change Orders																								
Data		3.2		.7		4.5		.6		1.7		1.8		1.5										14.0
Training Equipment		2.8		.1		13.4		4.4		5.4		12.2		4.5		3.6								46.3
Support Equipment		.9				2.8		1.3		9.0		6.7		2.2										22.9
ILS		.8		.5		1.3		.8		.9		0.8		.8										5.8
Other Support		11.9		.9		17.1		11.8		13.1		14.2		11.2		5.0								85.4
Interim Contractor Support																								
Installation Cost **		.6		.4		2.4		1.7		1.6				1.2		1.8								9.5
TOTAL PROCUREMENT		58.4		8.6		139.2		91.4		74.7		93.8		78.3		10.4								554.8

Totals may vary due to rounding

** See attached sheet for install kit quantities, unit price, and installation quantity/data.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **P-3C**

MODIFICATION TITLE: **Anti-Surface Warfare (ASUW) Improvement Program (OSIP 29-94)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation through FY98 funded turn-key operation. Installation for FY99 and out years funded in the year they occur.**

ADMINISTRATIVE LEADTIME: **1** Months

PRODUCTION LEADTIME: **18** Months

CONTRACT DATES: FY 1997: 11/96 FY 1998: 11/97 FY 1999: 11/98

DELIVERY DATE: FY 1997: 6/97 FY 1998: 6/98 FY 1999: 6/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (13) kits	1	.6			12	2.4																	13	3.0
FY 1997 (8) kits							8	1.7															8	1.7
FY 1998 (4) kits									4	1.6													4	1.6
FY 1999 (6) kits													3	1.2	3	.8							6	1.9
FY 2000 (4) kits															4	1.0							4	1.0
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
To Complete () kits																								
TOTAL	1	.6			12	2.4	8	1.7	4	1.6			3	1.2	7	1.8							35	9.1

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1				1	3	3	5	2	2	2	2	1	1	1	2	2	2	1	2	2				
Out	1						3	4	4	3	2	2	2	1	1	1	2	2	2	1	2	2			

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						35
Out						35

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **P-3C**

MODIFICATION TITLE: **P-3C Pre-AIP Maverick Missile System Installation (OSIP 29-94)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation will be accomplished by NAWCAD Patuxent River**

ADMINISTRATIVE LEADTIME: **1** Months

PRODUCTION LEADTIME: **12** Months

CONTRACT DATES: FY 1997: ____ FY 1998: ____ FY 1999: ____

DELIVERY DATE: FY 1997: ____ FY 1998: ____ FY 1999: ____

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1995 (8) kits			**8**	**.4**																			**8**	**.4**
FY 1996 (9) kits							**9**	**.1**															**9**	**.1**
FY 1997 () kits																								
FY 1998 () kits																								
FY 1999 () kits																								
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 () kits																								
FY 2003 () kits																								
To Complete () kits																								
TOTAL			**8**	**.4**			**9**	**.1**															**17**	**.5**

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	**8**		**3**	**3**	**3**																				
Out	**8**				**9**																				

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						**17**
Out						**17**

29-94 ECP ATTACHMENT

P-3 Series Mod

OSIP 29-94

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
UNISYS (LORAL) AIP-001	**4.9**		**42.3**	**32.6**	**22.0**	**30.0**	**28.0**					**159.8**
Proc. Qty.	*1*		*12*	*8*	*4*	*6*	*6*					**37**
Proc. Unit Cost	*5*		*4*	*4*	*6*	*5*	*5*					
Installation Cost	0.6		2.4	1.7	1.6		1.2	1.8				**9.1**
Install Qty	*1*		*12*	*8*	*4*		*3*	*7*				**35**
NAWC(P-3)P101/P102/Maverick **		**2.1**	**2.4**									**2.4**
Proc. Qty.		*8*	*9*									**17**
Proc. Unit Cost		*	*									*
Installation Cost		0.4		0.1								**0.5**
Install Qty		*8*		*9*								**17**
TOTAL Other Cost	**57.8**	**8.2**	**136.8**	**89.7**	**73.1**	**93.8**	**77.2**	**8.6**				**545.3**
TOTAL Procurement Cost	**58.4**	**8.6**	**139.2**	**91.4**	**74.7**	**93.8**	**78.3**	**10.4**				**554.8**
TOTAL Proc. Qty.	*1*	*8*	*21*	*8*	*4*	*6*	*6*					*54*
TOTAL Installation Cost	**.6**	**.4**	**2.4**	**1.7**	**1.6**		**1.2**	**1.8**				**9.5**
Total Install Qty.	*1*	*8*	*12*	*17*	*4*		*3*	*7*				*52*

* Indicates value less than $51,000.

** FY95 AIP-Maverick install kit procured with installed equipment.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Installation of Global Positioning System (GPS) and Electronic Flight Director System (EFDS) in P-3 Derivative Aircraft (OSIP 19-96)**

MODELS OF SYSTEM AFFECTED: **P-3 Derivative Aircraft** TYPE MODIFICATION: **Operational Improvement / Safety**

DESCRIPTION/JUSTIFICATION:

The Global Positioning System (GPS) is a space-based radio positioning and navigation system providing three-dimensional position, velocity, and time information to suitably equipped users worldwide in all weather conditions. GPS equipment (AN/ARN-151) consists of receiver/processor, interface unit, fixed and controlled pattern antennas, and control display unit. The Secretary of Defense has directed that GPS be installed in all "Passenger Carrying" aircraft by October 1998. The purpose of this program is to provide the requisite funding to implement the required modification. The modification will include integration of GPS with other navigation systems and the installation of an Electronic Heading Situation Indicator (EHSI) for display of information.

This modification affects 8 "Passenger-Carrying" P-3 derivative aircraft, 5 VP-3A and 3 UP-3A to be completed in FY 1998. Additionally, 7 "Non Passenger-Carrying" aircraft, 1 UP-3A and 1 UP-3B in FY 1999 and 2 EP-3J and 3 P-3B in FY 2000 will be installed.

Hardware (GPS "A" Kits) will be provided by GPS Common Avionics OSIP 71-88. Software updates will be provided by OSIP 28-92.

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																				
PROCUREMENT																				
Installation Kits			10	0.8			5	0.4											15	1.2
Installation Kit - Unit Price																				
Installation Kits N/R		.1		.7																.8
Installation Equipment			10	1.8			5	1.0											15	2.8
Installation Equipment N/R																				
Engineering Change Orders																				
Data		*		.2				.1												.4
Training Equipment																				
Support Equipment																				
ILS																				
Other Support				.1		*		*												.2
Interim Contractor Support																				
Installation Cost			2	.2	8	.7			5	.4									15	1.3
TOTAL PROCUREMENT		.2		3.8		.7		1.5		.4										6.6

Totals may vary due to rounding

*** Indicates value less than $51,000**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **P-3 Derivative Aircraft**

MODIFICATION TITLE: **Installation of Global Positioning System (GPS) and Electronic Flight Director System (EFDS) in P-3 Derivative Aircraft (OSIP 19-96)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Depot level field team will perform installations**

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1997: 6/01 FY 1998: 6/02 FY 1999: 6/03

DELIVERY DATE: FY 1997: 11/01 FY 1998: 11/02 FY 1999: 11/03

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																		
FY 1997 (10) kits	2	.2	8	.7													10	.8
FY 1998 () kits																		
FY 1999 (5) kits							5	.4									5	.4
FY 2000 () kits																		
FY 2001 () kits																		
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL	2	.2	8	.7			5	.4									15	1.3

*** Indicates value less than $51,000**

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					2		2	2	2	2				2	3										
Out					2		2	2	2	2				2	3										

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						15
Out						15

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **P-3C Service Life Assessment Program (SLAP) / Service Life Extension Program (SLEP) (OSIP 02-99)**

MODELS OF SYSTEM AFFECTED: **P-3C** TYPE MODIFICATION: **SLAP/SLEP**

DESCRIPTION/JUSTIFICATION:

The P-3 Service Life Extension Program (SLEP) is a fatigue life extension program which will extend the service life of the aircraft by replacing airframe components identified as fatigue limiting. The present fatigue life estimate is 20,000 to 24,000 flight hours based on analysis alone. The Service Life Assessment Program (SLAP), a detailed fatigue test and analysis which initiates the SLEP Program, will identify specific components that will be required to be replaced and/or modified in order to effect an extension of the aircraft model's service life. The SLEP is a critical component to the overall MPA force management strategy to satisfy the Total Force Level Warfighting Requirement of 12 Active/7 Reserve Squadrons for a total of 219 aircraft as delineated in the Navy's Maritime Patrol Aircraft Ten-Year-Plan. The SLEP is projected to ensure the operational availability of the aircraft that have been inducted into the Sustained Readiness Program (SRP), with a fatigue life of approximately 38 years, to the extent of 8 to 10 additional years of fatigue life. The 219 aircraft inducted in this program will be concurrent with SRP inductions to the greatest extent possible to effect economy of effort. SLAP was approved at a NPDM for SRP to minimize costs between the SRP and the potential SLEP.

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1999		FY 2000		FY 2001		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E										
PROCUREMENT										
Installation Kits							219	1102.1	219	1102.1
Installation Kit - Unit Price								5.0		5.0
Installation Kits N/R		26.3		22.3		16.9				65.5
Installation Equipment										
Installation Equipment N/R										
Engineering Change Orders										
Data		1.0		.6		.4		9.1		10.9
Training Equipment										
Support Equipment										
ILS										
Other Support		1.8		2.0		2.7		43.6		50.3
Interim Contractor Support										
Installation Cost							219	481.6	219	481.6
TOTAL PROCUREMENT		29.2		24.9		20.0		1636.4		1710.4

Totals may vary due to rounding

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **P-3C**

MODIFICATION TITLE: **P-3C Service Life Assessment Program (SLAP) / Service Life Extension Program (SLEP) (OSIP 02-99)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Mod Teams**

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																		
FY 1997 () kits																		
FY 1998 () kits																		
FY 1999) kits																		
FY 2000 () kits																		
FY 2001 () kits																		
FY 2002 () kits																		
FY 2003 () kits																		
To Complete (219) kits															**219**	**481.6**	**219**	**481.6**
TOTAL															**219**	**481.6**	**219**	**481.6**

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002		
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
In																								
Out																								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					**219**	**219**
Out					**219**	**219**

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET P-40													DATE: September 1997
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications								P-1 ITEM NOMENCLATURE S-3 Series Modifications					
Program Element for Code B Items:								Other Related Program Elements					
	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	984.2		37.5	38.7	28.9	48.4	71.2	61.6	51.4	39.2	34.4	143.8	1,539.2

This line item funds modifications to S-3 aircraft. The S-3B is a carrier based, all weather, high wing, high subsonic, twin engine, multi-mission aircraft capable o independent Anti-Submarine Warfare (ASW) and Anti-Surface Warfare (ASUW) operations and tanking. The overall goal of the modifications budgeted in FY 199 is to complete the Block Upgrade I effort; to continue the UHF/VHF communications improvement and the Co-Processor Memory Unit efforts; and to upgrade navigationa equipment (Global Positioning System), critical avionics, and critical structures within the aircraft. Active PAA inventory is 116. The specific modifications budgete and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
109-87	Block Upgrade I (S-3A)	984.2	4.0	2.4	0.5	1.0							992.1
39-94	UHF/VHF Comm. Impr. Prog.		9.4	4.9	3.7	7.1	1.0	2.4	1.0	1.1		95.7	126.3
12-95	Critical Structures		4.4	1.1	2.9	10.0	37.2	22.8	16.6	7.9	4.0	1.9	108.9
13-95	Global Positioning System		1.4	5.8	5.1	5.2	4.2	1.0					22.7
20-95	Critical Avionics Upgrade		18.3	20.2	12.6	18.3	22.3	27.3	26.6	24.5	22.7	27.6	220.4
4-96	Co-Processor Memory Unit			4.3	4.0	6.8	6.5	8.1	7.1	5.7	7.7	18.6	68.8
TOTAL		984.2	37.5	38.7	28.9	48.4	71.2	61.6	51.4	39.2	34.4	143.8	1539.2

Totals may vary due to rounding

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **S-3 Block Upgrade I (OSIP 109-87)**

MODELS OF SYSTEM AFFECTED: **S-3A** TYPE MODIFICATION: **Operational Improvement**

DESCRIPTION/JUSTIFICATION:

Weapon System Improvement Program (WSIP): The WSIP is a modification program designed to improve the mission system effectiveness of the carrier based S-3A to meet current and projected threats. The modification includes incorporation of the advanced signal processor, increased sonobuoy receiver and reference system capabilities, an improved tape recorder, inverse synthetic aperture radar (ISAR), electronics support measures (ESM) improvements, HARPOON missile and chaff/flare/expendable jammer dispensers.

Display Generator Unit (DGU): The DGU (CV-2806/ASA-82) of the tactical display system in the S-3A aircraft is unreliable and is becoming unsupportable due to obsolescence. The new design uses fewer components, has reduced power consumption requiring less cooling and is more reliable.

Inter-Communication System (ICS) Communication Control Group: The ICS communications control group (CCG) presently installed in the S-3A has consistently been unreliable resulting in a high percentage of operationally degraded aircraft. These sets of equipment will be replaced by an ICS communications control group of new design. This new set features newer technology large scale integration and microprocessor technology.

Off Line On Top Position Indicator (OTPI): The S-3 presently uses a derivative of the on-line sonobuoy reference system (SRS) which has a mean time between failure (MTBF) of 125 hours and is susceptible to two different single point failure modes. The addition of this modification (which has a 1,100-hour MTBF in P-3C) will significantly contribute to ASW mission capability and improve full mission capable (FMC) rates by 3%.

General Purpose Digital Computer (GPDC) Memory Stack Replacement: Mated wire film memory stacks in the GPDC experienced an increased failure rate due to copper chloride corrosion. In addition, the original GPDC memory capacity degraded the S-3's operational growth capability and compatibility with advanced sonobuoys and processors. Each of these problems is resolved by a form, fit, and function replacement memory which is not susceptible to corrosion and provides high reliability and additional memory capacity to meet future capability requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

S-3A Weapon System Improvement Program (Redesignated S-3B): Department of the Navy systems and acquisition review council milestone IIB review occurred 24 February 1981. The Navy decision coordination paper, WO489-AS revision 4, was approved by the Office of the Secretary of Defense on 25 May 1988. The test and evaluation master plan, NO. 149-3 revision 3, was approved by the Office of the Secretary of Defense on 29 August 1989. Research, development, test and evaluation, Navy (RDT&E,N) program element number 64217N applies. Major milestones include the development testing (DT-IIA) (December 1984), DT-IIB (January 1985), operational testing (OT-IIA) (February-March 1985), milestone IIIA approval for limited production (ALP), granted in July 1985, technical evaluation (DT-IID) (November 1985-April 1986), DT-IIE (April 1987-November 1987), and operational evaluation (OPEVAL) (OT-IIB) (December 1987-March 1988). Milestone IIIB approval for limited production (ALP) for FY 1987 was granted in April 1987. Milestone IIIC approval for full production (AFP) was granted June 1988. The S-3B INSURV final phase DT III testing was conducted from December 1988 to May 1989. FOT&E (OT-IIIA) was completed in November 1989. The final report was submitted in July 1990.

Display Generator Unit (DGU): Navy testing was completed in the first quarter of FY 1985. AFP was not required. Delivery of production units began in May 1987. Procurement has been completed.

ICS Communications Control Group: An Aeronautical Equipment Reliability Maintainability Improvement Program (AERMIP) for development of the new communication control group was managed by the Naval Air Development Center, Warminster, PA. ALP was granted in October 1987. OPEVAL was completed 6 Nov 1992. AFP was granted 17 March 1993. RDT&E,N program element number 25633N and project number W1041 apply.

Off Line On Top Position Indicator (OTPI): Development was completed for the Australian Air Force's P-3C aircraft by Hazeltine Corporation using the AN/ARR-78 99-channel receiver and a new control panel for sonobuoy location. This system applies directly to S-3B configuration changes which incorporate the AN/ARR-78. AFP was not required.

General Purpose Digital Computer (GPDC) Memory Stack Replacement: Two advanced development models were developed and validated. These units were transferred to the Canadian Armed Forces for further refinement into engineering development models which incorporate U.S. Navy requirements. U.S. Navy development testing was completed in April 1987. The test kits operated a total of 3,000 hours (300 flights) without failure. AFP was not required. Delivery of production units began in March 1988. Procurement has been completed

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: S-3 Block Upgrade I (OSIP 109-87)

MODELS OF SYSTEM AFFECTED: S-3A TYPE MODIFICATION: **Operational Improvement**

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits **		**163.7**		**0.2**		*****																		**163.9**
Installation Kit - Unit Price **																								
Installation Kits N/R		**85.6**																						**85.6**
Installation Equipment		**384.4**		**1.8**		**1.8**																		**388.0**
Installation Equipment N/R		**19.8**																						**19.8**
Engineering Change Orders		**0.1**																						**0.1**
Data		**18.1**																						**18.1**
Training Equipment		**116.2**		**0.4**																				**116.6**
Support Equipment		**108.8**																						**108.8**
ILS		**9.8**																						**9.8**
Other Support		**70.7**		**1.7**		**0.5**		**0.1**		**0.1**														**73.1**
Interim Contractor Support																								
Installation Cost **		**6.9**						**0.4**		**0.9**														**8.2**
TOTAL PROCUREMENT		**984.2**		**4.0**		**2.4**		**0.5**		**1.0**														**992.1**

Totals may vary due to rounding

* Indicates value less than $51,000.

** See addendum for kit quantity, unit price, & install data.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **S-3A - CCG/OTPI**

MODIFICATION TITLE: **S-3 Block Upgrade I (OSIP 109-87) CCG/OTPI**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NADEP Field Mod Team**

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1997: ____ FY 1998: ____ FY 1999: ____

DELIVERY DATE: FY 1997: ____ FY 1998: ____ FY 1999: ____

($ in Millions)

Cost:	Prior Years		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (116) kits	**77**	**1.6**	**5**	**0.2**	**34**	**0.7**													**116**	**2.5**
FY 1997 () kits																				
FY 1998 () kits																				
FY 1999 () kits																				
FY 2000 () kits																				
FY 2001 () kits																				
FY 2002 () kits																				
FY 2003 () kits																				
FY To Complete () kits																				
TOTAL	**77**	**1.6**	**5**	**0.2**	**34**	**0.7**													**116**	**2.5**

*** Indicates value less than $51,000**

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	**77**				**5**	**18**	**12**	**4**																	
Out	**77**				**5**	**18**	**12**	**4**																	

	FY 2003				TO COMPLETE	TOTAL
	1	2	3	4		
In						**116**
Out						**116**

109-87 ECP ATTACHMENT

S-3 Series Mod

OSIP 109-87

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
Communications Control Group (CCG)	**1.2**	**.2**	*									**1.3**
Proc. Qty.	91	15	10									116
Proc. Unit Cost	*	*	*									
Installation Cost **	1.6			.2	.7							2.5
Install Qty	77			5	34							116
Off Line On Tip Position Indicator (OTPI)	**.6**											**.6**
Proc. Qty.	120											120
Proc. Unit Cost	*											
Installation Cost **	2.4 ***			.2	.1							2.8
Install Qty	32			4	4							40
Display Generator Unit (DGU)	11.2											11.2
Proc. Qty.	146											146
Proc. Unit Cost	.1											
Installation Cost	***											
Install Qty												
WSIP Repair Incident to Mod												
Installation Cost	1.7											1.7
WSIP KIT (Contractor)	150.8											**150.8**
Proc. Qty.	116											116
Proc. Unit Cost												
Installation Cost	1.2											1.2
Install Qty	8											8
TOTAL Other Cost	977.3	4.0	2.4	.1	.1							**983.9**
TOTAL Procurement Cost	**984.2**	**4.0**	**2.4**	**0.5**	**1.0**							**992.1**
TOTAL Proc. Qty.	**473**	**15**	**10**									**382**
TOTAL Installation Cost	**6.9**			**.4**	**.9**							**8.2**
Total Install Qty.	109			9	38							156

*** Indicates value less than $51,000**
**** Includes Installation of trainer kits.**
***** A portion of the OTPI and all of the DGU installations were funded with O&M,N prior to FY 1990.**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **UHF/VHF Communications Improvement Program (OSIP 39-94)**

MODELS OF SYSTEM AFFECTED: **S-3B** TYPE MODIFICATION: **Operational Improvement**

DESCRIPTION/JUSTIFICATION:

The S-3B has an operational requirement for reliable UHF and VHF communications. The current UHF radio (AN/ARC-156) suffers from serious reliability and obsolescence problems, and lacks the internal intermodulation protection required for proper operation in today's operational environment. The AN/ARC-187 UHF radio to be installed is a derivative of the AN/ARC-164 which is presently utilized by the Air Force and would correct the above mentioned deficiencies. The installation also permits compatibility with the JCS requirements for UHF SATCOM users. The radio is common with the P-3C and ES-3A aircraft and this commonality will significantly reduce logistic support requirements. The S-3B does not currently have a VHF radio, which is required by International Air Traffic Control regulations and represents a potential safety of flight problem when operating in international airspace and with foreign air fields. The AN/ARC-182 is the Navy's standard VHF radio for tactical aircraft and provides the VHF capability required. One AN/ARC-182 radio will be installed in 98 S-3B aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Full Production and will be verified in the S-3B with trial kit installation. Milestone III Approval for Full Production for S-3B Communications Improvement Program was granted on 23 June 1995.

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																						
PROCUREMENT																						
Installation Kits			2	1.8			4	3.0			1	0.6	1	0.6	1	0.6			89	54.1	98	60.6
Installation Kit - Unit Price				*.9*				*.0*												*0.6*		
Installation Kits N/R		7.4		2.1		2.1		1.2														12.9
Installation Equipment				.4				0.9				0.2		0.2		0.2				22.3		24.2
Installation Equipment N/R																						
Engineering Change Orders																						
Data				.3																		.3
Training Equipment				.1							1	1.1							10	6.0	11	7.2
Support Equipment							4	0.3												1.2		1.4
ILS		1.3				0.4		0.6		*												2.2
Other Support		.7		.2		0.9		0.9		0.6		0.5		*		0.1						4.0
Interim Contractor Support																						
Installation Cost **					1	0.4	1	0.2	4	0.4			1	0.2	1	0.1			90	12.1	98	13.5
TOTAL PROCUREMENT		9.4		4.9		3.7		7.1		1.0		2.4		1.0		1.1				95.7		126.3

Totals may vary due to rounding

* indicates a value less than $51,000.

** Includes trainer kit(s).

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **S-3B**

MODIFICATION TITLE: **UHF/VHF Communications Improvement Program (OSIP 39-94)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Team**

ADMINISTRATIVE LEADTIME: **9** Months

PRODUCTION LEADTIME: **12** Months

CONTRACT DATES: FY 1997: 6/97 FY 1998: 6/98 FY 1999: 6/99

DELIVERY DATE: FY 1997: 6/98 FY 1998: 6/99 FY 1999: 6/00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (2) kits							1	0.3	1	0.2													2	.0
FY 1997 () kits																								
FY 1998 (4) kits											4	0.4											4	0.4
FY 1999 () kits																								
FY 2000 (1) kits **															1	.2							1	.2
FY 2001 (1) kits																	1	.1					1	.1
FY 2002 () kits																								
FY 2003 () kits																								
To Complete (90) kits **																					90	12.1	90	12.1
TOTAL **							1	0.3	1	0.2	4	0.4			1	.2	1	.1			90	12.1	98	13.5

* Indicates value less than $51,000.

** Includes trainer install(s).

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In			1						1		2	2							1				1		
Out				1						1		2	2							1				1	

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					90	98
Out					90	98

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Critical Structures/Service Life Assessment Program (SLAP)/Service Life Extension Program (SLEP) (OSIP 12-95)

MODELS OF SYSTEM AFFECTED: S-3B (Common program with ES-3A) TYPE MODIFICATION: **SLAP/SLEP**

DESCRIPTION/JUSTIFICATION:

S-3 aircraft are included in the Naval Aviation Plan to support the carrier Battle Group through CY 2015. The S-3A aircraft was procured from 1972 to 1976 (1960's design/avionics technology). The S-3B Weapons System Improvement Program, which modified the S-3A to an S-3B, focused primarily on weapon system upgrades for mission enhancement and did not upgrade the critical airframe safety of flight avionics systems. This upgrade is a series of modifications required in order to ensure effective, safely flyable aircraft through the year 2015. Specifically, the Critical Structures Upgrade modification includes replacement of the windshield temperature controller and the following airframe components: wingfold rib, horizontal stabilizer hinge fitting, flight control elements, fuel flow/bleed air select vent valves, counterweights, and flap tack ribs. The SLAP will perform fatigue and operational loads analysis to verify that the fatigue spectrum and aircraft utilization has not significantly changed since aircraft introduction. SLEP will incorporate the necessary structural upgrades beyond those under Critical Structures Upgrade modifications to extend the aircraft service life to 2015.

RECURRING KIT STATUS: The Critical Structures Airframe kit (consisting of horizontal stabilizer hinge fitting, counterweights, flap track ribs, and flow/bleed air select vent valves), the Flight Control Elements kit, and the Inner Wing Empennage Kit t are for all 98 S-3B aircraft. The Wingfold Rib kit is required for 17 of the S-3B aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Replacement of the airframe components/windshield temperature controller does not require any development. Non-recurring engineering for all five components were completed in Fy 1995 with the first production buy began in FY 1996 and with installs commencing in FY 1997. The non-recurring engineering required within SLAP/SLEP efforts include: the finite element model,load spectrum definition, test article preparation, wing fold lug NRE and test, full scale fatigue test, the fatigue article teardown, and post test analysis will be accomplished by FY 2000.

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																						
PROCUREMENT																						
Installation Kits **				.7		.7		1.4		1.4		3.7		2.8		1.5		0.2				12.3
*Installation Kit - Unit Price **																						
Installation Kits N/R		3.7						5.7		31.4		14.8		4.9								60.6
Installation Equipment																						
Installation Equipment N/R																						
Engineering Change Orders																						
Data		.1		.1		*																0.2
Training Equipment		.1		.1		*		*		*		*										0.1
Support Equipment																						
ILS		.1																				0.1
Other Support		.3		0.4		.3		1.1		1.6		1.4		1.3		0.5		0.8		1.3		11.2
Interim Contractor Support																						
Installation Cost **						1.9		1.8		2.7		2.8		7.6		5.9		3.0		0.6		26.3
TOTAL PROCUREMENT		4.4		1.1		2.9		10.0		37.2		22.8		16.6		7.9		4.0		1.9		108.9

Totals may vary due to rounding

*** Indicates a value less than $51,000.**

**** See attached addendum sheet.**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: S-3B (Common program with ES-3A)

MODIFICATION TITLE: Critical Structures/Service Life Assessment Program (SLAP)/Service Life Extension Program (SLEP) (OSIP 12-95)
Inner Wing Empennage Kit

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NADEP Field Mod Team**

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 1998: 1/98 FY 1999: 1/99

DELIVERY DATE: FY 1998: 10/98 FY 1999: 10/99

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																		
FY 1997 () kits																		
FY 1998 (20) kits					**20**	**.2**											**20**	**.2**
FY 1999 (20) kits							**20**	**.2**									**20**	**.2**
FY 2000 (20) kits									**20**	**.3**							**20**	**.3**
FY 2001 (20) kits											**20**	**.3**					**20**	**.3**
FY 2002 (18) kits													**18**	**0.2**			**18**	**0.2**
FY 2003 () kits																		
To Complete () kits																		
TOTAL					**20**	**.2**	**20**	**.2**	**20**	**.3**	**20**	**.3**	**18**	**0.2**			**98**	**1.3**

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Out		**5**	**5**	**5**		**5**	**5**	**5**		**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	**5**	**5**	**5**	**3**		**98**
Out	**5**	**5**	**5**	**5**	**3**	**98**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **S-3B (Common program with ES-3A)**

MODIFICATION TITLE: **Critical Structures/Service Life Assessment Program (SLAP)/Service Life Extension Program (SLEP) (OSIP 12-95) Flight Control Elements**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NADEP Field Mod Team**

ADMINISTRATIVE LEADTIME: **4** Months

PRODUCTION LEADTIME: **9** Months

CONTRACT DATES: FY 1997: 1/97 FY 1998: 1/98 FY 1999: 1/99

DELIVERY DATE: FY 1997: 10/97 FY 1998: 10/98 FY 1999: 10/99

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (13) kits	13	1.2															13	1.2
FY 1997 (13) kits			13	1.1													13	1.1
FY 1998 (13) kits					13	1.1											13	1.1
FY 1999 (13) kits							13	1.1									13	1.1
FY 2000 (13) kits									13	1.1							13	1.1
FY 2001 (13) kits											13	1.1					13	1.1
FY 2002 (13) kits													13	1.0			13	1.0
FY 2003 (7) kits															7	0.5	7	0.5
To Complete () kits																		
TOTAL	13	1.2	13	1.1	13	1.1	13	1.1	13	1.1	13	1.1	13	1.0	7	0.5	98	8.2

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		2	5	6	3	3	3	4	3	3	3	4	3	3	3	4	3	3	3	4
Out					2	5	6	3	3	3	4	3	3	3	4	3	3	3	4	3

	FY 2002				FY 2003				To	
	1	2	3	4	1	2	3	4	Complete	TOTAL
In	3	3	3	4	3	3	3	4	7	98
Out	3	3	4	3	3	3	4	3	17	98

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **S-3B (Common program with ES-3A)** MODIFICATION TITLE: **Critical Structures/Service Life Assessment Program (SLAP)/Service Life Extension Program (SLEP) (OSIP 12-95) Wingfold Rib**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NADEP Field Mod Team**

ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																		
FY 1997 () kits																		
FY 1998 () kits																		
FY 1999 () kits																		
FY 2000 (8) kits									**8**	**4.4**							**8**	**4.4**
FY 2001 (6) kits											**6**	**3.4**					**6**	**3.4**
FY 2002 (3) kits													**3**	**1.8**			**3**	**1.8**
FY 2003 () kits																		
To Complete () kits																		
TOTAL									**8**	**4.4**	**6**	**3.4**	**3**	**1.8**			**17**	**9.5**

*** Indicates value less than $51,000**

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																		**2**	**3**	**3**		**2**	**2**	**2**
Out																					**2**	**3**	**3**	

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In		**1**	**1**	**1**		**17**
Out	**2**	**2**	**2**		**3**	**17**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **S-3B (Common program with ES-3A)**

MODIFICATION TITLE: **Critical Structures/Service Life Assessment Program (SLAP)/Service Life Extension Program (SLEP) (OSIP 12-95)**
Critical Structures Airframe Kit

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Team**

ADMINISTRATIVE LEADTIME: **4** Months

PRODUCTION LEADTIME: **9** Months

CONTRACT DATES: FY 1997: 1/97 FY 1998: 1/98 FY 1999: 1/99

DELIVERY DATE: FY 1997: 10/97 FY 1998: 10/98 FY 1999: 10/99

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (10) kits	**10**	**.7**															**10**	**.7**
FY 1997 (10) kits			**10**	**.7**													**10**	**.7**
FY 1998 (20) kits					**20**	**1.4**											**20**	**1.4**
FY 1999 (20) kits							**20**	**1.5**									**20**	**1.5**
FY 2000 (24) kits									**24**	**1.8**							**24**	**1.8**
FY 2001 (14) kits											**14**	**1.1**					**14**	**1.1**
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL	**10**	**.7**	**10**	**.7**	**20**	**1.4**	**20**	**1.5**	**24**	**1.8**	**14**	**1.1**					**98**	**7.1**

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In				**5**	**5**	**2**	**2**	**3**	**3**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**6**	**6**	**6**	**6**	**6**	**6**	**2**	
Out					**5**	**5**	**2**	**2**	**3**	**3**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**6**	**6**	**6**	**6**	**6**	**6**	**2**

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						**98**
Out						**98**

12-95 ECP ATTACHMENT

S-3 Series Mod

OSIP 12-95

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
AL-789,796,802,808 / Crit. Str. ARF Kit			**.2**	**.2**	**.7**	**.7**	**.9**	**.6**				**3.4**
Proc. Qty.			10	10	20	20	24	14				98
Proc. Unit Cost			*	*	*	*	*	*	*			
Installation Cost				.7	.7	1.4	1.5	1.8	1.1			7.1
Install Qty				10	10	20	20	24	14			98
AL-848-95 / Inner Wing Empennage Kit					**.2**	**.3**	**.3**	**.3**	**.3**			**1.3**
Proc. Qty.					20	20	20	20	18			98
Proc. Unit Cost					*	*	*	*	*			
Installation Cost						.2	.2	.3	.3	.2		1.3
Install Qty						20	20	20	20	18		98
AL-807 / Flight Control Elements			**.4**	**.4**	**.4**	**.4**	**.4**	**.4**	**.4**	**.2**		**3.1**
Proc. Qty.			13	13	13	13	13	13	13	7		98
Proc. Unit Cost			*	*	*	*	*	*	*	*		
Installation Cost				1.2	1.1	1.1	1.1	1.1	1.1	1.0	.5	8.2
Install Qty				13	13	13	13	13	13	13	7	98
TBD / Wingfold Rib							**2.1**	**1.6**	**.9**			**4.6**
Proc. Qty.							8	6	3			17
Proc. Unit Cost							.3	.3	.3			
Installation Cost								4.4	3.4	1.8		9.5
Install Qty								8	6	3		17
Production Engineering Support												
Proc. Qty.												
Proc. Unit Cost												
Installation Cost				*	*	*	*	*	*	*	*	0.2
Install Qty												
TOTAL Other Cost		**4.4**	**1.1**	**1.1**	**8.2**	**34.5**	**20.0**	**9.0**	**2.0**	**1.0**	**1.3**	**82.6**
TOTAL Procurement Cost		**4.4**	**1.1**	**2.9**	**10.0**	**37.2**	**22.8**	**16.6**	**7.9**	**4.0**	**1.9**	**108.9**
TOTAL Proc. Qty.			23	23	53	53	65	53	34	7		311
TOTAL Installation Cost			*	**1.9**	**1.8**	**2.7**	**2.8**	**7.6**	**5.9**	**3.0**	**0.6**	**26.3**
Total Install Qty.				23	23	53	53	65	53	34	7	311

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Global Positioning System (GPS) (OSIP 13-95)**

MODELS OF SYSTEM AFFECTED: **S-3B** TYPE MODIFICATION: **Operational Improvement / Safety**

DESCRIPTION/JUSTIFICATION:

The S-3B aircraft is currently using TACAN/INS as a navigation aid. CNO has mandated GPS as a replacement for TACAN FAA certifiable GPS/RNAV capability is required for the S-3B. GPS modification will provide increased operational capability and mission effectiveness by providing precise navigation position information to the flight crew for ASW/ASUW prosecutions, mine warfare and on scene tactical coordination and turnover with other ASW/ASUW platforms. Trainer procurement is for WST/PTCM and mainteneance trainer A kits; B kits will be procured under Common Avionics GPS OSIP 71-88.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The GPS (B Kit) has completed TECHEVAL/OPEVAL. This OSIP is for installation of the user equipment in the S-3B. TKI completed May 1996. Installation D/T TECHEVAL for the S-3B was completed June 1996. Production contract was awarded July 1996.

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																						
PROCUREMENT																						
Installation Kits			25	1.5	33	1.3	37	1.9	21	1.1											116	5.7
Installation Kit - Unit Price				.1		*		.1		.1												.2
Installation Kits N/R																						
Installation Equipment				1.6		.8		1.1		.6												4.1
Installation Equipment N/R																						
Engineering Change Orders						.1		.1		.1												.3
Data				.3		0.1																0.4
Training Equipment		1.2		1.5		0.5																2.7
Support Equipment						*																*
ILS		.2		1.0		0.9																1.4
Other Support						0.8		.6		1.0		0.2										2.7
Interim Contractor Support																						
Installation Cost					25	1.8	33	1.6	37	1.4	21	.8									116	5.6
TOTAL PROCUREMENT		1.4		5.8		5.1		5.2		4.2		1.0										22.7

Totals may vary due to rounding

* indicates value less than $51,000.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **S-3B**

MODIFICATION TITLE: **Global Positioning System (GPS) (OSIP 13-95)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NADEP Field Mod Team**

ADMINISTRATIVE LEADTIME: **4** Months

PRODUCTION LEADTIME: **12** Months

CONTRACT DATES: FY 1997: 1/97 FY 1998: 1/98 FY 1999: 1/99

DELIVERY DATE: FY 1997: 1/98 FY 1998: 1/99 FY 1999: 1/00

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (25) kits	**25**	**1.8**															**25**	**1.8**
FY 1997 (33) kits			**33**	**1.6**													**33**	**1.6**
FY 1998 (37) kits					**37**	**1.4**											**37**	**1.4**
FY 1999 (21) kits							**21**	**.8**									**21**	**.8**
FY 2000 () kits																		
FY 2001 () kits																		
FY 2002 () kits																		
FY 2003 () kits																		
To Complete () kits																		
TOTAL	**25**	**1.8**	**33**	**1.6**	**37**	**1.4**	**21**	**.8**									**116**	**5.6**

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		**9**	**9**	**7**		**12**	**12**	**9**		**12**	**12**	**13**		**7**	**7**	**7**								
Out			**9**	**9**	**7**	**12**	**12**	**9**		**12**	**12**	**13**		**7**	**7**	**7**								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						**116**
Out						**116**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **S-3 Critical Avionics Upgrade (OSIP 20-95)**

MODELS OF SYSTEM AFFECTED: **S-3B** TYPE MODIFICATION: **Obsolescence**

DESCRIPTION/JUSTIFICATION:

This program replaces critical avionics obsolescence/non-supportability systems in the S-3B aircraft. The Flight Data Computer, Inertial Navigation System, and Electronic Flight Instruments are required for flight in the S-3B. Modification of these critical avionics systems will ensure respective system operation and availability for the current and projected (2015) service life of the airframe.

FLIGHT DATA COMPUTER (FDC): The Flight Data Computer is a component of the Automatic Flight Control System (AFCS). Replacement will be an adaptation of a AFCS. The present obsolete FDC is subject to failure modes which have been demonstrated to cause uncommanded roll input to the flight control system. An operable FDC is required for flight. NRE is applicable to ES-3.

CARRIER AIRCRAFT INERTIAL NAVIGATION SYSTEM (CAINS) ASN-139: This is a replacement program for the AN/ASN-92 Inertial Navigation System (CAINS I). Designed in the late 1960's, it has become increasingly non-supportable due to avionics parts obsolescence and material condition of the chassis and internal wiring. The AN/ASN-92 provides one of two required heading platform stabilization sources necessary for embarked operations or night/instrument flight. Unique ES-3A NRE and procurement requirements are shown under the ES-3A OSIP. Navigation Interface Unit (NIU): This replaces obsolete avionics hardware with NDI for the cockpit which allows CAINS II units and TACAN to communicate via 1553B to existing hardware in the aircraft.

ELECTRONIC FLIGHT INSTRUMENTS (EFI): This replaces flight essential heading and attitude flight instruments and associated converters/drivers. Replacement avionics hardware consists of NDI glass displays for the cockpit and 1553B digital Bus Systems Interface Unit (BSIU) which connects the display and the existing navigation system digital bus. NRE is applicable to ES-3A.

STORES MANAGEMENT SYSTEM (SMS) (FORMALLY ARMCOS): This modification provides a functional replacement of the Armament Control Panel, Bomb Bay/Wing Decoders and wiring that comprise the current S-3 ARMCOS with an NDI digital Stores Management System (SMS) including small circular error probability weapon. An operable SMS is required for loading, carriage and/or jettison of an internal or external stores including the Aerial Refueling Store torpedoes, and/or Harpoon.

DISPLAYS: This program replaces obsolete/unsupportable Cathode Ray Tube (CRT) 1960's design operator tactical displays. Current displays are adversely impacting readiness due to poor reliability, high failure rate, and the inability to repair or replace inoperable CRT's. These operator displays are critical to all missions due to the integration of all mission subsystems, including navigation, through the General Purpose Digital Computer System. Replacement will incorporate NDI display systems.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Milestone III decision for Critical Avionics Upgrade approved Oct 1995. FDC contract awarded Oct 1995. CAINS/EFI contract awarded Aug 1996. NRE for SMS commences FY 1998. DT/OT-III (FOT&E) will be performed on the first modified aircraft.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **S-3 Critical Avionics Upgrade (OSIP 20-95)**

MODELS OF SYSTEM AFFECTED: **S-3B** TYPE MODIFICATION: **Obsolescence**

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																						
PROCUREMENT																						
Installation Kits **								0.6		0.4		2.2		2.4		2.6		2.7		3.9		14.8
*Installation Kit - Unit Price ** *																						
Installation Kits N/R		4.2		3.0		3.3		1.7														12.3
Installation Equipment		.1		0.9		1.1		5.1		5.4		14.9		16.8		16.2		17.9		21.0		99.3
Installation Equipment N/R		6.9		11.2		2.0		4.1		3.3												27.5
Engineering Change Orders																						
Data								.3		.5		.3										1.0
Training Equipment				0.2		.1		.2		5.0		2.2		3.3		2.3						13.2
Support Equipment																						
ILS		.5		.5		.3		.1		0.7												2.4
Other Support		6.6		4.4		5.9		6.2		6.5		5.8		2.4		1.0						38.8
Interim Contractor Support																						
Installation Cost **								*		0.6		1.6		1.7		2.4		2.1		2.7		11.1
TOTAL PROCUREMENT		18.3		20.2		12.6		18.3		22.3		27.3		26.6		24.5		22.7		27.6		220.4

Totals may vary due to rounding

*** Indicates value less than $51,000.**

** See attached addendum sheet.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **S-3B**

MODIFICATION TITLE: **S-3 Critical Avionics Upgrade (OSIP 20-95) ARMCOS**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Team**

ADMINISTRATIVE LEADTIME: **4** Months

PRODUCTION LEADTIME: **18** Months

CONTRACT DATES: FY 1997: ____ FY 1998: ____ FY 1999: 1/99

DELIVERY DATE: FY 1997: ____ FY 1998: ____ FY 1999: 7/00

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																		
FY 1997 () kits																		
FY 1998 () kits																		
FY 1999 (2) kits							2	*									2	*
FY 2000 (10) kits									10	0.2							10	0.2
FY 2001 (17) kits											17	0.9					17	0.9
FY 2002 (19) kits													19	1.0			19	1.0
FY 2003 (18) kits															18	0.4	18	.0
To Complete (32) kits															32	0.6	32	0.6
TOTAL							2	*	10	0.2	17	0.9	19	1.0	50	1.0	98	3.1

* indicates a value less than $51,000.

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																2	2	2	3	3	4	4	4	5
Out																	2	2	2	3	3	4	4	4

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	4	4	5	6	50	98
Out	5	4	4	5	56	98

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **S-3B**

MODIFICATION TITLE: **S-3 Critical Avionics Upgrade (OSIP 20-95) CAINS II**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **FY 97 prototype/TKI was procurred as contractor "turn-key". FY 98 and out are Contractor Field Mod Team (Airframe Block).**

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: (Initial)12 Months
PRODUCTION LEADTIME: (Option) 12 Months

CONTRACT DATES: FY 1997: FY 1998: 1/98 FY 1999: 1/99

DELIVERY DATE: FY 1997: FY 1998: 7/99 FY 1999: 11/99

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY () kits																		
FY 1997 () kits																		
FY 1998 (7) kits					7	0.6											7	0.6
FY 1999 (4) kits							4	1.5									4	1.5
FY 2000 (19) kits									19	1.4							19	1.4
FY 2001 (16) kits											16	1.5					16	1.5
FY 2002 (16) kits													16	1.1			16	1.1
FY 2003 (17) kits															17	0.8	17	0.8
To Complete (19) kits															19	0.9	19	0.9
TOTAL					7	0.6	4	1.5	19	1.4	16	1.5	16	1.1	36	1.7	98	7.9

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In									1	2	2	2	1	1	1	1	4	5	5	5	4	4	4	4
Out										1	2	2	2	1	1	1	1	4	5	5	5	4	4	4

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In	4	4	4	4	36	98
Out	4	4	4	4	40	98

20-95 ECP ATTACHMENT

S-3 Series Mod

OSIP 20-95

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
TBD / ARMCOS						**.1**	**.6**	**1.0**	**1.2**	**1.1**	**2.1**	**6.1**
Proc. Qty.						2	10	17	19	18	32	98
Proc. Unit Cost						.1	.1	.1	.1	.1	.1	
Installation Cost							*	.2	.9	1.0	1.0	3.1
Install Qty							2	10	17	19	50	98
ECP-LMAS-427 / CAINS/EFI/NIU					**.6**	**.3**	**1.6**	**1.4**	**1.4**	**1.5**	**1.7**	**8.7**
Proc. Qty.					7	4	19	16	16	17	19	98
Proc. Unit Cost					.1	.1	.1	.1	.1	.1	.1	
Installation Cost **					*	.6	1.5	1.4	1.5	1.1	1.7	7.9
Install Qty **						7	4	19	16	16	36	98
TOTAL Other Cost		**18.3**	**20.2**	**12.6**	**18.3**	**21.7**	**25.7**	**24.9**	**22.1**	**20.6**	**24.9**	**209.3**
TOTAL Procurement Cost		**18.3**	**20.2**	**12.6**	**18.3**	**22.3**	**27.3**	**26.6**	**24.5**	**22.7**	**27.6**	**220.4**
TOTAL Proc. Qty.					7	6	29	33	35	35	51	196
TOTAL Installation Cost					*	**.6**	**1.6**	**1.7**	**2.4**	**2.1**	**2.7**	**11.1**
Total Install Qty.						7	6	29	33	35	86	196

*** Indicates a value less than $51,000.**
**** Includes installation of (4) Trainers in FY00, (2) Trainers in FY01, (3) Trainers in FY02, (2) Trainers in FY03, and (3) Trainers in TC column. FY97 includes prototype installation, Trial Kit Installation (TKI), and Installation Support. FY98 installation is for Software Integation Lab (SEI). FY99-04 include Repair Incident to Mod (RIM).**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Co-Processor Memory Unit (OSIP 04-96)**

MODELS OF SYSTEM AFFECTED: **S-3B** TYPE MODIFICATION: **Operational Improvement**

DESCRIPTION/JUSTIFICATION:

The Co-Processor Memory Unit (CPMU) replaces the S-3B MMU-576 Drum Memory Storage (DMS) Unit, the OL-230 Post and Display Processor (PDP) and the AN/AYK-10 General Purpose Digital Computer (GPDC). The reliability, maintainability, and obsolescence of the DMS, PDP, and GPDC has degraded to levels which significantly hinder the ability to meet aircraft tactical mission requirements. The CPMU fully emulates the DMS and replaces 5 WRA's, resulting in significant space/weight savings. CPMU incorporates an open architecture design as a foundation for future processor growth. CPMU will host a mission program written in ADA software language (RDT&E funded). Trainer procurement is for WST/PTCM and maintenance trainers A and B kits.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Co-Processor Memory Unit (CPMU) program was initiated as a joint U.S. Navy/Canadian industrial base development effort in 1991. A competitive development contract was awarded in FY 1992. Installation of EDM was completed in April 1995. Approval for LRIP was received in June 1996. LRIP production contract was awarded in June 1996. TKI is planned for January 1998. Milestone III decision is planned for August 1998

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		12.0		8.0		0.9		4.4		2.2		0.5		0.5		0.5				29.0
PROCUREMENT																				
Installation Kits	2	*	3	*	9	0.1	10	0.2	11	0.2	10	0.2	5	1.0	13	0.3	35	0.7	98	1.8
Installation Kit - Unit Price		*		*		*		*		*		*		*		*		*		
Installation Kits N/R		0.1																		0.1
Installation Equipment	2	1.3	3	1.8	9	4.5	10	4.8	11	5.3	10	4.5	5	2.7	13	5.9	35	16.6	98	47.4
Installation Equipment N/R		2.2		1.3																3.6
Engineering Change Orders								*		*		0.1		*		*				0.1
Data																				0.1
Training Equipment		0.5		*						1.6		1.7		1.7		0.9				6.3
Support Equipment				0.1																0.1
ILS				0.1		0.3		0.2		0.1		0.1		0.2				*		1.0
Other Support		0.2		0.5		1.8		1.3		0.6		0.4		0.6		0.4		*		5.9
Interim Contractor Support																				
Installation Cost					2	*	3	0.1	9	0.2	10	0.2	11	0.3	10	0.3	53	1.3	98	2.3
TOTAL PROCUREMENT		4.3		4.0		6.8		6.5		8.1		7.1		5.7		7.7		18.6		68.8

Totals may vary due to rounding

* indicates a value less than $51,000.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **S-3B**

MODIFICATION TITLE: **Co-Processor Memory Unit (OSIP 04-96)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **NADEP Field Mod Team**

ADMINISTRATIVE LEADTIME: **8** Months

PRODUCTION LEADTIME: **16** Months

CONTRACT DATES: FY 1997: 6/97 FY 1998: 6/98 FY 1999: 6/99

DELIVERY DATE: FY 1997: 10/98 FY 1998: 10/99 FY 1999: 10/00

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (2) kits			2	*													2	*
FY 1997 (3) kits					3	*											3	*
FY 1998 (9) kits							9	0.2									9	0.2
FY 1999 (10) kits									10	0.2							10	0.2
FY 2000 (11) kits											11	0.3					11	0.3
FY 2001 (10) kits													10	0.3			10	0.3
FY 2002 (5) kits															5	0.2	5	0.2
FY 2003 (13) kits															13	0.3	13	0.3
To Complete (35) kits															35	0.8	35	0.8
TOTAL			2	*	3	*	9	0.2	10	0.2	11	0.3	10	0.3	53	1.3	98	2.3

* indicates value less than $51,000.

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							1	1	1	1	1		2	2	2	3	3	3	2	2	3	3	3	2
Out							1		1	1	1	1		2	2	2	3	3	3	2	2	3	3	3

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In	3	3	2	2	53	98
Out	2	3	3	2	55	98

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET
P-40

Date: **September 1997**

APPROPRIATION/BUDGET ACTIVITY: **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**

P-1 ITEM NOMENCLATURE: **E-2C Series Modification**

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Million $)	540.0		185.8	18.5	27.1	49.1	93.1	78.4	48.6	67.6	55.8	1,085.2	2,249.2

This line item funds modifications to E-2C aircraft. The E-2C is an all weather, carrier based, airborne early warning and command and control aircraft. It extends task force defense perimeters by providing early warning of approaching enemy units and by vectoring interceptors into attack position. Additionally, the HAWKEYE provides strike control, radar surveillance, search and rescue assistance, communications relay and automatic tactical data exchange. In future years, the E-2C will be a critical element of the Navy's Cooperative Engagement Capability (CEC). To realize efficiencies in cost and scheduling, the HAWKEYE 2000 OSIPs (SATCOM, Vapor Cycle, MCU and CEC) were consolidated into one engineering change proposal (ECP-418). The efficiencies realized with consolidating HAWKEYE 2000 modifications under ECP-418 were reflected in the FY 1997 budget. Subsequent to establishment of ECP-418, it has become exceedingly difficult to coordinate kit and install quantities, contract dates, and training requirements across the four ECP-418 OSIPs. Beginning in FY 1999 the ECP-418 OSIPs were combined into one new OSIP, 19-99 Block Upgrade III. Consolidation of the OSIPs provides management a concise picture of cost and schedule requirements to modify and field HAWKEYE 2000 aircraft. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
121-87	Structural Enhancements	244.9	27.3	1.5	1.1	1.1	3.8	7.6				2.2	289.6
74-88	Block Upgrade II	208.1	90.8	9.0	12.1	27.4	42.2	17.4	4.9	12.5	8.7	62.5	495.6
87-88	Outer Wing Panels	86.9				8.4	15.4	15.2	12.9			236.1	374.9
21-95	Satellite Communication		33.5	6.9	6.7	0.9							47.9
22-95	Replacement Vapor Cycle		34.1	1.1		2.1							37.4
4-97	Replacement Computer				6.7	4.9							11.6
12-97	Cooperative Engagement Capability				0.5	1.4							1.9
1-98	Aircrew Safety & Survival					2.9	1.8	0.9					5.6
19-99	Block Upgrade III						30.0	37.2	30.8	55.1	47.2	784.4	984.7
TOTAL		**540.0**	**185.8**	**18.5**	**27.1**	**49.1**	**93.1**	**78.4**	**48.6**	**67.6**	**55.8**	**1,085.2**	**2,249.2**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Structural Enhancements (OSIP# 121-87)

MODELS OF SYSTEM AFFECTED: E-2C **TYPE MODIFICATION:** Safety

DESCRIPTION/JUSTIFICATION:

Analysis and fatigue test results disclosed that the wing center sections, the nose landing gear brace trunnion fitting, upper longeron splice, main beam lock fitting, lower wing skin fold actuator support fitting, rear beam lower cover splice, and rear beam lower cover skin in E-2C aircraft (A/C) produced prior to A/C #96 would fail due to fatigue prior to 10,000 flight hours. In order to extend the operational life of A/C produced prior to A/C #96, it is necessary to modify these areas. This modification installs an enhanced wing center section and provides for modification of the drag brace trunnion, longeron splice, main beam lock fitting, lower wing skin fold actuator support fitting, rear beam lower cover splice and skin.

The fatigue test results made it necessary to incorporate structural enhancements into the wing center section of E-2C aircraft A96 thru A144 in order for the aircraft to achieve their design goal of 10,000 flight hours. Beginning in FY99, Anti-Vibration devices (75 total) will be procured for Group II aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The modification has been installed as a prototype installation in A/C #16 which was completed in June 1988.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	21	135.0	6	3.4	1	0.2	1	0.2	1	0.3	1	0.3	1	0.3							2	0.5	34	140.2
Installation Kit - Unit Price		6.4		0.6		0.2		0.2		0.3		0.3		0.3								0.3		
Installation Kits N/R		13.7		0.6																				14.3
Installation Equipment											22	2.7	53	6.5									75	9.2
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.7		0.1																				0.8
Training Equipment				*																				0.0
Support Equipment		1.4																						1.4
ILS																								
Other Support		18.3		7.9																				26.2
Interim Contractor Support																								
Installation Cost	17	75.9	10	15.4	1	1.3	1	0.8	1	0.8	1	0.9	1	0.9							2	1.7	34	97.6
TOTAL PROCUREMENT		**244.9**		**27.3**		**1.5**		**1.1**		**1.1**		**3.8**		**7.6**								**2.2**		**289.6**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C

MODIFICATION TITLE: Structural Enhancements (OSIP# 121-87)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor (Turn-Key) Drive-In Modification (DIM) & SDLM and Naval Aviation Depot (NADEP) DIM and SDLM.

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 6-12 Months

CONTRACT DATES: FY 1997: 11/96 FY 1998: 11/97 FY 1999: 11/98 FY 2000: 11/99

DELIVERY DATE: FY 1997: 05/97 FY 1998: 05/98 FY 1999: 05/99 FY 2000: 05/00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (28) kits	**17**	**75.9**	**10**	**15.4**	**1**	**1.3**																	**28**	**92.5**
FY 1997 (1) kits							**1**	**0.8**															**1**	**0.8**
FY 1998 (1) kits									**1**	**0.8**													**1**	**0.8**
FY 1999 (1) kits											**1**	**0.9**											**1**	**0.9**
FY 2000 (1) kits													**1**	**0.9**									**1**	**0.9**
FY 2001 (0) kits																								
FY 2002 (0) kits																								
FY 2003 (0) kits																								
To Complete (2) kits																					**2**	**1.7**	**2**	**1.7**
TOTAL	17	75.9	10	15.4	1	1.3	1	0.8	1	0.8	1	0.9	1	0.9							2	1.7	34	97.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	28			1				1				1				1									
Out	27	1				1				1				1				1							

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					2	34
Out					2	34

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Block Upgrade II (OSIP# 74-88)

MODELS OF SYSTEM AFFECTED: E-2C **TYPE MODIFICATION:** Mission Performance Enhancement

DESCRIPTION/JUSTIFICATION: Block Upgrade II consists of eight projects as follows:

1. Radar Update: The jamming threat to a radar (electronic counter-countermeasures) can be minimized by current antenna technology and/or receiver/modifications. The total radiation aperture control (TRAC-A) antenna (the first major redesign in the 20 year history of the E-2 series) is now in production as the initial step in the evolution of countering a growing threat. These changes will augment the reduced sidelobes of the antenna pattern (increase detection in a jamming environment), provide automated cues to the operators on the best radar mode for different jamming levels and provide directional information of the jamming source for intercept with battle group fighters. Production incorporation was in the last FY86 aircraft (A122). The second phase in the update of the E-2C's radar system is designed to significantly extend it's detection range, add automatic environmental processing of targets and eliminate detection losses. Building on existing components of the radar system, one weapons replaceable assembly (WRA) is replaced and eight out of forty WRA's are modified. A new tactical software program is a greatly improved man-machine interface capable of providing the battle group commander in-depth defense throughout the outer-air-battle environment. Production incorporation was in the second FY 1989 aircraft (A/C #140).

2. Joint Tactical Information Distribution System (JTIDS): The JTIDS is a communication/navigation/identification system which will provide secure, jam resistant communication (both digital and voice tactical data), identification, and a relative navigation function for aircraft and ships. The JTIDS identification and positional data will be integrated into the E-2C central computer program for correlation with data received by on-board sensors. Production incorporation of partial provisions was in the last FY86 aircraft (A122). Production incorporation of final provisions was in the second FY89 aircraft (A140).

3. Standard Automatic Flight Control System (SAFCS) Computer: The AN/ASW-15 automatic flight control system (AFCS) presently installed is an obsolete design using 1950's technology. The performance of this system has never provided satisfactory stability augmentation, which remains as an outstanding deficiency from the original flight test program. Incorporation of a standardized AFCS computer is planned as the first step in the solution to the problem. This unit will be developed and built using modern design methods and will provide improved system performance in all areas.

4. Laser-Gyro Carrier Aircraft Inertial Navigation Systems (CAINS)ASN-139: The ASN-139 is being developed to reduce system costs by application of laser gyro technology to replace current electromechanical sensors in CAINS. Reliability will be increased and alignment time reduced. A five-to-one reduction in operation and support costs, compared with the presently installed ASN-92 CAINS, is expected.

5. Enhanced High Speed Processor (EHSP): E-2C radar and passive detection systems are currently restricted from fully exploiting their available surveillance volume due to computer processing limitations. The EHSP weapons replaceable assembly replaces two memory modules and their associated power supply in the central processor (CP) cabinet. The EHSP increases the CP track capacity four-fold through the dense packaging of current computer technology. This capability is the foundation of extending the radar range in the Radar Update Group II. Production incorporation of the EHSP was in aircraft A134.

6. NAVSTAR Global Positioning System (GPS): The NAVSTAR GPS is a space based radio positioning and navigation system that will provide three dimensional position, velocity and time

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

All of the equipments are in production.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		0.1																						0.1
PROCUREMENT																								
Installation Kits	12	74.4	4	16.4	5	4.1	2	9.3	2	9.8	2	9.7	4	3.8			6	6.2	5	5.2	11	19.4	53	158.4
Installation Kit - Unit Price		*6.2*		*4.1*		*0.8*		*4.6*		*4.9*		*4.8*		*0.9*				*1.0*		*1.0*		*1.8*		
Installation Kits N/R		47.6																						47.6
Installation Equipment	12	19.9	4	11.9	5	2.4	2	2.3	2	2.4	2	2.4	4	2.5			6	2.9	5	2.6	11	6.7	53	55.9
Installation Equipment N/R		1.0																						1.0
Engineering Change Orders																								
Data		10.3		4.4																		16.3		31.0
Training Equipment		11.5		19.9						3.5	2	16.7	5	8.4									7	59.9
Support Equipment		2.1		17.5						11.6		11.0										6.7		48.9
ILS		4.3		7.2																				11.5
Other Support **		4.4		8.2				0.5		0.2		0.5		0.8		0.8		0.8		0.9				17.0
Interim Contractor Support																								
Installation Cost	12	32.7	4	5.4	5	2.5					2	2.0	2	2.0	*3	4.1	*5	2.6			22	13.4	55	64.5
TOTAL PROCUREMENT		**208.1**		**90.8**		**9.0**		**12.1**		**27.4**		**42.2**		**17.4**		**4.9**		**12.5**		**8.7**		**62.5**		495.6

* Includes ISMT Trainer installation (1 ea.)

** The other support costs in FY 00 thru FY 03 fund Mission Planning Module (MPM)

Note: Totals due not add up due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C

MODIFICATION TITLE: Block Upgrade II (OSIP# 74-88)

INSTALLATION INFORMATION: This installation information is for the Group I to Group II Update Only (ECP# 400).

METHOD OF IMPLEMENTATION: Contractor (Turn-Key) Drive-In Modification (DIM) for kit procurements through FY 1996. Contractor DIM for kit procurements FY 1997 and subsequent.

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 1997: 06/97 FY 1998: 01/98 FY 1999: 01/99

DELIVERY DATE: FY 1997: 06/99 FY 1998: 01/00 FY 1999: 01/01

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (12) kits	**10**	**30.0**	**2**	**3.7**																			**12**	**33.8**
FY 1997 (1) kits											**1**	**1.5**											**1**	**1.5**
FY 1998 (1) kits													**1**	**1.5**									**1**	**1.5**
FY 1999 (1) kits															**1**	**1.6**							**1**	**1.6**
FY 2000 (0) kits																								
FY 2001 (0) kits																								
FY 2002 (0) kits																								
FY 2003 (0) kits																								
To Complete (1) kits																					**1**	**2.3**	**1**	**2.3**
TOTAL	10	30.0	2	3.7							1	1.5	1	1.5	1	1.6					1	2.3	16	40.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	10		1	1							1				1				1						
Out	6	2	2		1	1						1				1				1					

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					1	16
Out					1	16

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C

MODIFICATION TITLE: Block Upgrade II (OSIP# 74-88)

INSTALLATION INFORMATION: This installation information is for the Navigation Update Only (ECP# 403).

METHOD OF IMPLEMENTATION: Contractor (Turn-Key) Drive-In Modification (DIM) for kit procurements through FY 1996. Contractor DIM for kit procurements FY 1997 and subsequent.

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 1997: 06/97 FY 1998: 01/98 FY 1999: 01/99 FY 2000: 01/00 FY 2001: N/A FY 2002: 01/02 FY 2003: 01/03

DELIVERY DATE: FY 1997: 06/99 FY 1998: 01/00 FY 1999: 01/01 FY 2000: 01/02 FY 2001: N/A FY 2002: 01/04 FY 2003: 01/05

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (9) kits	**2**	**2.6**	**2**	**1.6**	**5**	**2.5**																	**9**	**6.8**
FY 1997 (1) kits											**1**	**0.5**											**1**	**0.5**
FY 1998 (1) kits													**1**	**0.5**									**1**	**0.5**
FY 1999 (1) kits & (1) Trainer															***2**	**2.5**							**2**	**2.5**
FY 2000 (4) kits & (1) Trainer																	***5**	**2.6**					**5**	**2.6**
FY 2001 (0) kits																								
FY 2002 (6) kits																					**6**	**3.2**	**6**	**3.2**
FY 2003 (5) kits																					**5**	**2.7**	**5**	**2.7**
To Complete (10) kits																					**10**	**5.3**	**10**	**5.3**
TOTAL	2	2.6	2	1.6	5	2.5					1	0.5	1	0.5	*2	2.5	*5	2.6			21	11.2	39	24.0

* Includes ISMT Trainer installation.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2		2				2	2	1			1			1				2				2	3	
Out	2			2				2	2	1			1			1				2				2	3

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					21	39
Out					21	39

E-2C Series Mod

OSIP# 74-88

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP# 400/Grp I to Grp II Update	**72.3**	**14.4**	**0.0**	**8.4**	**8.9**	**8.8**					**9.0**	**121.8**
Proc. Qty.	10	2		1	1	1					1	16
Proc. Unit Cost	7.2	7.2		8.4	8.9	8.8					9.0	
Installation Cost	30.8	3.7	0.0	0.0		1.5	1.5	1.6			2.3	41.3
Install Qty	10	2				1	1	1			1	16
ECP#403/NAV Update	**2.1**	**2.0**	**4.1**	**0.9**	**0.9**	**0.9**	**3.8**		**6.2**	**5.2**	**10.4**	**36.5**
Proc. Qty.	2	2	5	1	1	1	4		6	5	10	37
Proc. Unit Cost	2.0	2.0	0.8	0.9	0.9	0.9	0.9		1.0	1.0	1.0	
Installation Cost	1.9	1.6	2.5			0.5	0.5	2.5	2.6		11.2	23.2
Install Qty	2	2	5			1	1	2	5		21	39
Note: FY01 & 02 include ISMT Trainer install.												
Procurement Cost	**74.4**	**16.4**	**4.1**	**9.3**	**9.8**	**9.7**	**3.8**	*****	**6.2**	**5.2**	**19.4**	**158.4**
TOTAL Proc. Qty.	12	4	5	2	2	2	4		6	5	11	53
Installation Cost	**32.7**	**5.4**	**2.5**	*****	*****	**2.0**	**2.0**	**4.1**	**2.6**	*****	**13.4**	**64.5**
Total Install Qty.	12	4	5			2	2	3	5		22	55
All Other	**101.0**	**69.0**	**2.4**	**2.8**	**17.6**	**30.5**	**11.6**	**0.8**	**3.7**	**3.5**	**29.7**	**272.7**
TOTAL PROCUREMENT COST	**208.1**	**90.8**	**9.0**	**12.1**	**27.4**	**42.2**	**17.4**	**4.9**	**12.5**	**8.7**	**62.5**	**495.6**

Note: Totals do not add due to rounding.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Outer Wing Panels (OSIP# 87-88)

MODELS OF SYSTEM AFFECTED: E-2C **TYPE MODIFICATION:** Safety

DESCRIPTION/JUSTIFICATION:

The E-2C fatigue test and inspection of aircraft have identified fatigue stress cracks in outer wing panels (OWP) which would cause the loss of aircraft and resulting in injury or loss of personnel. The OWP's installed on the E-2C aircraft are flight hour limited as follows: OWP's installed on T56-A-425 configured aircraft are limited to 6,500 flight hours and OWP's installed on T56-A-427 configured aircraft are limited to 7,500 flight hours. In addition, there are a block of OWP's not enhanced that are limited to 4,500 flight hours. Teardowns of fleet OWP's showed that overhaul of the OWP is neither technically practical nor cost effective.

A Structural Data Recorder Set (SDRS) was developed as a multi-platform program by AIR-530. Installation of this system in the E-2C will allow the collection of structural load data for each specific aircraft and the assignment of more accurate fatigue life to those aircraft. By providing the structural engineers with better analytical data, the net result should be an extended aircraft life for each aircraft receiving the SDRS.

The Program includes enhancements necessary for aircraft to achieve service life through FY 2015. Items include replacement rotodomes, fuselage enhancements, and empennage enhancements as necessary.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

An updated design OWP's was installed on all new production aircraft delivered after April 1985. Earlier aircraft will be retrofitted with the newly designed OWP.

The SDRS has completed development. Integration into the E-2C is funded in production. Incorporation was in the last FY 1989 production aircraft (A144).

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	195	79.7							4	8.4	7	15.4	7	15.2	6	12.9					71	185.0	290	316.5
Installation Kit - Unit Price		*0.4*								*2.1*		*2.2*		*2.2*		*2.1*						*2.6*		
Installation Kits N/R		1.0																						1.0
Installation Equipment		3.0																						3.0
Installation Equipment N/R																								
Engineering Change Orders																								
Data		1.7																						1.7
Training Equipment																								
Support Equipment		0.9																						0.9
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost	62	0.7																			71	51.1	133	51.8
TOTAL PROCUREMENT		**86.9**								**8.4**		**15.4**		**15.2**		**12.9**						**236.1**		**374.9**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C

MODIFICATION TITLE: Outer Wing Panels (OSIP# 87-88)

INSTALLATION INFORMATION: This installation information is for the OWP only (ECP# 342).

METHOD OF IMPLEMENTATION: Naval Aviation Depot DIM and contractor FMT/DIM and Organizational Level. Replacement OWP is an 'O' Level installation for FY98, FY99, FY00 & FY01 kit procurements

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 1997: N/A FY 1998: 01/98 FY 1999: 01/99 FY 2000: 01/00 FY 2001: 01/01

DELIVERY DATE: FY 1997: N/A FY 1998: 01/00 FY 1999: 01/01 FY 2000: 01/02 FY 2001: 01/03

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (62) kits	**62**	**0.7**																					**62**	**0.7**
FY 1997 (0) kits																								
FY 1998 (*) kits																								
FY 1999 (*) kits																								
FY 2000 (*) kits																								
FY 2001 (*) kits																								
FY 2002 (0) kits																								
FY 2003 (0) kits																								
To Complete (23) kits																					**23**	**24.1**	**23**	**24.1**
TOTAL	62	0.7																			23	24.1	85	24.8

* 'O' Level installation for FY 1998, FY 1999, FY 2000 and FY 2001.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	62														2	2			3	4			3	4	
Out	62														2	2			3	4			3	4	

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In		3	3		23	109
Out		3	3		23	109

E-2C Series Mod

OSIP# 87-88

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP# 342/ Outer Wing Panel	**79.7**				**8.4**	**15.4**	**15.2**	**12.9**			**50.0**	**181.5**
Proc. Qty.	82				4	7	7	6			23	129
Proc. Unit Cost	1.0				2.1	2.2	2.2	2.1			2.2	
Installation Cost	0.7										16.6	17.2
Install Qty	62										23	85
ECP# TBD/ Rotodomes											**135.0**	**135.0**
Proc. Qty.											48	48
Proc. Unit Cost											2.8	
Installation Cost											35.5	35.5
Install Qty											48	48
Procurement Cost	**79.7**	*	*	*	**8.4**	**15.4**	**15.2**	**12.9**	*	*	**185.0**	**316.5**
TOTAL Proc. Qty.	82				4	7	7	6			71	177
Installation Cost	**0.7**	*	*	*	*	*	*	*	*	*	**52.1**	**52.8**
Total Install Qty.	62										71	133
All Other	**6.6**											**6.6**
TOTAL PROCUREMENT COST	**86.9**	*	*	*	**8.4**	**15.4**	**15.2**	**12.9**	*	*	**237.1**	**375.9**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Satellite Communications (SATCOM) (OSIP# 21-95)

MODELS OF SYSTEM AFFECTED: E-2C **TYPE MODIFICATION:** Readiness

DESCRIPTION/JUSTIFICATION:

By JCS directives, all components of the Armed Forces who have satellite communications must be able to communicate using the Demand Assign Multiple Access (DAMA) waveform and be capable of narrow band secure voice. To meet these requirements the E-2C program will integrate Mini-DAMA into the aircraft. The Mini-DAMA unit is a UHF, full duplex radio with four full duplex ports and eight half duplex baseboard input/output. It incorporates the UHF SATCOM, line of sight radio functions, 5 and 25 KHz DAMA waveforms and embedded OTCIXS II, KGV-11 (TRANSEC) and COMSEC module for oderwire encryption for both 5 and 25 KHz DAMA functions. The Mini-DAMA has growth provisions for secure voice (ANDVT), TADIX-A, KG-84A and SAFENET.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

PMW-156 is the sponsor of the Mini-DAMA. The Mini-DAMA equipment schedule projects the following milestones: Two Engineering Development Models (EDMs) in April 1993; five EDMs in September 1993; air integration's started in the 3rd quarter FY 1993 and ended in the 1st quarter FY 1995; formal testing was conducted from February 1996 through August 1996. Production deliveries started in June 1996.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			33	5.9	5	1.9	3	0.8															41	8.6
Installation Kit - Unit Price				0.2		0.4		0.3																
Installation Kits N/R				20.6																				20.6
Installation Equipment			7	3.3	5	2.2	15	5.2															27	10.7
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.8				0.7																1.5
Training Equipment																								
Support Equipment										0.9														0.9
ILS				0.3																				0.3
Other Support				1.3		1.0																		2.3
Interim Contractor Support																								
Installation Cost			33	1.3	5	1.7																	38	3.0
TOTAL PROCUREMENT				**33.5**		**6.9**		**6.7**		**0.9**														**47.9**

Notes: 1) Beginning in FY99 this OSIP has been superseded by OSIP 19-99 Block Upgrade III.

2) Totals do not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C

MODIFICATION TITLE: Satellite Communications(SATCOM) (OSIP# 21-95)

INSTALLATION INFORMATION: FY95 kits and installs are interim installations in the AFT equipment compartment to provide the fleet with a functional system to satisfy the emergent SATCOM requirement as approved by CNO reprogramming in 3/95.

METHOD OF IMPLEMENTATION: Prototype by airframe contractor, retrofit by Contractor Drive-In Mod (turn-key) for FY 1996 procurement. FY 1997 and out Contractor Drive-In Mod (annualized).

ADMINISTRATIVE LEADTIME: 9 Months

PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 1996: 06/96

DELIVERY DATE: FY 1996: 06/98

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (38) kits			**33**	**1.3**	**5**	**1.7**																	**38**	**3.0**
FY 1997 (3) kits																								
FY 1998 (0) kits																								
FY 1999 (*) kits																								
FY 2000 (*) kits																								
FY 2001 (*) kits																								
FY 2002 (*) kits																								
FY 2003 (*) kits																								
To Complete (*) kits																								
TOTAL			33	1.3	5	1.7																	38	3.0

* Note: Beginning in FY99 this OSIP has been superseded by OSIP 19-99 Block Upgrade III.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	33								5																
Out	33								5																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						38
Out						38

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Replacement Vapor Cycle (OSIP# 22-95)

MODELS OF SYSTEM AFFECTED: E-2C **TYPE MODIFICATION:** Reliability

DESCRIPTION/JUSTIFICATION:

The vapor cycle installed in the E-2C uses CFC-114 coolant. The Montreal Protocol calls for termination of the CFC production after 1995. Efforts to find an acceptable substitute for use in the vapor cycle currently installed in the E-2C have been successful. This program involves re-design of the current 12-ton vapor cycle so that it will provide adequate cooling using and environmentally acceptable coolant.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Northrop Grumman has conducted a study to identify feasible options for E-2C environmental control systems.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			1	1.4																			1	1.4
Installation Kit - Unit Price				1.4																				
Installation Kits N/R				29.4		0.8																		30.2
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.6						2.1														2.7
Training Equipment																								
Support Equipment				0.6																				0.6
ILS				1.2																				1.2
Other Support				0.3		0.3																		0.6
Interim Contractor Support																								
Installation Cost			1	0.6																			1	0.6
TOTAL PROCUREMENT				**34.1**		**1.1**				**2.1**														**37.4**

Note: Beginning in FY99 this OSIP has been superseded by OSIP 19-99 Block Upgrade III.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C

MODIFICATION TITLE: Replacement Vapor Cycle (OSIP# 22-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor modification line (turn-key) for FY 1995 procurement.

ADMINISTRATIVE LEADTIME: 10 Months

PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 1995: 07/95

DELIVERY DATE: FY 1995: 03/97

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (1) kits			**1**	**0.6**																			**1**	**0.6**
FY 1997 (3) kits																								
FY 1998 (0) kits																								
FY 1999 (*) kits																								
FY 2000 (*) kits																								
FY 2001 (*) kits																								
FY 2002 (*) kits																								
FY 2003 (*) kits																								
To Complete (*) kits																								
TOTAL			1	0.6																			1	0.6

* Note: Beginning in FY99 this OSIP has been superseded by OSIP 19-99 Block Upgrade III.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In			1																						
Out				1																					

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						1
Out						1

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Replacement Computer (OSIP# 4-97)

MODELS OF SYSTEM AFFECTED: E-2C **TYPE MODIFICATION:** Readiness

DESCRIPTION/JUSTIFICATION:

The L-304 central data processing computer uses inputs from onboard sensors, data links, and a library of stored data to present a symbolic representation of the tactical situation to the operators. Data expansion resulting from Update Development Program II has pushed the computer capability to it's ultimate limit, preventing utilization of improved target detection which could be achieved by emerging radar technology, infrared search and track, and SATCOM. All of these technologies are needed for execution of the E-2C battle management mission and for cooperative engagement operations. This OSIP funds retrofit of a replacement computer based on proven advances in computer technology and developed under the RDT&E Program Element cited below.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Engineering and Manufacturing Development (E&MD), System Design Review, Software Specification Review and start of fabrication of pre-production computers commenced in the first quarter FY 1995. Pre-production mission computers will be delivered in FY 1996. Development ad Operational Testing will continue through FY 1999.

FINANCIAL PLAN (TOA, $ in Millions)

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		68.8				59.6		60.5		39.4		10.4												238.7
PROCUREMENT																								
Installation Kits							5	6.6	1	1.3													6	7.9
Installation Kit - Unit Price								1.3		1.3														
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data								*																0.0
Training Equipment										2.3														2.3
Support Equipment																								
ILS																								
Other Support								0.1																0.1
Interim Contractor Support																								
Installation Cost									5	1.2													5	1.2
TOTAL PROCUREMENT								**6.7**		**4.9**														**11.6**

Notes: 1) Beginning in FY99 this OSIP has been superseded by OSIP 19-99 Block Upgrade III.

2) Totals do not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C

MODIFICATION TITLE: Replacement Computer (OSIP# 4-97)

INSTALLATION INFORMATION: FY98 MCU kit installation is covered under OSIP# 19-99.

METHOD OF IMPLEMENTATION: Contractor modification line.

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 12-24 Months

CONTRACT DATES: FY 1997: 01/97

DELIVERY DATE: FY 1997: 01/98

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (0) kits																								
FY 1997 (5) kits									**5**	**1.2**													**5**	**1.2**
FY 1998 (1) kits-See install info.																								
FY 1999 (*) kits																								
FY 2000 (*) kits																								
FY 2001 (*) kits																								
FY 2002 (*) kits																								
FY 2003 (*) kits																								
To Complete (*) kits																								
TOTAL									5	1.2													5	1.2

* Note: Beginning in FY99 this OSIP has been superseded by OSIP 19-99 Block Upgrade III.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							3	2																	
Out								3	2																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						5
Out						5

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Cooperative Engagement Capability (OSIP# 12-97)

MODELS OF SYSTEM AFFECTED: E-2C **TYPE MODIFICATION:** Readiness

DESCRIPTION/JUSTIFICATION:

The Navy has developed the capability to share sensor data through a network and perform the targeting process using sensors installed in remote platforms to augment the target position information on individual ships. The E-2C radar and passive detection systems provide vital target information over an increased surveillance area for greater situational awareness and provides early warning of distant targets. This program identifies the costs associated with integrating CEC into 55 E-2Cs and developing the support structure necessary to successfully deploy the system.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Engineering and Manufacturing Development (E&MD) efforts for integrating CEC into the E-2C commenced in the third quarter in FY 1995. Two (2) E-2C aircraft will be modified under the E&MD effort to support a FY 1999 CEC FOT&E. This program assumes a production cut-in in FY 2000.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data										1.4														1.4
Training Equipment																								
Support Equipment																								
ILS																								
Other Support								0.5																0.5
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT								**0.5**		**1.4**														**1.9**

Note: Beginning in FY99 this OSIP has been superseded by OSIP 19-99 Block Upgrade III.

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Aircrew Safety and Survival (OSIP# 1-98)

MODELS OF SYSTEM AFFECTED: E-2C **TYPE MODIFICATION:** Safety

DESCRIPTION/JUSTIFICATION:

The Parachute Survival Ensemble (PSE) replaces the A/P22P-11 Crew Backpack Assembly, currently installed on the E-2C aircraft. During scheduled inspections the A/P22P-11 Crew Backpack Assembly has high component rejection rates. This has occurred since it's introduction in 1988. Recent 1996 inspections at NAS Norfolk produced 90% rejection rates. It has poor supply support, greater than 43 days turnaround times at NAS Miramar. During live jump tests in June 1994 the parachute had a catastrophic failure due to it's canopy first deployment design. As a result of these factors, the confidence of the crew members and the maintainers has declined dramatically. There is a requirement per input from OAG, NAWC-WD and the fleet for the PSE. The PSE provides increased safety, longer shelf life of components, elimination of the torso harness, single point release and Full Face Mask compatible.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The prototype contract was signed in December 1995. Delivery of the prototype was in March 1996. Fleet evaluations were successfuly conducted from March 1996/May 1997. Final qualification phase will be conducted from June - September 1997.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits									20	1.8	20	1.8	10	0.9									50	4.5
Installation Kit - Unit Price																								
Installation Kits N/R										0.3														0.3
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data										0.6														0.6
Training Equipment										0.1														0.1
Support Equipment										0.1														0.1
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT										**2.9**		**1.8**		**0.9**										**5.6**

Note: A total of 250 PSE's are required. 1 kit contains 5 PSE assemblies. 'O' Level installation by Depot Field Mod Team. **Exhibit P-3a**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Block Upgrade III (OSIP# 19-99)

MODELS OF SYSTEM AFFECTED: E-2C **TYPE MODIFICATION:** Mission Performance Enhancement

DESCRIPTION/JUSTIFICATION:

The HAWKEYE 2000 OSIPs (Satellite Communications 21-95, Vapor Cycle 22-95, Mission Computer Upgrade 4-97, and Cooperative Engagement Capability 12-97) were consolidated into one engineering change proposal (ECP-418) to realize efficiencies in cost and scheduling. The efficiencies realized with consolidating HAWKEYE 2000 modifications under ECP-418 were reflected in the FY 1997 budget. Subsequent to establishment of ECP-418, it has become exceedingly difficult to coordinate kit and install quantities, contract dates, and training requirements across the four ECP-418 OSIPs. Beginning in FY 1999 the ECP-418 OSIPs were combined into one new OSIP, 19-99 Block Upgrade III. Consolidation of the OSIPs provides management a concise picture of cost and schedule requirements to modify and field HAWKEYE 2000 aircraft.

Satellite Communication (SATCOM): By JCS directives, all components of the Armed Forces who have satellite communications must be able to communicate using the Demand Assign Multiple Access (DAMA) waveform and be capable of narrow band secure voice. To meet these requirements the E-2C program will integrate Mini-DAMA into the aircraft. The Mini-DAMA unit is a UHF, full duplex radio with four full duplex ports and eight half duplex baseboard input/output. It incorporates the UHF SATCOM, line of sight radio functions, 5 and 25 KHz DAMA waveforms and embedded OTCIXS II, KGV-11 (TRANSEC) and COMSEC module for oderwire encryption for both 5 and 25 KHz DAMA functions. The Mini-DAMA has growth provisions for secure voice (ANDVT), TADIX-A, KG-84A and SAFENET. Previously OSIP# 21-95.

Vapor Cycle: The vapor cycle installed in the E-2C uses CFC-114 coolant. The Montreal Protocol calls for termination of the CFC production after 1995. Efforts to find an acceptable substitute for use in the vapor cycle currently installed in the E-2C have been successful. This program involves re-design of the current 12-ton vapor cycle so that it will provide adequate cooling using and environmentally acceptable coolant. Previously OSIP# 22-95.

Mission Computer Upgrade (MCU): The L-304 central data processing computer uses inputs from onboard sensors, data links, and a library of stored data to present a symbolic representation of the tactical situation to the operators. Data expansion resulting from Update Development Program II has pushed the computer capability to it’s ultimate limit, preventing utilization of improved target detection which could be achieved by emerging radar technology, infrared search and track, and SATCOM. All of these technologies are needed for execution of the E-2C battle management mission and for cooperative engagement operations. This OSIP funds retrofit of a replacement computer based on proven advances in computer technology and developed under the RDT&E Program Element No. 0204152N. As part of the MCU suite, the three (3) existing Cathode Ray Tube displays will be replaced with Advance Control Indicator Set (ACIS) workstations incorporating flat panel displays, and connected via a local area network. The layout of the ACIS workstation controls has been heavily influenced by Fleet inputs. Additionally, based on Commercial Off The Shelf (COTS) technology, the ACIS workstations will streamline Integrated Logistics Support and facilitate future upgrades. Previously OSIP# 4-97.

Cooperative Engagement Capability (CEC): The Navy has developed the capability to share sensor data through a network and perform the targeting process using sensors installed in remote platforms to augment the target position information on individual ships. The E-2C radar and passive detection systems provide vital target information over an increased surveillance area for greater situational awareness and provides early warning of distant targets. This program identifies the costs associated with integrating CEC into 55 E-2Cs and developing the support structure necessary to successfully deploy the system. Previously OSIP# 12-97.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits													2	10.2	2	10.4	3	16.0	2	10.9	44	244.1	53	291.5
Installation Kit - Unit Price														5.1		5.2		5.3		5.4		5.5		
Installation Kits N/R																								
Installation Equipment													2	15.1	2	15.4	3	23.6	2	16.1	44	361.2	53	431.5
Installation Equipment N/R																								
Engineering Change Orders																								
Data												1.5		1.0								0.6		3.0
Training Equipment											1	25.0	1	10.0	1	4.0	1	9.4	1	15.4	2	26.1	7	89.9
Support Equipment												2.1		1.0		1.0		1.5		0.8		5.3		11.7
ILS												0.5										0.5		1.0
Other Support												0.6						0.6				12.9		14.2
Interim Contractor Support																								
Installation Cost											1	0.2					2	4.0	2	4.0	51	133.6	56	141.8
TOTAL PROCUREMENT												**30.0**		**37.2**		**30.8**		**55.1**		**47.2**		**784.4**		**984.7**

Notes: 1) Installation costs and quantities in FY05 include 2 ISMT Trainers.

2) Totals do not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: E-2C

MODIFICATION TITLE: Block Upgrade III (OSIP# 19-99)

INSTALLATION INFORMATION: FY 99 includes the installation cost for one (1) FY 98 MCU kit.

METHOD OF IMPLEMENTATION: Contractor Drive-In Modification (annualized funding/2year lead-time).

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 1997: N/A FY 1998: 01/98 FY 1999: N/A FY 2000: 01/00 FY 2001: 01/01 FY 2002: 01/02 FY 2003: 01/03

DELIVERY DATE: FY 1997: N/A FY 1998: 01/99 FY 1999: N/A FY 2000: 01/02 FY 2001: 01/03 FY 2002: 01/04 FY 2003: 01/05

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (0) kits																								
FY 1997 (0) kits																								
FY 1998 (1) kits											**1**	**0.2**											**1**	**0.2**
FY 1999 (0) kits																								
FY 2000 (2) kits																	**2**	**4.0**					**2**	**4.0**
FY 2001 (2) kits																			**2**	**4.0**			**2**	**4.0**
FY 2002 (3) kits																					**3**	**7.7**	**3**	**7.7**
FY 2003 (2) kits																					**2**	**5.2**	**2**	**5.2**
To Complete (46) kits																					***46**	**118.5**	**46**	**118.5**
TOTAL											1	0.2					2	4.0	2	4.0	51	131.4	56	139.7

Note: Install of FY98 MCU kit (procured under OSIP 4-97) to be installed under this OSIP however this kit has a 1 year leadtime vs. 2 years for Block Upgrade III Kits.

Note: Includes ISMT trainer installation.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In											1												2		
Out												1												2	

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In		2			51	56
Out			2		51	56

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
Trainer Aircraft Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	3.3		0.3	2.3	6.4	7.9	7.5	9.7	9.1	9.0	6.0	13.8	75.4

This line item funds modifications to a group of trainer aircraft which includes the T-34C, T-38, CT-39, T-44A, and the TH-57. The training aircraft are described as follows: The T-34C is a single engine turbo-prop, mulit-seat aircraft produced by Beech Aircraft used to simulate jet aircraft flight; the T-38 is a twin engine, multi-seat aircraft produced by Northrop used for supersonic flight training; the CT-39 is a dual engine multi-purpose light transport aircraft to be converted to trainer usage; the T-44A is a twin engine, multi-seat aircraft produced by Beech Aircraft used to simulate operation of twin engine aircraft, specifically the P-3; and the TH-57 is a single engine, multi-seat rotary wing aircraft produced by Bell Helicopter used for helicopter training.

Two new OSIPs have been added to support the Undergraduate Flight Officer (UNFO) Program radar training system for the T-39. The UNFO radar training system consists of training aircraft and a Ground Based Training System (GBTS). The UNFO radar training aircraft are militarized small commercial business jets used to train Navy and Air Force student flight officers for future tactical aircrew assignments. The GBTS is used to familiarize the student flight officers with the airborne radar stations before actual flight training.

The overall goal of the modifications budgeted in FY 1999 is to maintain safe and reliable operation of the trainer aircraft through the timely installation of necessary changes. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
41-92	T-38 Cockpit Enclosure Mod	3.3	0.3	0.2									3.8
5-96	T-44A GPS			0.5	1.5	2.1	1.8	0.6					6.5
6-96	T-34C Air Conditioner Upgrade			0.2									0.2
7-96	T-44A Air Conditioner Upgrade			*									*
21-96	T-34C VHF Radio			1.4									1.4
8-97	TH-57C GPS				0.7	2.6	1.0	0.5					4.9
13-97	T-34C GPS				2.5	3.2	0.7	0.6	0.2				7.1
21-97	TH-57C TOT & Torque Gages				1.5								1.5
24-97	CT-39 Conversion into T-39				0.2		4.0					4.8	8.9
XX-00	UNFOT Upgrade (T-39)							8.1	9.0	9.0	6.0	9.1	41.1
TOTAL		**3.3**	**0.3**	**2.3**	**6.4**	**7.9**	**7.5**	**9.7**	**9.1**	**9.0**	**6.0**	**13.8**	**75.4**

Notes: * indicates amount less than 0.051 Million.
Totals do not add due to rounding.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Global Positioning System (GPS)(OSIP 5-96)

MODELS OF SYSTEM AFFECTED: T-44A TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The NAVSTAR GPS is a spaced based radio positioning and navigation system that will provide three dimensional position, velocity and time information to suitably equipped users anywhere on or near the earth. The GPS system will interface with communication, navigation and weapon systems equipment, i.e., Automatic Heading Reference System, Flight Management System, on selected applications. A waiver has been granted by ASD to procure commercial, Standard Positioning Service (SPS) GPS receivers. Therefore, this OSIP covers the complete kits (and installations) required for GPS capability using commercial SPS systems.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The GPS system to be installed will be a commercially available, Non-Development Item (NDI).

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E						0.2		0.4																0.6
PROCUREMENT																								
Installation Kits					5	0.4	7	0.5	15	1.1	22	1.6	5	0.4									54	3.9
Installation Kit - Unit Price						0.1		0.1		0.1		0.1		0.1										
Installation Kits N/R						0.2		0.3																0.5
Installation Equipment																								*
Installation Equipment N/R																								*
Engineering Change Orders								*																*
Data								0.2																0.2
Training Equipment								0.3	5	0.8		*		0.1									5	1.1
Support Equipment																								*
Other Support								0.2		0.1														0.3
Interim Contractor Support																								*
Installation Cost									19	0.2	25	0.2	15	0.1									59	0.5
TOTAL PROCUREMENT						0.5		1.5		2.1		1.8		0.6										6.4

NOTE: *less than .051K; totals may not add due to rounding amount. **Exhibit P-3a**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T-44A

MODIFICATION TITLE: Global Positioning System (GPS)(OSIP 5-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Commercial Maintenance Contractor drive-in modification.

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 1997: Jun 97 FY 1998: Dec 97 FY 1999: Dec 98 FY 2000: Dec 99

DELIVERY DATE: FY 1997: Sep 97 FY 1998: Mar 98 FY 1999: Mar 99 FY 2000: Mar 00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (5) kits									**5**	0.1													**5**	0.1
FY 1997 (7) kits									**7**	0.1													**7**	0.1
FY 1998 (20) kits									**7**	*	**13**	0.1											**20**	0.2
FY 1999 (22) kits											**12**	0.1	**10**	0.1									**22**	0.2
FY 2000 (5) kits													**5**	0.1									**5**	0.1
FY 2001 ( ) kits																								*
FY 2002 ( ) kits																								*
FY 2003 ( ) kits																								*
To Complete ( ) kits																								*
TOTAL		*		*		*		*	19	0.2	25	0.2	15	0.1		*		*		*		*	59	0.5

*NOTE: FY 1998 buy includes 5 kits for trainers; installed in 2nd quarter FY1999

NOTE: *less than .051K; totals may not add due to rounding amount.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3.0	4	1.0	2	3.0	4	1.0	2	3.0	4	1	2	3	4	1	2	3	4
In						4	5	5	5	5	10	5	5	5	5	5									
Out						4	5	5	5	5	10	5	5	5	5	5									

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						59
Out						59

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Air Conditioner System Upgrades (OSIP 6-96)

MODELS OF SYSTEM AFFECTED: T-34C

TYPE MODIFICATION: Retrofit

DESCRIPTION/JUSTIFICATION:

The current refrigerant used in the T-34C air conditioning system (freon R-12) has been classified as an ozone depleting substance. As such, it's production has been discontinued (as required by E.P.A. mandate). An alternate non-ozone depleting refrigerant (HFC-134A) has been identified; however, it is not compatible with existing systems. All T-34C aircraft must therefore be retrofitted with new systems which are compatible with the alternate refrigerant.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Available from commercial sources as a turnkey effort.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								*
PROCUREMENT																								
Installation Kits					296	0.1																	296	0.1
Installation Kit - Unit Price						*																		
Installation Kits N/R																								*
Installation Equipment																								*
Installation Equipment N/R																								*
Engineering Change Orders						*																		*
Data						*																		*
Training Equipment																								*
Support Equipment																								*
Other Support																								*
Interim Contractor Support																								*
Installation Cost					296.0	0.1																	296	0.1
TOTAL PROCUREMENT						0.2																		0.2

NOTE: *less than .051K; totals may not add due to rounding amount.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **T-34C**

MODIFICATION TITLE: Air Conditioner System Upgrades (OSIP 6-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Maintenance Contractor incorporation on sites**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 1996: May-97 FY 1997: FY 1998:

DELIVERY DATE: FY 1996: Jun-97 FY 1997: FY 1998:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (296) kits						0.1	**10.0**		**286.0**														**296.0**	0.1
FY 1997 () kits																								*
FY 1998 ( ) kits																								*
FY 1999 () kits																								*
FY 2000 () kits																								*
FY 2001 ( ) kits																								*
FY 2002 ( ) kits																								*
FY 2003 ( ) kits																								*
To Complete ( ) kits																								*
TOTAL						0.1	10		286														296	0.1

NOTE: *less than .051K; totals may not add due to rounding amount.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					10	71	71	72	72																
Out					10	71	71	72	72																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						296
Out						296

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Air Conditioner System Upgrades (OSIP 7-96)

MODELS OF SYSTEM AFFECTED: T-44A

TYPE MODIFICATION: Retrofit

DESCRIPTION/JUSTIFICATION:

The current refrigerant used in the T-44A air conditioning system (freon R-12) has been classified as an ozone depleting substance. As such, it's production will soon be discontinued (as required by E.P.A. mandate). An alternate non-ozone depleting refrigerant (HFC-134A) has been identified, however, it is not compatible with existing systems. All T-44A aircraft must therefore be retrofitted with new systems which are compatible with the alternate refrigerant.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Available from commercial sources as a turnkey effort.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits					55	*																	55	*
Installation Kit - Unit Price						*																		
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders						*																		*
Data						*																		*
Training Equipment																								
Support Equipment																								
Other Support																								
Interim Contractor Support																								
Installation Cost					55.0	*																	55	*
TOTAL PROCUREMENT						*																		*

NOTE: *less than .051K; totals may not add due to rounding amount.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **T-44**

MODIFICATION TITLE: Air Conditioner System Upgrades (OSIP 7-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Maintenance Contractor incorporation on sites**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 1996: Jun-97 FY 1997: FY 1998:

DELIVERY DATE: FY 1996: Jul-97 FY 1997: FY 1998:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (55) kits						*	**10.0**		**45**														**55.0**	*
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 () kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL						*	10.0		45														55	*

NOTE: *less than .051K; totals may not add due to rounding amount.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					10	20	25																		
Out					10	20	25																		

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						55
Out						55

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Very High Frequency (VHF) radio (OSIP 21-96)

MODELS OF SYSTEM AFFECTED: T-34C TYPE MODIFICATION: **Safety**

DESCRIPTION/JUSTIFICATION:

The training mission of the T-34C requires substantial operations at civilian airfields. Many of the control towers (as well as civilian air traffic) operate on VHF only. The T-34C is currently equipped with Ultra High Frequency (UHF) radios only. Addition of VHF capability will enhance safety as it will allow T-34C aircraft to receive civilian aircraft transmissions of position and intent allowing for reduced mid-air collision threat.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The VHF radio will be a commercially available, Non-Development Item (NDI). This radio will be procured, installed and maintained by the commercial maintenance contractor as a "Turnkey" operation.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Com		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								*
PROCUREMENT																								
Installation Kits					317	0.7																	317	0.7
Installation Kit - Unit Price						*																		
Installation Kits N/R						0.1																		0.1
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data						0.1																		0.1
Training Equipment					31	0.1																	31	0.1
Support Equipment																								
Other Support																								
Interim Contractor Support																								
Installation Cost					348	0.5																	348	0.5
TOTAL PROCUREMENT		*		*		1.4		*		*		*		*		*		*		*		*		1.4

NOTE: *less than .051K; totals may not add due to rounding amount.

NOTE: FY 96 Unit cost $2,250 ea.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **T-34C** MODIFICATION TITLE: VHF RADIO (OSIP 21-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Commercial Maintenance Contractor incorporation as a "Turnkey" operation. Using FY 96 FUNDS.**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: Months

CONTRACT DATES: FY 1997: Aug 97 FY 1998: FY 1999:

DELIVERY DATE: FY 1997: Sep 97 FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003 To Comple				TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (348) kits					**348**	0.5																	**348**	0.5
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL		*		*	348	0.5		*		*		*		*		*		*		*		*	348	0.5

Buy includes 31 Kits for trainers; installed in 2nd quarter FY 98

NOTE: *less than .051K; totals may not add due to rounding amount.

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In					20	122	138	68																	
Out						111	123	114																	

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						348
Out						348

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: GLOBAL POSITITIONING SYSTEM (GPS) (OSIP 8-97)

MODELS OF SYSTEM AFFECTED: TH-57C

TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

The NAVSTAR GPS is a spaced-based radio positioning and navigation system that will provide three-dimensional position, velocity and time information to suitably equipped users anywhere on or near the earth. The GPS system will interface with communication, navigation and weapon systems equipment; i.e., Automatic Heading Reference System, Flight management System, on selected applications. A waiver to use commercial, Standard Positioning Service (SPS) GPS receivers was approved for the TH-57. This OSIP describes a commercial SPS GPS integration in the center console. Cost increases reflected in this OSIP are due to physical and electrical integration issues. The current integration is based on the Allied Signal KLN-900 GPS and replaces the ARC-159 UHF radio to free up console space. Other components not previously identified include: an annunciation switch set, a cooling fan, and a NAV switching unit.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The GPS system to be installed will be a commercially available, Non-development Item (NDI).

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E						0.1																		0.1
PROCUREMENT																								
Installation Kits							4	0.1	28	0.8	28	0.7	14	0.3									74	1.9
Installation Kit - Unit Price								*		*		*		*										
Installation Kits N/R								0.1																0.1
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data								0.2																0.2
Training Equipment								0.2	6	1.7		0.1											6	2.0
Support Equipment								*																
Other Support								0.1																0.1
Interim Contractor Support								*																
Installation Cost									20	0.2	32	0.3	28	0.2									80	0.6
TOTAL PROCUREMENT								0.7		2.6		1.0		0.5										4.9

NOTE: *less than .051K; totals may not add due to rounding amount.

NOTE:1997,98,99,& 00 Unit cost is 24K ea.-- Support Equipment cost 21K-- Interim Contractor Support 27K

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **TH-57C**

MODIFICATION TITLE: GLOBAL POSITITIONING SYSTEM (GPS) (OSIP 8-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Commercial Maintenance Contractor drive-in modification.**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 3 Months

CONTRACT DATES: FY 1997: May-97 FY 1998: Dec-97 FY 1999: Dec-98 FY 2000: Dec-99

DELIVERY DATE: FY 1998: Aug-97 FY 1998: Mar-98 FY 1999: Mar-99 FY 2000: Mar-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								*
FY 1997 (4) kits									**4**	*													**4**	*
FY 1998 (34) kits									**16**	0.1	**18**	0.1											**34**	0.3
FY 1999 (28) kits											**14**	0.1	**14**	0.1									**28**	0.2
FY 2000 (14) kits													**14**	0.1									**14**	0.1
FY 2001 ( ) kits																								*
FY 2002 ( ) kits																								*
FY 2003 ( ) kits																								*
To Complete ( ) kits																								*
TOTAL		*		*		*		*	20	0.2	32	0.3	28	0.2		*		*		*		*	80	0.6

NOTE: FY98 buy inclides 6 kits for tratiners: installed as 2 in 4th Qtr. 98 & 4 in first Qtr. 99.

NOTE: *less than .051K; totals may not add due to rounding amount.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							4	7	9	8	8	8	8	7	7	7	7								
Out							4	7	9	8	8	8	8	7	7	7	7								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						80
Out						80

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Global Positioning System (GPS)(OSIP 13-97)

MODELS OF SYSTEM AFFECTED: T-34C TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The NAVSTAR GPS is a spaced based radio positioning and navigation system that will provide three dimensional position, velocity and time information to suitably equipped users anywhere on or near the earth. The GPS system will interface with communication, navigation and weapon systems equipment, i.e., Automatic Heading Reference System, Flight Management System, on selected application A waiver to buy a commercial, Standard Positioning Service (SPS) GPS receiver has been approved by ASD. In the T-34C this will be achieved by upgrading the collision warning system (NACWS) already installed in the aircraft. This OSIP covers the complete fit (and installation)required for GPS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The GPS system to be installed will be a commercially available, Non-Development Item (NDI).

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E								0.5																0.5
PROCUREMENT																								
Installation Kits							100	1.8	60	1.1	18	0.32	26	0.5									204	3.7
Installation Kit - Unit Price								*		*		*		*										
Installation Kits N/R								0.3																0.3
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders								*																
Data								0.1																0.1
Training Equipment								0.2	31	0.9		0.1												1.1
Support Equipment																								
Other Support								*		0.1						*								0.1
Interim Contractor Support																								
Installation Cost									191	1.1	60	0.34	15	0.1	29	0.2							295	1.7
TOTAL PROCUREMENT								2.5		3.2		**0.73**		0.6		0.2								7.1

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **T-34C** MODIFICATION TITLE: Global Positioning System (GPS)(OSIP 13-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor drive-in modification.

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 1997: FY 1998: Aug 98 FY 1999: Aug 99 FY 2000: Aug 00 FY2001:

DELIVERY DATE: FY 1997: FY 1998: Sep 98 FY 1999: Sep 99 FY 2000: Sep 00 FY 2001:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								*
FY 1997 (100) kits									**100**	**0.6**													**100**	**0.6**
FY 1998 (91*) kits									**91**	**0.5**													**91**	**0.5**
FY 1999 (18) kits											**18**	**0.3**											**18**	**0.3**
FY 2000 (26) kits													**15**	**0.1**	**11**	**0.2**							**26**	**0.2**
FY 2001 () kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL									191	**1.1**	18	**0.3**	15	**0.1**	11	**0.2**							235	**1.7**

*NOTE: FY 1998 buy includes 31 kits for trainers; installed as 10 in 3rd Qtr and 21 in 4th qtr fy1998

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In						48	48	48	47	5	5	5	3	4	4	3	3	3	3	3	3				
Out						48	48	48	47	5	5	5	3	4	4	3	3	3	3	3	3				

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						235
Out						235

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Turbine Outlet Temperature (TOT) and Torque Gages (OSIP 21-97)

MODELS OF SYSTEM AFFECTED: TH-57C TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The TOT and Torque Gages are becoming uneconomical to support. They have a high failure rate and long lead time parts. They also do not record temperature and torque exceedences. This requires the pilot to look at these gages during emergency situations. If the pilot can not tell maintenance the peak exceedence, then maintenance must assume the worst and perform potentially unnecessary expensive overhauls. Commercial replacement units are available that will record exceedence, have a high MTBR (>30,000 hours) and are inexpensive.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Non-development Item (NDI).

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E								0.5																0.5
PROCUREMENT																								
Installation Kits							120	1.2															120	1.2
Installation Kit - Unit Price								*																
Installation Kits N/R								*																*
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders								*																
Data								*																*
Training Equipment																								*
Support Equipment																								
Other Support																*								*
Interim Contractor Support																								
Installation Cost							120	0.3															120	0.3
TOTAL PROCUREMENT								1.5								*								1.5

*=indicates amount less than 0.051 million.

*=Kit cost = $10k; N/R = 10K; ECP = 10K; Data = 20K.

Total do not add due to rounding.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **TH-57C** MODIFICATION TITLE: Turbine Outlet Temperature (TOT) and Torque Gages

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor drive-in turnkey modification.

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 1997: 2/1/97 FY 1998: _____ FY 1999: _____ FY 2000: _____ FY2001: ___

DELIVERY DATE: FY 1997: 2/1/97 FY 1998: _____ FY 1999: _____ FY 2000: _____ FY 2001: ___

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Comple		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 (120) kits							**120**	**1.3**															**120**	**1.3**
FY 1998 () kits																								
FY 1999 ( ) kits																								
FY 2000 () kits																								
FY 2001 () kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL							120	**1.3**															120	**1.3**

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0			60	60																				
Out	0			60	60																				

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In					0	120
Out					0	120

CLASSIFICATION: **UNCLASSIFIED**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: CT-39 Conversion into T-39 (OSIP 24-97)

MODELS OF SYSTEM AFFECTED: CT-39G Aircraft

TYPE MODIFICATION: Conversion/Safety

DESCRIPTION/JUSTIFICATION:

Incorporation of equipment required to perform UNFO non-radar training and to add safety enhancements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Components of this block upgrade will be commercial-off-the-shelf (COTS) items with the exception of the training specific modifications. Limited integration effort is required. The major development effort for the upgrade is incorporation of mission specific training equipment.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits											4	3.2									4	4.0	8	7.3
Installation Kit - Unit Price												0.8										1.0		
Installation Kits N/R												0.1										*		0.2
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS																								
Other Support								0.2																0.2
Interim Contractor Support																								
Installation Cost											4	0.7									4	0.7	8	1.3
TOTAL PROCUREMENT								**0.2**				**4.0**										**4.8**		**8.9**

Note: Totals may not add due to rounding.

*To Complete N/R cost is 50k.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: CT-39G

MODIFICATION TITLE: CT-39 Conversion into T-39 (OSIP 24-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor installed kits.

ADMINISTRATIVE LEADTIME: 1 Month

PRODUCTION LEADTIME: 1 Month

CONTRACT DATES: FY 1997: FY 1998: FY 1999: 10/98

DELIVERY DATE: FY 1997: FY 1998: FY 1999: 11/98

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 (4) kits											4	0.7											4	0.7
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete (4) kits																					4	0.7	4	0.7
TOTAL											4	0.7									4		8	1.3

Note: Totals do not add due to rounding.

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In										1	1	1	1												
Out											1	1	1	1											

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In					4	8
Out					4	8

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: UNFOT Upgrade (T-39) (OSIP XX-00)

MODELS OF SYSTEM AFFECTED: UNFO Radar Training System TYPE MODIFICATION: Conversion

DESCRIPTION/JUSTIFICATION:

The block upgrade to the UNFO radar training system is needed to enable the system to meet the requirements of the 4 Nov. 1994 Training Systems Requirements Document and the latest FAA safety mandates. This block upgrade includes the following Aircraft and Ground Based Improvements:

Radar Upgrade; Incorporation of Global Positionong System (GPS), Ground Proximity Warning System (GPWS), Traffic Collision Avoidance System (TCAS II) and Ground Based Training System (GBTS) upgrade to match radar upgrade.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

With the exception of the GBTS, the components of the block upgrade will be commercial-off-the-shelf items. Only a limited aircraft integration effort will be required. The GBTS is a table top computer system with multiple stations to simulate airborne radar stations. The major development effort for the GBTS is software. Contract award for the block upgrade is planned for first QFY 2000.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								0.0
PROCUREMENT	0	0.0																						
Installation Kits	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0		4	7.2	4	7.5	4	7.8	2	4.0	3	8.4	17	34.9
Installation Kit - Unit Price														1.8		1.9		2.0		2.0		2.8		
Installation Kits N/R	0	0.0												0.5		0.7		0.5		0.7		0.5		2.9
Installation Equipment																							0	0.0
Installation Equipment N/R																								0.0
Engineering Change Orders																								0.0
Data																								0.0
Training Equipment																								0.0
Support Equipment																								0.0
Other Support																								0.0
Interim Contractor Support																								0.0
Installation Cost													4	0.4	4	0.7	4	0.7	2	1.3	3	0.2	17	3.3
TOTAL PROCUREMENT		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**8.1**		**8.9**		**9.0**		**6.0**		**9.1**		**41.1**

Note: Totals do not add due to rounding

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED **UNFO Training System (T-39N)** MODIFICATION TITLE: UNFOT Upgrade (T-39) (OSIP 23-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Installed Kits**

ADMINISTRATIVE LEADTIME: 1 Months PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																							**0**	**0.0**
FY 1997 ( ) kits																							**0**	**0.0**
FY 1998 ( ) kits																							**0**	**0.0**
FY 1999 ( ) kits																							**0**	**0.0**
FY 2000 (4) kits													**4**	**0.4**									**4**	**0.4**
FY 2001 (4) kits															**4**	**0.7**							**4**	**0.7**
FY 2002 (4) kits																	**4**	**0.7**					**4**	**0.7**
FY 2003 (2) kits																			2	1.3			**2**	**1.3**
To Complete (3) kits																					3	0.2	3	0.2
TOTAL	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	0.4	4	0.7	4	0.7	2	1.3	3	0.2	17	3.3

Note: Totals do not add due to rounding

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0													1	1	1	1	1	1	1	1	1	1	1	1
Out	0														1	1	1	1	1	1	1	1	1	1	1

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	1		1		3	17
Out	1	1		1	3	17

CLASSIFICATION: **UNCLASSIFIED**

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET P-40	DATE: September 1997
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications	P-1 ITEM NOMENCLATURE C-2A Series Modifications
Program Element for Code B Items:	Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	(17.2)		(23.6)	(27.7)	(15.5)	19.2	20.9	20.4	11.2	11.2	16.7	200.3	383.9

This line item funds modifications to the C-2A(R) aircraft. The C-2A(R) Greyhound is a high wing monoplane, twin engine turbo-prop aircraft capable of operating from both a shore base and all operational USN aircraft carrier classes. The mission of the C-2A(R) is to provide rapid response carrier on board delivery (COD) of fleet essential supplies, repair parts, and personnel to sustain at sea operations of deployed battle groups. In addition, the C-2A(R) provides airdrop delivery and mobilization support for special operations forces from land bases and carriers. The overall goal of the modifications in FY 1999 is to continue non-recurring and initial procurement efforts for the C-2A(R) Service Life Extension Program (SLEP). The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years*	FY 1995*	FY 1996*	FY 1997*	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
23-94	C-2A GPS	(4.7)	(1.6)	(0.6)	(0.4)								7.4
24-94	C-2A SLEP	(12.5)	(22.0)	(27.1)	(15.1)	19.2	20.9	20.4	11.2	11.2	16.7	200.3	376.5
TOTAL		**(17.2)**	**(23.6)**	**(27.7)**	**(15.5)**	**19.2**	**20.9**	**20.4**	**11.2**	**11.2**	**16.7**	**200.3**	**383.9**

* Prior to FY 1998, funding for C-2A(R) modifications is contained within the Cargo & Transport Aircraft Series Mod line; FY 1997 and prior years funds are reported here for informational purposes only.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: C-2A(R) Global Positioning System (GPS) (OSIP 23-94)

MODELS OF SYSTEM AFFECTED: C-2A(R) TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The C-2A(R) GREYHOUND provides the Fleet's Carrier Onboard Delivery (COD) and other missions which require long distance, over water navigation. The LTN-211 Omega System which is being phased out in the 1990s and the AN/ASN-116 AHRS, which has documented MTBF of 17 hours, make up the current C-2A(R) navigation suite. ASD(C3I) Memo of 11 May 1988 and the Common Avionics GPS OSIP 71-88 provide the rationale and justification for procurement of GPS for Navy aircraft, including the C-2A(R). This avionic system upgrade is required to provide both long term operability and a crucial improvement in the operational capability and safety margin of the aircraft. With a GPS integration augmented by a reliable navigation system, CAINS II, the C-2A(R) will be able to perform its COD and other special operations critical to Fleet support beyond CY 2000. This OSIP will also rectify several of the documented deficiencies in the final C-2A(R) INSURV report (Serial #9203021 of 2 March 1992).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Development and operational testing on the C-2A(R) has been successfully completed.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	18	0.7	18	0.7																			36	1.4
Installation Kit - Unit Price		*		*																				
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.7		*																				0.7
Training Equipment	2	2.8	1	0.2																				2.9
Support Equipment				0.2																				0.2
Integrated Logistics Support		0.6																						0.6
Other Support																								
Interim Contractor Support																								
Installation Cost			6	0.5	20	0.6	10	0.4															36	1.6
TOTAL PROCUREMENT		**4.7**		**1.6**		**0.6**		**0.4**																**7.4**

* Indicates amounts less than 0.051 Million

**Totals do not add due to rounding

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-2A(R)

MODIFICATION TITLE: C-2A(R) Global Positioning System (GPS) (OSIP 23-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Installation during Standard Depot Level Maintenance (SDLM) augmented by Drive In Modification and Field Modification Teams at the Naval Aviation Depot (NADEP).

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 15 Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999:

DELIVERY DATE: FY 1997: FY 1998: FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (36) kits			6	0.5	20	0.6	10	0.4															36	1.6
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL			6	0.5	20	0.6	10	0.4															36	1.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	26	2	2	2	4																				
Out	26		2	2	2	4																			

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						36
Out						36

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: C-2A(R) Block Upgrade/Service Life Extension Program (OSIP 24-94)

MODELS OF SYSTEM AFFECTED: C-2A(R) Aircraft TYPE MODIFICATION: Safety/SLEP

DESCRIPTION/JUSTIFICATION:

The C-2A(R) Block Upgrade/SLEP will permit extended operation of the Navy's Carrier Onboard Delivery (COD) beyond its current projected service life. It will also provide for the installati of avionic systems required to improve performance and preclude obsolescence during the extended life of this critical Fleet asset. At least two C-2A(R)s will reach 100% of fatigue life in 2000, over three quarters of the aircraft will be grounded by CY 2005. This OSIP will ensure that the impact on COD operations is minimized. Usage analyses under a Full Scale Fatigue Test shows that airframe structural life including that of Outer Wing Panels (OWPs) will be less than designed life. This OSIP will provide for OWP structural Airframe Change (AFC) enhancements starting in FY1998. In addition to the service life structural changes, this upgrade will replace and/or install systems and components (L-Probe/VSI, CAINS II, ARC-210 radios, full face O_2 mask, and aircraft wiring) which are documented deficiencies as noted in the final C-2A(R) INSURV report. It is planned that the CAINS II and ARC-210 radio modifications will be installed on an accelerated basis in advance of the other SLEP changes.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Development and operational testing (DT and OT) have been completed for the avionics systems included in this OSIP. A DT and OT for SLEP systems in the C-2A(R) is planned in FY 1997 through FY 2003.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits					4	0.4	18	0.8	33	5.9	34	8.8	17	8.4	30	5.5	28	5.4	9	11.4	93	112.4	266	159.0
Installation Kit - Unit Price						*		*		*		*		*		*		*		*		*		
Installation Kits N/R		2.0		4.0		6.9		2.9		2.1		2.1		2.0		0.8		0.3						23.2
Installation Equipment																								
Installation Equipment N/R		0.3		1.6		1.9		0.3		0.2		0.2		0.1										4.5
Engineering Change Orders																								
Data				0.3		1.2		1.3		1.4		1.9		2.0		0.5								8.5
Training Equipment						0.8				0.6		2.0		0.6		0.2								4.3
Support Equipment				0.2		0.3		0.3																0.8
Integrated Logistics Support						0.5		0.6		0.7		0.7		0.5		0.4		0.3						3.7
Other Support		10.2		15.9		15.2		8.7		7.1		3.4		3.6		1.9		0.9		2.5				69.4
Interim Contractor Support																								
Installation Cost					2	**	2	0.1	18	1.1	28	1.7	33	3.2	11	1.9	28	4.3	20	2.9	102	87.9	244	103.1
TOTAL PROCUREMENT		**12.5**		**22.0**		**27.1**		**15.1**		**19.2**		**20.9**		**20.4**		**11.2**		**11.2**		**16.7**		**200.3**		**376.5**

* See attached addendum sheet.

** Installation of CAINS II prototype kit is funded as part of the Install Kit Non-recurring line in FY 1996.

*** Totals do not add due to rounding

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-2A(R)

MODIFICATION TITLE: Block Upgrade/SLEP (OSIP 24-94) - Structure / Rewire / O2 Mask

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 11 Months

CONTRACT DATES: FY 2001: **11/00** FY 2002: **11/01** FY 2003: **11/02**

DELIVERY DATE: FY 2001: **10/01** FY 2002: **10/02** FY 2003: **10/03**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 (3) kits																	3	2.3					3	2.3
FY 2002 (3) kits																			3	2.4			3	2.4
FY 2003 (9) kits																					9	7.4	9	7.4
To Complete (93) kits																					93	80.5	93	80.5
TOTAL																	3	2.3	3	2.4	102	87.9	108	92.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																						1			
Out																									

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	1				34	36
Out	1				35	36

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-2A(R)

MODIFICATION TITLE: Block Upgrade/SLEP (OSIP 24-94) - CAINS II / L-Probe

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Navy Field Modification Team (FMT)

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 7 Months

CONTRACT DATES: FY 1997: **06/97** FY 1998: **03/98** FY 1999: **03/99**

DELIVERY DATE: FY 1997: **01/98** FY 1998: **10/98** FY 1999: **10/99**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (4) kits					2	*	2	0.1															4	0.1
FY 1997 (18) kits									18	1.1													18	1.1
FY 1998 (28) kits											28	1.7											28	1.7
FY 1999 (22) kits													22	1.4									22	1.4
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL					2		2	0.1	18	1.1	28	1.7	22	1.4									72	4.4

* CAINS II and associated installation equipment provided by NAVICP LRIP process and CAINS II Reuse Program.
First FY96 kit buy (prototype) installed with APN-5.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1			1			2	2	5	3	3	4	4	3	4	4									
Out		1			1			2	3	4	3	3	4	4	3	4	4								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						36
Out						36

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-2A(R)

MODIFICATION TITLE: Block Upgrade/SLEP (OSIP 24-94) - ARC-210 Radios

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Navy Field Modification Team (FMT)

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 9 Months

CONTRACT DATES: FY 1999: **01/99** FY 2000: **01/00** FY 2001: **01/'01**

DELIVERY DATE: FY 1999: **10/99** FY 2000: **10/00** FY 2001: **10/'01**

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 (1) kits													1	*									1	0.0
FY 2000 (1) kits															1	*							1	0.0
FY 2001 (17) kits																	17	0.5					17	0.5
FY 2002 (17) kits																			17	0.5			17	0.5
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL													1	0.0	1	0.0	17	0.5	17	0.5			36	0.9

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In														1				1				5	4	4	4
Out																1			1				5	4	4

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	5	4	4	4		36
Out	4	5	4	4	4	36

* Total are off due to rounding.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-2A(R)

MODIFICATION TITLE: Block Upgrade/SLEP (OSIP 24-94) - Outer Wing Panel Enhancement

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Navy Forced Retrofit Component

ADMINISTRATIVE LEADTIME: 1 Month

PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 2000: **11/99** FY 2001: **11/00** FY 2002: **11/01**

DELIVERY DATE: FY 2000: **01/00** FY 2001: **01/01** FY 2002: **01/02**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 (10) kits													10	1.8									10	1.8
FY 2001 (10) kits															10	1.8							10	1.8
FY 2002 (8) kits																	8	1.5					8	1.5
FY 2003 ( ) kits																								
To Complete (8) kits																								
TOTAL													10	1.8	10	1.8	8	1.5					28	5.1

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In															3	3	4		3	3	4		3	3	2
Out															3	3	4		3	3	4		3	3	2

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						28
Out						28

C-2A(R) Block Upgrade/SLEP

OSIP 24-94

ECP#/Name	Prior Years	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	To Complete
L-Probe (AFC-161) Kit		*	0.1	0.1	0.1					
Procure Qty		2	9	14	11					
Procure Unit Cost		*	*	*	*					
Installation Cost			*	*	0.1	*				
Install Qty		1	1	9	14	11				
CAINS II (AFC-156) Kit		0.3	0.8	1.2	1.0					
Procure Qty		2	9	14	11					
Procure Unit Cost		0.2	0.8	*	*					
Installation Cost			0.1	1.1	1.7	1.4				
Install Qty		1	1	9	14	11				
ARC-210 (AFC-157) Kit					0.1	0.1	0.6	0.6		
Procure Qty					1	1	17	17		
Procure Unit Cost					0.1	0.1	*	*		
Installation Cost						0.03	0.03	0.5	0.5	
Install Qty						1	1	17	17	
Rewire (AFC-162) Kit							0.6	0.7	2.0	19.9
Procure Qty							1	1	3	31
Procure Unit Cost							0.6	0.7	0.7	0.6
Installation Cost								0.5	0.5	20.6
Install Qty								1	1	34
O_2 Mask (AFC-W) Kit							*	*	0.1	0.7
Procure Qty							1	1	3	31
Procure Unit Cost							*	*	*	*
Installation Cost								*	*	0.5
Install Qty								1	1	34
Structure (AFC-X) Kit							3.0	3.0	9.3	91.8
Procure Qty							1	1	3	31
Procure Unit Cost							3.0	3.0	3.1	3.0
Installation Cost								1.8	1.8	66.8
Install Qty								1	1	34

C-2A(R) Block Upgrade/SLEP (Continued)

OSIP 24-94

ECP#/Name	Prior Years	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	To Complete
Converted OWP (AYC-A)				0.5	1.2	0.5				
Procure Qty				3	8	3				
Procure Unit Cost				0.2	0.2	0.2				
Installation Cost										
Install Qty										
Enhanced OWP (AFC-Y)				4.2	6.4	6.6				
Procure Qty				2	3	3				
Procure Unit Cost				2.1	2.1	2.2				
Installation Cost										
Install Qty										
OWPEnhancement (AFC-Z)						1.3	1.3	1.1		
Procure Qty						10	10	8		
Procure Unit Cost						0.1	0.1	0.1		
Installation Cost						1.8	1.8	1.5		
Install Qty						10	10	8		
Total Procurement Cost		0.4	0.8	5.9	8.8	8.4	5.5	5.4	11.4	112.4
Total Installation Cost			0.1	1.1	1.7	3.2	1.9	4.3	2.9	87.9

* FY96 Kit Buy (Prototype) installed with APN-5
**Indicates amounts less than .051 million.

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: SEPTEMBER 1997

APPROPRIATION/BUDGET ACTIVITY: Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE: C/KC-130 Series Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	61.5	A	17.4	6.6	2.7	12.6	4.2	5.4	2.9	2.6	2.7	26.8	145.2

This item funds modifications to C/KC-130 aircraft. The Lockheed C/KC-130 aircraft is a four engine, high-wing, all metal, long range, land based monophane capable of all weather transport of cargo or personnnel and in-flight refueling. The overall goal of the modifications budgeted in FY 1999 is to bring old aircraft with 1950's technology to 90's standards. There are currently 101 aircraft in the Navy & Marine Corps inventory (53 active plus 48 reserve).

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
70-85	AVION. SYS. IMP. PROG. III	48.5	8.3	2.1	0.3	2.1	0.4						61.6
02-92	ARC-210 RADIO SYSTEM	2.1	0.4	0.8	0.6	1.0	1.4	2.0	1.9	1.8	1.8	4.1	17.9
25-92	GPS	9.1	6.0	3.2	1.8	8.8	2.3	2.0					33.2
09-94	NIGHT VISION LIGHTING	1.8	1.2	0.0	0.0	0.2	0.0	1.4	1.0	0.8	0.9	20.9	28.1
39-95	STANDBY ATITUDE IND. (SAI)		1.5	0.6	0.0								2.1
11-98	TAMPS			0.0	0.0	0.6						1.7	2.3
TOTAL		**61.5**	**17.4**	**6.6**	**2.7**	**12.6**	**4.2**	**5.4**	**2.9**	**2.6**	**2.7**	**26.8**	**145.2**
RESERVE FUNDING INCLUDED IN TOTAL				1.5	1.0	3.8	1.3	2.8	2.1	2.1	0.3		

Notes:
1. Totals may not add due to rounding
2. Asterisk equals amounts less than $51k.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AVIONICS SYSTEM IMPROVEMENT PROGRAM (ASIP) PHASE III (OSIP 70-85)

MODELS OF SYSTEM AFFECTED: C-130R, KC-130F, KC-130R, KC-130T

TYPE MODIFICATION: Upgrade (HONA category C)

DESCRIPTION/JUSTIFICATION:

The existing C/KC-130F/R/T aircraft are equipped with old vacuum tube electronics and early 1950's technology. These systems are expensive to maintain in money and manpower, including reliability. This ASIP program will replace the old equipment with the latest state-of-the-art equipment. The systems to be installed are: (1) Solid State Propeller Synchronization, (2) Compass System, (3) Combined Altitude Radar Altimeter (CARA), (4) Engine Instruments, (5) Flight Director, (6) Ground Proximity Warning System, and (7) Autopilot Improvement. These systems will provide a substantial increase in safety, reliability, and maintainability. Program is baseline for GPS (OSIP 25-92).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The modification has been installed in approximately 85% of aircraft to be configured as of April 1997.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	49	7.1	13	0.7																			62	7.7
Installation Kit - Unit Price		*0.1*		*0.1*																				
Installation Kits N/R		7.7																						7.7
Installation Equipment	49	21.0	13	4.2																			62	25.2
Installation Equipment N/R																								
Engineering Change Orders																								
Data		1.7																						1.7
Training Equipment			1	2.7																			1	2.7
Support Equipment		2.3																						2.3
ILS		2.4																						2.4
Other Support		0.7		*		0.1		0.1		0.1														0.9
Interim Contractor Support																								
Installation Cost	21	5.6	3	0.6	7	2.0	1	0.3	5	2.0	1	0.4											38	10.9
TOTAL PROCUREMENT		**48.5**		**8.3**		**2.1**		**0.3**		**2.1**		**0.4**												**61.6**

Notes:

1. Totals may not add due to rounding
2. Asterisk equals amounts less than $51k.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-130F, KC-130F, KC-130R, KC-130T

MODIFICATION TITLE: AVIONICS SYSSTEMS IMPROVEMENT PROGRAM PHASE III (ASIP III) (OSIP 70-85)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **ORGANIC AND DLA ADMINISTRERED COML NON-CONUS (SINGAPORE).**

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (63) kits	**21**	**5.6**	**3**	**0.6**	**7**	**2.0**	**1**	**0.3**	**5**	**2.0**	**1**	**0.4**											**38**	**10.9**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	21	5.6	3	0.6	7	2.0	1	0.3	5	2.0	1	0.4											38	10.9

Note: 21 kits were installed prior to FY91 with funding outside this OSIP

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	52		1			2	1	1	1		1														
Out	52			1			2	1	1	1		1													

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						59
Out						59

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/ARC-210(V) ECCM RADIO (OSIP 2-92)

MODELS OF SYSTEM AFFECTED: KC-130F, KC-130R, KC-130T, C-130T

TYPE MODIFICATION: Upgrade (HONA category C)

DESCRIPTION/JUSTIFICATION:

The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistant radio that was developed to allow for EP interoperability with the Air Force, Army and NATO. The radio provides dual UHF capability for CV based TACAIR; VHF FM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINCGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The EP parameters and single channel preset information can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-day for HAVEQUICK; the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS. Baseline for this program is GPS (OSIP 25-92).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ARC-210 radio replaces the AN/ARC-159 radios in the C-130 aircraft. Validation/verification was performed during FY 1994-FY 1996. FOT&E completed in February 1997 for the KC-130T configuration, and will be performed in FY97 for the KC-130F and KC-130R configurations. Recurring production installations started in April 1997.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	6	0.4			5	0.2	5	0.3	5	0.3	14	0.9	11	0.7	10	0.7	9	0.7	9	0.7	21	1.6	95	6.5
Installation Kit - Unit Price		0.1				*		0.1		0.1		0.1		0.1		0.1		0.1		0.1		0.1		
Installation Kits N/R		0.8																						0.8
Installation Equipment		0.4																						0.4
Installation Equipment N/R																								
Engineering Change Orders																								
Data		*				0.1				0.1														0.2
Training Equipment							1	0.1															1	0.1
Support Equipment		*																						*
ILS		0.2								0.09														0.2
Other Support		0.2		0.2		0.2		0.1		0.2		0.2		0.2		0.3		0.3		0.4		0.2		2.4
Interim Contractor Support																								
Installation Cost	1	0.1	2	0.3	3	0.3	5	0.3	5	0.4	5	0.3	14	1.0	11	0.9	10	0.8	9	0.7	31	2.3	96	7.4
TOTAL PROCUREMENT		**2.1**		**0.4**		**0.8**		**0.6**		**1.0**		**1.4**		**2.0**		**1.9**		**1.8**		**1.8**		**4.1**		**17.9**

Notes:

1. Totals may not add due to rounding
2. Asterisk equals amounts less than $51k.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: KC-130F, KC-130R, KC-130T, AND C-130T

MODIFICATION TITLE: AN/ARC-210(V) ECCM RADIO (OSIP 02-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation will be accomplished by Organic/Commercial FMT/DIM (2 radios per aircraft).**

ADMINISTRATIVE LEADTIME: Varies Months

PRODUCTION LEADTIME: Varies Months

CONTRACT DATES: FY 1997: Mar-97 FY 1998: Dec-97 FY 1999: Dec-98

DELIVERY DATE: FY 1997: Oct-97 FY 1998: Oct-98 FY 1999: Oct-99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (11) kits	**1**	**0.1**	**2**	**0.3**	**3**	**0.3**	**5**	**0.4**															**11**	**1.0**
FY 1997 (5) kits									**5**	**0.3**													**5**	**0.3**
FY 1998 (5) kits											**5**	**0.3**											**5**	**0.3**
FY 1999 (14) kits													**14**	**1.0**									**14**	**1.0**
FY 2000 (11) kits															**11**	**0.9**							**11**	**0.9**
FY 2001 (10) kits																	**10**	**0.8**					**10**	**0.8**
FY 2002 (9) kits																			**9**	**0.7**			**9**	**0.7**
FY 2003 (9) kits																					**9**	**0.7**	**9**	**0.7**
To Complete (21) kits																					**22**	**1.6**	**22**	**1.6**
TOTAL	1	0.1	2	0.3	3	0.3	5	0.4	5	0.3	5	0.3	14	1.0	11	0.9	10	0.8	9	0.7	31	2.3	96	7.4

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	6	2	2	1		2	2	1		2	2	1		4	4	3	3	3	3	3	2	3	3	2	2
Out	6		2	2	1		2	2	1		2	2	1		4	4	3	3	3	3	3	2	3	3	2

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	3	2	2	2	31	96
Out	2	3	2	2	33	96

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: C/KC-130 GLOBAL POSITIONING SYSTEM INSTALLATION (OSIP 25-92)

MODELS OF SYSTEM AFFECTED: KF's, KR's, KT's, CT's and TC-130G

TYPE MODIFICATION: Safety & Congressional Mandate (HONA category A)

DESCRIPTION/JUSTIFICATION:

DOD aircraft currently operate within the National Airspace System using TACAN/DME as primary navigation aids. The Federal Radionavigation Plan states that the DOD intends to phase out the use of land based TACAN/DME. DOD policy prescribes that GPS will be installed to allow it to be used as the aircraft's sole navigation aid for en route, terminal, and approach phases of flight and that the use of GPS will be essentially transparent to the existing air traffic control system. To implement this policy and to provide for an efficient transition from TACAN/DME, GPS must be integrated into DOD aircraft in a manner which permits emulation of TACAN/DME procedures. Baseline for this program is ASIP III (OSIP 70-85).

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Coast Guard HC-130 and Navy KC-130 integration development is a joint program intended to minimize costs and maximize system knowledge. Prototype installations using SPAWAR furnished assets comenced in September 1993, immediately followed by the KC-130 installations. Both aircraft were successfully tested at NAWC Patuxent River which become the basis for the VAL/VERS which began in the third quarter FY 1994. Trial kits completed in the fourth quarter in FY 1995. Recurring installs started FY 1996.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	14	1.7	14	2.1	16	1.8	4	0.5	48	6.1													96	12.1
Installation Kit - Unit Price		0.1		0.1		0.1		0.1		0.1														
Installation Kits N/R		4.4				0.3		0.1		0.3														5.1
Installation Equipment		0.9		0.3																				1.2
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.9				0.3				0.6														1.7
Training Equipment			4	3.1																			4	3.1
Support Equipment																								
ILS		0.4		*						0.0														0.5
Other Support		0.1		0.2		0.1		0.1		0.5		0.2		0.5										1.7
Interim Contractor Support																								
Installation Cost	6	0.7	4	0.2	8	0.7	14	1.1	16	1.4	30	2.1	22	1.6									100	7.7
TOTAL PROCUREMENT		**9.1**		**6.0**		**3.2**		**1.8**		**8.8**		**2.3**		**2.0**										**33.2**

Notes:

1. Totals may not add due to rounding
2. Asterisk equals amounts less than $51k.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: KF's, KR's, KT's, CT's and TC-130G

MODIFICATION TITLE: C/KC-130 GLOBAL POSITIONING SYSTEM INSTALLATION (OSIP 25-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Commercial Field Mod Team/Drive In Mod except when installation coincides with ASPA influenced organic SDLM cycle.

ADMINISTRATIVE LEADTIME: Varies Months

PRODUCTION LEADTIME: Varies Months (Long lead time is SPAWARS lead time, not PMA)

CONTRACT DATES: FY 1997: Apr-97 FY 1998: Dec-97 FY 1999: Dec-98

DELIVERY DATE: FY 1997: Dec-97 FY 1998: Oct-98 FY 1999: Apr-99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (48) kits	6	0.7	4	0.2	8	0.7	14	1.1	16	1.4													48	4.1
FY 1997 (4) kits											4	0.3											4	0.3
FY 1998 (48) kits											26	1.8	22	1.6									48	3.4
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	6	0.7	4	0.2	8	0.7	14	1.1	16	1.4	30	2.1	22	1.6									100	7.8

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	18	3	4	4	3	4	4	4	4	8	7	8	7	6	5	6	5								
Out	18		3	4	4	3	4	4	4	4	8	7	8	7	6	5	6	5							

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						100
Out						100

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: KC-130 NIGHT VISIONLIGHTING (NVL) (HUD) (OSIP 09-94)

MODELS OF SYSTEM AFFECTED: KC-130R, KC-130T

TYPE MODIFICATION: Upgrade (HONA category C)

DESCRIPTION/JUSTIFICATION:

Recent operations established the limited capability of the KC-130 to accomplish tactical missions in a low light/no illumination environment. Incorporation of the non-developmental NVL system that has been prepared for other U. S. Marine Corps tactical aircraft and is compatible with KC-130 tactical missions and avionics can provide the capability to successfully accomplish future tactical missions requiring such capability without unnecessarily jeopardizing crew and aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

In-production engineering change proposal to incorporate non-developmental NVL in USMCR KC-130T aircraft/modification funded with NG&RE. Design/development of retrofit aircraft affected by this OSIP is based on the KC-130T NG&RE program. Development commenced in FY 1994 with procurement of two trial kits installed in FY 1995. Funding constraints have delayed continuation of this program. Limited funds are required in FY98 to provide Maintenance Plans and other logistics support for the aircraft already fielded.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	2	0.9											1	0.4	1	0.4	1	0.4	1	0.4	18	10.8	24	13.2
Installation Kit - Unit Price		0.4												0.4		0.4		0.4		0.4		0.6		
Installation Kits N/R		0.6		0.2																		0.7		1.4
Installation Equipment		0.3																						0.3
Installation Equipment N/R																								
Engineering Change Orders																								
Data														0.5										0.5
Training Equipment																								
Support Equipment																								
ILS				*						0.2												0.2		0.4
Other Support				*										0.2		0.2		0.1		0.1		1.8		2.3
Interim Contractor Support																								
Installation Cost			2	1.0									1	0.4	1	0.4	1	0.3	1	0.3	18	7.6	24	10.1
TOTAL PROCUREMENT		**1.8**		**1.2**						**0.2**				**1.4**		**1.0**		**0.8**		**0.9**		**20.9**		**28.1**

Notes:

1. Totals may not add due to rounding
2. Asterisk equals amounts less than $51k.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: KC-130R, KC-130T

MODIFICATION TITLE: KC-130 NIGHT VISION LIGHTING (NVL) (HUD) (OSIP 09-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation will be accomplished by Contractor DIM.**

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (2) kits			**2**	**1.0**																			**2**	**1.0**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 (1) kits													**1**	**0.4**									**1**	**0.4**
FY 2001 (1) kits															**1**	**0.4**							**1**	**0.4**
FY 2002 (1) kits																	**1**	**0.3**					**1**	**0.3**
FY 2003 (1) kits																			1	0.3			**1**	**0.3**
To Complete (18) kits																					18	7.6	18	7.6
TOTAL			2	1.0									1	0.4	1	0.4	1	0.3	1	0.3	18	7.6	24	10.1

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2													1				1				1			
Out	2															1				1				1	

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	1				18	24
Out			1		18	24

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: TACTICAL AIR MISSION PLANNING SYSTEM (TAMPS) (OSIP 11-98)

MODELS OF SYSTEM AFFECTED: KC-130 F/R/T, C-130T

TYPE MODIFICATION: Upgrade (HONA category C)

DESCRIPTION/JUSTIFICATION:

Modificaton will provide mission planning modules for the Tactical Air Mission Planning System which will support specific C-130 missions and capabilities.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Development of the mission planning modules will begin in FY98 as a part of the TAMPS 6.5 version update. Remainder of the program has been delayed due to budget constraints and technical issues.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																						0.1		0.1
Support Equipment																								
ILS																								
Other Support										0.6												1.6		2.2
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT										**0.6**												**1.7**		**2.3**

Notes:

1. Totals may not add due to rounding
2. Asterisk equals amounts less than $51k.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **KC-130F/R/T, C-130T**

MODIFICATION TITLE: TACTICAL AIR MISSION PLANNING SYSTEM (TAMPS) (OSIP 11-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **This is a software work effort; there is no installation per se**

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL																								

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																									
Out																									

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						0
Out						0

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **SEPTEMBER 1997**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
FEWSG Series Modifications

Program Element for Code B Items: **0204575N**

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	106.1		0.7	0.5	0.6	0.5	0.6	0.6	0.6	0.7	0.7	6.7	118.3

This line item funds modifications to several aircraft and equipment. The overall goal of the modifications budgeted in FY 1998 and FY 1999 is to accurately simulate the known and postulated electronic warfare characteristics and tactics of different threats for fleet training. The AN/ALQ-170 (OSIP 14-85) equipment is currently installed and carried aboard the EP-3J, NKC-135A, but future efforts will allow carriage on F/A-18. OSIP 119-83 FEWSG equipment, AN/DLQ-3, AN/AST-6(V), AN/ULQ-21 and AN/ALQ-167 are installed and/or carried aboard the F/A-18, EA-6B, TA-4J, F-14, P-3B/C, NKC-135, EC-24 and EP-3J. PR99 budget cuts resulted in loss of funding for the ALQ-170 in FY 1999 and later.

The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
119-83	AN/DLQ-3,AN/AST-4/-6 ULQ-21,ALQ-167	53.682	0.344	0.287	0.548	0.537	0.566	0.613	0.626	0.694	0.671	6.716	65.284
14-85	ALQ-170 (VARIANT)	52.375	0.312	0.260	0.097	0	0	0	0	0	0	0	53.044
TOTAL		**106.1**	**0.7**	**0.5**	**0.6**	**0.5**	**0.6**	**0.6**	**0.6**	**0.7**	**0.7**	**6.7**	**118.3**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: FEWSG (OSIP 14-85) Simulator Set, Countermeasures, AN/ALQ-170 Variants

MODELS OF SYSTEM AFFECTED: Various

TYPE MODIFICATION: RELIABILITY, MAINTAINABILITY AND CAPABILITY UPGRADES

DESCRIPTION/JUSTIFICATION:

The Fleet Information Warfare Center (FIWC), formerly the Command and Control Warfare Groups (C2WG) Atlantic and Pacific, and the Fleet Electronic Warfare Support Group (FEWSG), under the administrative and operational control of CINCLANTFLT provides support with organic resources to both Atlantic and Pacific Fleets. FIWC is the nucleus of the Navy's EW "Aggressor" forces. It employs tactics, procedures, equipment, vans, and specially configured aircraft with pods which simulate a hostile electromagnetic threat environment during Fleet Readiness Exercises and fleet operational training.

As set forth in the FEWSG Master Plan (Rev 5/91) and re-emphasized by CINCLANTFLT (message 142144ZMAY 92), a new series of missile simulators is required to provide dual-mode capability. Because of the threat to the fleet that dual-mode missiles present, a dual-mode missile simulator is required to provide fleet personnel with training in countering simulated threats. This new capability will provide realistic Anti-Ship Missile Defense (ASMD) training for fleet exercises.

This program provides for the procurement, modification, and initial support for variants of the basic AN/ALQ-170 Countermeasures Simulator Set. These variants will incorporate dual-mode capability improvements and other state-of-the-art improvements which are needed to keep pace with new ASM threat data. Each variant expands the capability of the AN/ALQ-170 to cover one particular threat or family of threats. Major components of these variant simulators will be totally interchangeable with those of the basic AN/ALQ-170. In addition, the simulators will be compatible with current follow-on C2WG aircraft, which have been adapted to carry the AN/ALQ-170. Production of the AN/ALQ-170(V)1, (V)2, and (V)3 is complete. The AN/ALQ-170(V)4 and (V)5 are being produced as a follow-on variant of the AN/ALQ-170(V)2 and (V)3. Four AN/ALQ-170(V)2, and four AN/ALQ-170(V)3 pods will be modified to the dual-mode variant. FY 1993 and FY 1994 funds were used for the Dual-Mode Program. FY 1995 funds were used for non-recurring engineering to replace obsolete parts to be produced with FY 1996/1997 funds.

Initiation of the AN/ALQ-170 Performance Enhancement Program (ALQ-170 PEP) commenced in FY 1996 with the development effort. The first formal Milestone (MSII) is scheduled for the first quarter FY 1998. This PEP will increase the flexibility of the ALQ-170(V) system, modernizing those components of 1970's vintage technologies reducing overall weight and allow for integration in F/A-18 aircraft with carrier deployed support of battle group training operations. PR99 budget cuts resulted in removal of RDT&E and APN funding for FY 1999 and later. All milestones have been cancelled.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

All variants will undergo tests similar to those required of the basic AN/ALQ-170. These tests include: pod certification, environmental testing, EMI and ECM/ECCM lab testing, and reliability evaluation/improvement tests followed by flight tests and evaluation and carrier suitability testing. Formal approval for full production will be required in FY 2003 since the equipment will see service with FIWC support activities as well as deployed battle groups.

As a result of PR99 decisions, development of the PEP will cease. A "restart" package will be produced during FY 1998 to capture: lessons learned, the performance specification, cost and analysis data. The restart package can be used if funding for the PEP is restored.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		4.7		0.1		1.5		1.8		1.0														9.0
PROCUREMENT																								
Installation Kits	2.0	0.1																					2.0	0.1
Installation Kit - Unit Price		0.0																						
Installation Kits N/R		0.4																						0.4
Installation Equipment	20.0	32.3			2.0	0.3	1.0	0.1															23.0	32.7
Installation Equipment N/R		6.2		0.3																				6.5
Engineering Change Orders																								
Data		3.5																						3.5
Training Equipment		0.4																						0.4
Support Equipment		3.0																						3.0
ILS		2.6																						2.6
Other Support		2.6																						2.6
Interim Contractor Support																								
Installation Cost	10.0	1.3																					10.0	1.3
TOTAL PROCUREMENT		**52.4**		**0.3**		**0.3**		**0.1**																**53.0**

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: FEWSG (OSIP 119-83) AN/DLQ-3, AN/AST-4, AN/AST-6(V), AN/ULQ-21 and AN/ALQ-167

MODELS OF SYSTEM AFFECTED: N/A

TYPE MODIFICATION: RELIABILITY, MAINTAINABILITY AND CAPABILITY UPGRADES

DESCRIPTION/JUSTIFICATION:

The AN/ALQ-167 pods internal components are also installed internally in aircraft. When these components are utilized in this type of installation, they are nomenclatured AN/DLQ-3. The AN/AST-4 and AN/AST-6(V) pods electronically simulate several types of threat anti-ship missile seeker systems. These podded devices were first introduced into the fleet in 1980 and proved exceptionally useful in readiness exercises. This program provides for the procurement and initial support of additional quantities of these pods for use by logistic support squadrons and other operational fleet units. No aircraft modifications are required to use these pods.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The objective for the AN/ALQ-167 is 186 pods, there are currently 146. There are 25 AN/AST-6(V) production assets. The objective is to achieve a total of 50 pods. The current inventory for the AN/AST-4 is 25. Beginning in FY 1986, the AN/ALQ-167 and AN/AST-4 underwent improvements which enabled simulation of the current and near-term threats. The AN/ALQ-167 avionics are being upgraded. When these upgraded avionics are internally installed in aircraft, they are nomenclatured as AN/ULQ-21 systems. The AN/AST-4 has received an upgraded transmitter and is being integrated into a high-speed capable pod. This upgraded AN/AST-4 received an AN/AST-6(V) nomenclature designation in May 1987. Approval for full production will not be required for these pod modifications. RDT&E funding in FY 1998 and out is required to provide continued development of pod variants and/or upgrades based on the evolving threats to be simulated in response to the latest intelligence reports and foreign system exploitations.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		7.5		2.8		0.9		0.4		3.0		3.1		3.1		0.7		1.2		1.2				23.8
PROCUREMENT																								
Installation Kits																							0.0	0.0
Installation Kit - Unit Price																								
Installation Kits N/R																								0.0
Installation Equipment	986.0	47.3	5.0	0.3	5.0	0.3	2.0	0.3	2.0	0.4	2.0	0.5	2.0	0.5	2.0	0.6	2.0	0.6	2.0	0.6	25.0	6.6	1,035.0	58.1
Installation Equipment N/R		0.1						0.1		*		*		*		*		*						0.3
Engineering Change Orders																								0.0
Data								0.1		*		*		*		*		*						0.1
Training Equipment		0.2																						0.2
Support Equipment		5.2																						5.2
ILS		0.6						0.1		*		*		*		*		*		*		0.1		1.0
Other Support		0.2						0.1																0.2
Interim Contractor Support																								0.0
Installation Cost																							0.0	0.0
TOTAL PROCUREMENT		**53.6**		**0.3**		**0.3**		**0.6**		**0.5**		**0.6**		**0.6**		**0.6**		**0.7**		**0.7**		**6.7**		**65.2**

* Asterisk reflects dollars less than $50K.

Exhibit P-3a

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

APPROPRIATION/BUDGET ACTIVITY: **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**

P-1 ITEM NOMENCLATURE: **Cargo & Transport Aircraft Series Modifications**

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	24.6		30.0	38.6	37.3	29.9	23.1	19.3	8.1	3.9	0.9	0.0	215.7

This line item funds modifications to the following cargo and transport aircraft: C-9B/DC-9, CT-39E/G, C-20D, RC-12F/M, UC-12B/F/M, and for FY 1997 prior years only, C-2A(R). The C-9B/DC-9 Skytrain II, CT-39G (Sabreliner), and C-20D (Gulfstream III) are all twin jet commercial transport aircraft. The C-9B/DC-9 is capable of carrying up to 32,000 pounds of both cargo and personnel for over 3,300 nautical miles at a maximum speed of 430+ knots while the CT-39G can carry personnel and light cargo over 1,800 nautical miles at a maximum speed of 415 knots. The C-20D/G are capable of high speed transport of 13 personnel over 4,100 nautical miles at 437 knots. The RC-12F/M and UC-12B/F/M are twin turbo-prop commercial transport aircraft (King Air) capable of a variety of general purpose transport and specialized missions. They can carry 8 people up to 1,300 nautical miles at 200 knots. The C-2A(R) Greyhound is a high wing monoplane, twin engine turbo-prop cargo aircraft capable of operating from both a shore base and all operational USN aircraft carrier classes. Further description of the C-2A(R) is provided under the C-2A Series Mod line, which starts in FY 1998. The overall goal of the modifications budgeted in FY 1999 is to continue the C-9B/DC-9 engine containment and Upgrade Standardization modifications, as well as the C-20D/G and C-12 flight safety upgrades; and to complete the CT-39 Global Positioning System (GPS) navigation upgrade. The specific modifications budgeted and programmed are:

The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
71-86	FAA Configuration Update	8.1	1.8	1.6	0.4	2.5	1.4	1.3	0.9	1.0	0.6		19.6
23-94	C-2A GPS*	4.2	2.1	0.6	*								7.0
24-94	C-2A SLEP/Block Upgrade*	12.4	22.1	27.1	15.1								76.7
9-95	C-9B GPS			7.5	6.0								13.5
10-95	RC/UC-12 GPS		4.0		3.3	4.7							12.0
18-96	C-20D/G GPS			1.7	3.3								5.0
9-97	C-9B/DC-9 Upgrade Standardization				9.2	16.9	15.3	10.9	0.6				52.8
12-98	C-20D/G Flight Safety Upgrade					2.8	1.2	0.6					4.6
13-98	CT-39 GPS					0.6	0.6						1.1
14-98	C-12 Flight Safety Upgrade					2.5	4.7	6.4	6.6	2.9	0.3		23.4
TOTAL		**24.6**	**30.0**	**38.6**	**37.3**	**29.9**	**23.1**	**19.3**	**8.1**	**3.9**	**0.9**	**0.0**	**215.7**
RESERVE FUNDING INCLUDED IN TOTAL		**8.1**	**1.8**	**1.9**	**9.0**	**20.7**	**17.8**	**17.6**	**2.1**	**1.4**	**0.4**	**0.0**	**80.8**

NOTE: * C-2A(R) OSIPs are provided as part of the C-2A Series Mod line.
Totals may not add due to rounding.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Federal Aviation Administration (FAA) Configuration Update (OSIP 71-86)

MODELS OF SYSTEM AFFECTED: C-9B/DC-9, UC-12, RC-12, CT-39, C-20

TYPE MODIFICATION: SAFETY/RELIABILITY/MAINTAINABILITY

DESCRIPTION/JUSTIFICATION:

Federal Aviation Regulations require manufacturers of commercial aircraft and associated systems/subsystems to investigation descrepant conditions, failures, and potential safety problems reported by all operators. The results of these investigations with recommended corrective action are reviewed/approved by the FAA and Navy and provided to all operators as service bulletins. Each service bulletin is a complete technical directive that provides corrective change information or detailed modification instructions. To ensure safe, reliable, FAA/Navy certified aircraft and to provide a program that will assure continued life extension at minimum cost, the Navy must maintain configuration and integrity compatible with FAA certified commercial models by incorporation of applicable service bulletins. The incorporation of certain service bulletins also serves to preclude extensive repairs/repetitive inspections. Crew equipment requirements in accordance with FAA directives and Navy requirements will be incorporated to ensure maximum safety in case of emergency. Specific modifications budgeted in this OSIP include the C-9B/DC-9 engine containment mod in FY 1997 through FY 1999 and incorporation of C-9B/DC-FAA aging aircraft bulletins in FY 2000 and FY 2001.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Service Bulletins are reviewed for possible incorporation on an as required basis. Prototype verification has been previously accomplished and approved by the FAA.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								0.0
PROCUREMENT																								
Installation Kits	387	5.2	69	0.2	13	0.6	10	0.1	61	0.7	74	0.5	157	0.6	24	0.3	40	0.3	40	0.3			875	8.8
Installation Kit - Unit Price		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0			
Installation Kits N/R		0.1						*		1.1		0.1		0.2		*		0.1		0.1				1.8
Installation Equipment																							0	0.0
Installation Equipment N/R																								0.0
Engineering Change Orders										*		*		*		*		*		*				0.1
Data																								0.0
Training Equipment																								0.0
Support Equipment																								0.0
ILS		*																						0.0
Other Support		*								0.1		0.5		0.3		0.2		0.1		0.1				1.3
Interim Contractor Support																								0.0
Installation Cost	131	2.8	10	1.6	13	1.1	10	0.3	61	0.6	40	0.2	77	0.2	138	0.3	40	0.5	40	0.1			560	7.7
TOTAL PROCUREMENT		8.1		**1.8**		1.6		0.4		2.5		1.4		1.3		0.9		1.0		0.6		0.0		19.6

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-9B/DC-9, UC-12, RC-12, CT-39, C-20**

MODIFICATION TITLE: **Federal Aviation Administration (FAA) Configuration Update (OSIP 71-86)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Concurrent with contractor SDLM.**

ADMINISTRATIVE LEADTIME: **Various** Months

PRODUCTION LEADTIME: **Various** Months

CONTRACT DATES: FY 1996: **OCT - JAN** FY 1997: **OCT - JAN** FY 1998: **OCT - JAN** FY 1999:
FY 2000: **OCT - JAN** FY 2001: **OCT - JAN** FY 2002: **OCT - JAN** FY 2003: **OCT - JAN**

DELIVERY DATE: FY 1996: **OCT - JAN** FY 1997: **OCT - JAN** FY 1998: **OCT - JAN** FY 1999: **OCT - JAN**
FY 2000: **OCT - JAN** FY 2001: **OCT - JAN** FY 2002: **OCT - JAN** FY 2003: **OCT - JAN**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (154) kits	131	2.8	10	1.6	13	1.1																	154	5.5
FY 1997 (10) kits							10	0.3															10	0.3
FY 1998 (61) kits									61	0.6													61	0.6
FY 1999 (74) kits											40	0.2	34	0.1									74	0.3
FY 2000 (157) kits													43	0.1	114	0.2							157	0.3
FY 2001 (24) kits															24	0.2							24	0.2
FY 2002 (40) kits																	40	0.5					40	0.5
FY 2003 (40) kits																			40	0.1			40	0.1
To Complete ( ) kits																							0	0.0
TOTAL	131	2.8	10	1.6	13	1.1	10	0.3	61	0.6	40	0.2	77	0.2	138	0.3	40	0.5	40	0.1	0	0.0	560	7.7

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	154	2	2	3	3	15	15	15	16	10	10	10	10	19	19	19	20	34	34	35	35	10	10	10	10
Out	154	2	2	3	3	15	15	15	16	10	10	10	10	19	19	19	20	34	34	35	35	10	10	10	10

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	10	10	10	10	0	560
Out	10	10	10	10	0	**560**

Cargo & Transport Aircraft Series Mod

OSIP 71-86: FAA Configuration Update

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
C-12 Propellers						**0.1**	**0.2**					**0.3**
Proc. Qty.						34	114					148
Proc. Unit Cost						*	*					
Installation Cost							0.1	0.3				0.4
Install Qty							34	114				148
C-9 Engines					**0.2**	**0.1**						**0.3**
Proc. Qty.					14	7						21
Proc. Unit Cost					*	*						
Installation Cost					0.1	*						0.2
Install Qty					14	7						21
C-20 Airworthiness Directives	**0.1**				**0.1**	**0.1**	**0.1**	*****	**0.1**	**0.1**		**0.4**
Proc. Qty.	100				33	26	30	14	35	35		273
Proc. Unit Cost	*				*	*	*	*	*	*		
Installation Cost	*				0.3	0.1	0.1	*	0.4	0.1		1.1
Install Qty	4				33	26	30	14	35	35		177
C-9 Service Bulletins	**3.5**	**0.2**	**0.6**	**0.1**	**0.4**	**0.3**	**0.3**	**0.3**	**0.2**	**0.2**		**6.2**
Proc. Qty.	176	69	13	10	11	4	10	7	2	2		304
Proc. Unit Cost	*	*	*	*	*	0.1	*	*	0.1	0.1		
Installation Cost	0.8	1.6	1.1	0.3	0.1	*	*	*	*	*		4.0
Install Qty	16	10	16	10	11	4	10	7	2	2		88
CT-39 Airworthiness Directives	**1.6**				*****	*****	*****	*****	*****	*****		**1.6**
Proc. Qty.	111				3	3	3	3	3	3		129
Proc. Unit Cost	*				*	*	*	*	*	*		
Installation Cost	1.9				*	*	*	*	*	*		2.1
Install Qty	111				3	3	3	3	3	3		129
TOTAL Other Costs	0.1			*	1.2	0.6	0.5	0.3	0.2	0.2		**3.1**
TOTAL Procurement Cost	**5.3**	**0.2**	**0.6**	**0.1**	**1.9**	**1.1**	**1.1**	**0.6**	**0.5**	**0.5**		**11.9**
TOTAL Proc. Qty.	387	69	13	10	61	74	157	24	40	40		875
TOTAL Installation Cost	**2.8**	**1.6**	**1.1**	**0.3**	**0.6**	**0.2**	**0.2**	**0.3**	**0.5**	**0.1**		**7.7**
Total Install Qty.	131	10	16	10	61	40	77	138	40	40		563

* Indicates amount less than 0.051 Million.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 9-95)

MODELS OF SYSTEM AFFECTED: C-9B/DC-9 TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

GPS is a space based radio positioning and navigation system that will provide three-dimensional position, velocity, and time information to suitably equipped users anywhere in the world. This system will interface with communications, navigation, and weapons systems equipments, i.e., Automatic Heading Reference Systems, Inertial Navigation Systems, on board computers, etc., on selected applications. This OSIP installs dual integrated COTS GPS flight management/navigation systems and associated integration provisions into all 29 Navy/USMC C-9B/DC-9 aircraft by 1 Oct 1998.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Upon receipt of funds, the C-9 Depot Maintenance Contractor will be tasked to begin the integration process. Prototype will begin in March 1997.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								0.0
PROCUREMENT																								
Installation Kits					16	6.4	13	5.1															29	11.5
Installation Kit - Unit Price						0.4		0.4																
Installation Kits N/R																								0.0
Installation Equipment																							0	0.0
Installation Equipment N/R																								0.0
Engineering Change Orders																								0.0
Data																								0.0
Training Equipment																								0.0
Support Equipment																								0.0
ILS																								0.0
Other Support																								0.0
Interim Contractor Support																								0.0
Installation Cost					16	1.2	13	0.8															29	2.0
TOTAL PROCUREMENT		**0.0**		**0.0**		**7.6**		**6.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**13.5**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-9B/DC-9**

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 9-95)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: This is a turnkey modification to be performed under the C-9 commercial depot maintenance contract. All hardware will be procured as a single kit and installed by the C-9 Depot Maintenance Contractor.

ADMINISTRATIVE LEADTIM E: 6 Months

PRODUCTION LEADTIME: 2 Months

CONTRACT DATES: FY 1996: Feb-97 FY 1997: Aug-97 FY 1998:

DELIVERY DATE: FY 1996: Apr-97 FY 1997: Oct-97 FY 1998:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (16) kits					16	1.2																	16	1.2
FY 1997 (13) kits							13	0.8															13	0.8
FY 1998 ( ) kits																							0	0.0
FY 1999 ( ) kits																							0	0.0
FY 2000 ( ) kits																							0	0.0
FY 2001 ( ) kits																							0	0.0
FY 2002 ( ) kits																							0	0.0
FY 2003 ( ) kits																							0	0.0
To Complete ( ) kits																							0	0.0
TOTAL	0.0	0.0	0.0	0.0	16.0	1.2	13.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29	2.0

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	16	5	4	4																					
Out	16	5	4	4																					

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	29
Out					0	29

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **Global Positioning System (GPS) (OSIP 10-95)**

MODELS OF SYSTEM AFFECTED: **UC-12B/F/M, RC-12F/M** TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The recent crash of the U.S.Air Force CT-43 while flying a non-directional radio beacon (NDB) instrument approach has resulted in a Department of Defense initiative to ensure installation as soon as possible of GPS capability in all aircraft carrying passengers (SecDef Memo 9 April 96). UC-12 GPS installation was originally planned to meet the DOD requirement for FY-2000. Air Force and Navy program managers cooperated in an effort to identify suitable commercial GPS equipment adaptable for precision positioning capability when required. The proposed installation schedule was delayed and funding reprogrammed until authorization for procurement of commercial units was approved. ASD (C31) memorandum of October 18, 1995 granted authorization for the Navy to procure commercial GPS user equipment for Contractor Logistics Support (CLS) aircraft that are equipped with commercial avionics systems. With the reprogramming of funds as depicted below, the UC-12 program can comply with the DOD installation initiative to install GPS as soon as possible on seventy aircraft which include models UC-12B/F/M and RC-12F/M.
Procurement of "A" and "B" kits must be 1:1 in order to meet operational and training requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The GPS program has completed phase II (Full scale engineering development).Milestone IIIA(approval for limited production)was completed in June 1986; approval for full production, Milestone IIIB, was completed January 1992.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E						1.0		1.0																2.0
PROCUREMENT																								
Installation Kits			50	4.0			40	2.7	50	4.1													140	10.7
Installation Kit - Unit Price				0.1				0.1		0.1														
Installation Kits N/R																								0.0
Installation Equipment																							0.0	0.0
Installation Equipment N/R																								0.0
Engineering Change Orders																								0.0
Data																								0.0
Training Equipment																								0.0
Support Equipment																								0.0
Other Support																								0.0
Interim Contractor Support																								0.0
Installation Cost							70	0.7	70	0.6													140	1.3
TOTAL PROCUREMENT		**0.0**		**4.0**		**0.0**		**3.3**		**4.7**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**12.0**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **UC-12B/F/M, RC-12F/M**

MODIFICATION TITLE: **Global Positioning System (GPS) (OSIP-10-95)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Field Mod Team

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 1995: Nov-96 FY 1997: Feb-97 FY 1998: Nov-97

DELIVERY DATE: FY 1995: Dec-96 FY 1997: Mar-97 FY 1998: Dec-97

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY 50 kits							**50**	**0.3**															**50**	**0.3**
FY 1997 (40) kits							**20**	**0.4**	**20**	**0.3**													**40**	**0.7**
FY 1998 (50) kits									**50**	**0.3**													**50**	**0.3**
FY 1999 ( ) kits																							**0**	**0.0**
FY 2000 ( ) kits																							**0**	**0.0**
FY 2001 ( ) kits																							**0**	**0.0**
FY 2002 ( ) kits																							**0**	**0.0**
FY 2003 ( ) kits																							**0**	**0.0**
To Complete ( ) kits																							0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	70	0.7	70	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	140	1.3

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In		10	10	10	5	10	10	10	5																
Out		10	10	10	5	10	10	10	5																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	70
Out					0	70

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Global Positioning System (GPS) OSIP 18-96

MODELS OF SYSTEM AFFECTED: C-20D/G TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The recent crash of a U.S. Air Force CT-43 while flying a non-dirctional radio beacon (NDB) intrument approach resulted in a Department of Defense initiative (SECDEF MEMO of 9 April 96) to ensure installation as soon as possible of GPS capablitity in all aircraft carrying passengers. The C-20D/G aircraft carries a crew of four (4) and up to twenty six (26) passengers during flight operations. C-20D/G GPS installation was origianlly planned to meet the DOD requirement for FY-2000. The OEM has identified suitable commercial GPS equipment adatable for precision positioning capability. Authorization to utilize commercial-off-the-shelf GPS was granted under ASD (C31) memorandum of October 18, 1995 for contractor logistics support (CLS) aircraft that are equipped with commercial avionics.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Effort will be started immediately upon receipt of funding. FAA approvwed Supplemental Type Certificates (STCs) and Commercial-Off-The-Shelf (C)TS) equipment will be purchased and installation begin within 90 days.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E						0.3		0.5																0.8
PROCUREMENT																								
Installation Kits					7	1.6																	7	1.6
# Installation Kit - Unit Price						0.2																		
Installation Kits N/R																								0.0
Installation Equipment																							0.0	0.0
Installation Equipment N/R																								0.0
Engineering Change Orders																								0.0
Data						*		0.6																0.6
Training Equipment																								0.0
Support Equipment																								0.0
ILS								0.9																0.9
Other Support																								0.0
Interim Contractor Support																								0.0
Installation Cost					2.0	0.1	5.0	1.8															7.0	1.9
TOTAL PROCUREMENT		**0.0**		**0.0**		**1.7**		**3.3**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**5.0**

NOTE: * Indicates amount less that 0.051 Million. Totals may not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-20D/G**

MODIFICATION TITLE: OSIP 18-96

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Kits will be installed by commercial contractor at DEPOT**

ADMINISTRATIVE LEADTIME: 10 Months

PRODUCTION LEADTIME: 1 Months

CONTRACT DATES: FY 1996: Jul-96 FY 1997: FY 1998:

DELIVERY DATE: FY 1996: Aug-96 FY 1997: FY 1998:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (7) kits					**7**	**1.6**																	**7**	**1.6**
FY 1997 ( ) kits																							**0**	**0.0**
FY 1998 ( ) kits																							**0.0**	**0.000**
FY 1999 ( ) kits																							**0.0**	**0.000**
FY 2000 ( ) kits																							**0.0**	**0.000**
FY 2001 ( ) kits																							**0.0**	**0.000**
FY 2002 ( ) kits																							**0.0**	**0.000**
FY 2003 ( ) kits																							**0.0**	**0.000**
To Complete ( ) kits																							0.0	0.000
TOTAL	0.0	0.000	0.0	0.000	7	1.6	0	0.0	0.0	0.000	0.0	0.000	0.0	0.000	0.0	0.000	0.0	#####	0.0	0.000	0.0	0.000	7	1.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	2	2	2	1																					
Out	1	2	2	2																					

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	7
Out					0	7

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **UPGRADE STANDARDIZATION (OSIP 9-97)**

MODELS OF SYSTEM AFFECTED: **C-9B/DC-9** TYPE MODIFICATION: **Safety** / Reliability / Maintainability

DESCRIPTION / JUSTIFICATION:

Urgent upgrade of C-9B / DC-9 avionics is required for operation in controlled airspace, installation of mandated safety systems, and to replace obsolete, out of production systems for which FAA certified commercial repair support is rapidly diminishing. The FAA and ICAO require updating communications, data link, and navigation systems for continued operations in controlled airspace. Without these new COTS / NDI systems, these USMC / NAVAIRRESFOR aircraft cannot support the CINC's for trans-oceanic and European missions, and in the near future for United States missions. The FAA and ICAO also require installation of new systems/ equipments to ensure the safety of the aircraft and passengers, and for operations in terminal controlled airspace. Without these critical safety features, including collision avoidance and predictive wind sheer alerts, the safety of the C-9 as well as other aircraft operating in increasingly congested airspace will be jeopardized. Additionally most of the current avionics systems/equipments are obsolete and out of production. Replacement parts and repair facilities have diminished as a result of commercial DC-9 operators upgrading to state of the art equipment resulting in increased repair costs. As soon as the existing commercial stock of obsolete or out of production items is depleted support/spares will be nonexistent. Replacement of older technology out of production equipment with high reliability digital systems will reduce cost of ownership.

DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:

Upon receipt of incremental funds, the C-9 Depot Maintenance Contractor will be tasked to begin the steps of a two phase aircraft avionics installation program:

A. **Phase I**, during FY 97-98, will install a kit into 29 aircraft to provide Urgent needed early items (collision avoidance, updated radios) simultaneously with installation of GPS navigation systems funded under related OSIP 9-95. Prototype aircraft and first delivery occured during FY 97. Last Phase I Kit modified aircraft will be delivered end FY 98.

B. **Phase II**, during FY 98-01, will install a different kit into 23 of these 29 aircraft to provide the remainder of the needed items (wind sheer alerts, data link capable radios, improved navigation, and integrated digital displays). The prototype and first delivery Phase II aircraft occur in FY 99. Phase II is completed during FY 01, completing this OSIP.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								0.0
PROCUREMENT																								
Installation Kits							29	6.1	12	10.1	9	7.6	2	1.7									52	25.4
Installation Kit - Unit Price								0.2		0.8		0.8		0.8										
Installation Kits N/R								1.9		2.8		0.9		0.7		0.2								6.5
Installation Equipment																							0	0.0
Installation Equipment N/R																								0.0
Engineering Change Orders								0.0		0.2		0.1		0.3										0.6
Data								0.2		0.6		0.3												1.1
Training								0.3		0.2		0.1		0.1										0.6
Support Equipment										0.5														0.5
ILS								0.1		0.1		0.1		0.1		0.2								0.6
Other Support										0.2				0.1		0.2								0.5
Interim Contractor Support																								0.0
Installation Cost							6	0.6	23	2.3	10	6.1	13	8.0									52	17.0
TOTAL PROCUREMENT		0.0		0.0		0.0		9.1		16.9		15.3		10.9		0.6		0.0		0.0		0.0		52.8

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C - 9B / DC -9**

MODIFICATION TITLE: **UPGRADE STANDARDIZATION (OSIP 9-97)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **All hardware is COTS / NDI that will be procured to prepare 29 Phase I and 23 Phase II kits installed by the C-9 Depot Maintenance Contractor.**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 4 Months

CONTRACT DATES: FY 1997: Existing 1995- 5 Year Contract FY 1998: Existing 1995- 5 Year Contract FY 1999: Existing 1995- 5 Year Contract

DELIVERY DATE: FY 1997: See Installation Schedule "Out" FY 1998: See Installation Schedule "Out" FY 1999: See Installation Schedule "Out"

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																							**0**	**0.0**
FY 1997 (29) kits							**6**	**0.6**	**23**	**2.3**													**29**	**2.9**
FY 1998 (12) kits											**10**	**6.1**	**2**	**1.2**									**12**	**7.4**
FY 1999 (9) kits													**9**	**5.5**									**9**	**5.5**
FY 2000 (2) kits													**2**	**1.2**									**2**	**1.2**
To Complete ( ) kits																							0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	6	0.6	23	2.3	10	6.1	13	8.0	0	0.0	0	0.0	0	0.0	0	0.0	52	17.0

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0				6	6	8	6	3	2	4	4		4	3	3	3								
Out	0				2	9	4	8	6		2	4	4	4	3	3	3								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	52
Out					0	52

Cargo & Transport Aircraft Series Mod

OSIP 9-97: C-9 Upgrade Standardization

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
PHASE I ECP KITS				**6.1**								**6.1**
Proc. Qty.				29								29
Proc. Unit Cost				0.2								
Installation Cost				0.6	2.3							2.9
Install Qty				6	23							29
PHASE II ECP KITS					**10.1**	**7.6**	**1.7**					**19.3**
Proc. Qty.					12	9	2					23
Proc. Unit Cost					0.8	0.8	0.8					
Installation Cost						6.1	8.0					14.1
Install Qty						10	13					23
TOTAL Other Costs				**1.2**	**4.6**	**1.5**	**1.3**	**0.6**				**9.1**
TOTAL Procurement Cost				**7.3**	**14.6**	**9.1**	**3.0**	**0.6**				**34.5**
TOTAL Proc. Qty.				29	12	9	2					52
TOTAL Installation Cost				**0.6**	**2.3**	**6.1**	**8.0**					**17.0**
Total Install Qty.				6	23	10	13					52

NOTE: Totals may not add due to rounding.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Flight Safety Upgrade OSIP 12-98

MODELS OF SYSTEM AFFECTED: C-20D/G TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

TCAS and Wind Shear Detection System are SECNAV requirements. The Navy Program Office will utilize original equipment manufacturer to identify suitable commercial equipment. TCAS II will be installed in seven C-20D/G aircraft. Wind Shear Detection System will be installed in two C-20D aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Effort will be started immediately upon receipt of funding. FAA approved Supplemental Type Certificates (STCs) have been approved and commercial off-the-shelf (COTS) equipment will be purchased with subsequent installation to begin within 90 days.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								0.0
PROCUREMENT																								
Installation Kits									2	1.2	3	1.0	2	0.5									7	2.7
Installation Kit - Unit Price										0.6		0.3		0.2										
Installation Kits N/R										0.8														0.8
Installation Equipment																							0.0	0.0
Installation Equipment N/R																								0.0
Engineering Change Orders																								0.0
Data										0.4				0.1										0.4
Training Equipment																								0.0
Support Equipment																								0.0
ILS										0.1														0.1
Other Support																								0.0
Interim Contractor Support																								0.0
Installation Cost									2	0.3	3	0.2	2	0.1									7	0.6
TOTAL PROCUREMENT		**0.0**		**0.0**		**0.0**		**0.0**		**2.8**		**1.2**		**0.6**		**0.0**		**0.0**		**0.0**		**0.0**		**4.6**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **C-20D/G**

MODIFICATION TITLE: **OSIP 12-98**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Kits will be installed by Maintenance Contractor at DEPOT**

ADMINISTRATIVE LEADTIME: 1 Month

PRODUCTION LEADTIME: 1 Month

CONTRACT DATES: FY 1998: Oct-97 FY 1999: Oct-98 FY 2000: Oct-99

DELIVERY DATE: FY 1998: Nov-97 FY 1999: Nov-98 FY 2000: Nov-99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																							**0.0**	**0.000**
FY 1997 ( ) kits																							**0.0**	**0.000**
FY 1998 (2) kits									**2**	**0.3**													**2**	**0.3**
FY 1999 (3) kits											**3**	**0.2**											**3**	**0.2**
FY 2000 (2) kits													**2**	**0.1**									**2**	**0.1**
FY 2001 ( ) kits																							**0**	**0.0**
FY 2002 ( ) kits																							**0**	**0.0**
FY 2003 ( ) kits																							**0**	**0.0**
To Complete ( ) kits																							0	0.0
TOTAL	0.0	0.000	0.0	0.000	0.0	0.000	0.0	0.000	2	0.3	3	0.2	2	0.1	0.0	0.000	0.0	0.000	0.0	0.000	0.0	0.000	7	0.6

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0						2			3				2											
Out	0						1	1		1	2			1	1										

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In					0	7
Out					0	7

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Global Positioning System (GPS)OSIP 13-98

MODELS OF SYSTEM AFFECTED: CT-39G TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

GPS is a space-based radio positioning and navigation system that will provide three-dimensional position, velocity, and time information to suitably-equipped users anywhere on or near the earth. The GPS system will interface with communications, navigation, and weapons systems equipment, i.e., Automatic Heading Systems, Inertial Navigation Systems, on-board computers, etc. on selected applications.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The GPS System to be installed will be commercially available. Non-Development Item (NDI).

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E						0.0																		0.0
PROCUREMENT																								
Installation Kits									4	0.1	4	0.1											8	0.3
Installation Kit - Unit Price										35		35												
Installation Kits N/R										0.2		0.2												0.5
Installation Equipment																							0.0	0.000
Installation Equipment N/R																								0.000
Engineering Change Orders																								0.000
Data																								0.000
Training Equipment																								0.000
Support Equipment																								0.000
ILS																								
Other Support																								0.000
Interim Contractor Support																								0.000
Installation Cost									4	0.2	4	0.2											8	0.4
TOTAL PROCUREMENT		**0.0**		**0.0**		**0.000**		**0.000**		**0.6**		**0.6**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**1.1**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **CT-39G**

MODIFICATION TITLE: OSIP 13-98

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Kits will be installed by commercail contractor at DEPOT**

ADMINISTRATIVE LEADTIME: 1 Month

PRODUCTION LEADTIME: 1 Month

CONTRACT DATES: FY 1998: Oct-97 FY 1999: Oct-98

DELIVERY DATE: FY 1998: Oct-97 FY 1999: Oct-98

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																							**0.0**	**0.000**
FY 1997 ( ) kits																							**0.0**	**0.000**
FY 1998 (4) kits									**4**	**0.2**													**4**	**0.2**
FY 1999 (4) kits											**4**	**0.2**											**4**	**0.2**
FY 2000 ( ) kits																							**0.0**	**0.000**
FY 2001 ( ) kits																							**0.0**	**0.000**
FY 2002 ( ) kits																							**0.0**	**0.000**
FY 2003 ( ) kits																							**0.0**	**0.000**
To Complete ( ) kits																							0.0	0.000
TOTAL	0.0	0.000	0.0	0.000	0.0	0.000	0.0	0.000	4	0.2	4	0.2	0.0	0.000	0.0	0.000	0.0	0.000	0.0	0.000	0.0	0.000	8	0.4

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In						1	1	1	1	1	1	1	1												
Out						1	1	1	1	1	1	1	1												

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In					0	8
Out					0	8

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE **Flight Safety Upgrade (OSIP-14-98)**

MODELS OF SYSTEM AFFECTED: **UC-12B/F/M, RC-12F/M** TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The recent crash of the U.S.Air Force CT-43 while flying a non-directional radio beacon(NDB)approach has resulted in a Department of Defense initiative to upgrade Flight Safety systems installations as soon as possible in all passenger carrying aircraft. This OSIP ensures compliance with this initiative on seventy UC-12 model aircraft and identifies flight safety systems required to provide capability/upgrade to directed requirements. All UC-12B/F and RC-12F model aircraft require replacement of the Ground Proximity Warning System (GPWS) with an upgraded version and UC/RC-12M aircraft require associated engineering efforts and initial system installation. All UC-12 aircraft require a windshear detection capability coupled to GPWS as well as installation of a Traffic Collision Avoidance System (TCAS-1). UC-12B aircraft require upgrades to provide a more reliable radar altimeter for the installed GPWS.
Procurement of "A" and "B" kits must be 1:1 in order to meet operational and training requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The Original Equipment Manufacturer (OEM) has developed an FAA approved modification kit and obtained Special Type Certificates (STCs) for installation in C-12 model aircraft.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								0.0
PROCUREMENT																								
Installation Kits									3	0.7	19	4.5	21	5.2	21	5.2	6	1.5					70	17.1
Installation Kit - Unit Price										0.2		0.2		0.2		0.2		0.2						
Installation Kits N/R										0.4														0.4
Installation Equipment																							0.0	0.0
Installation Equipment N/R																								0.0
Engineering Change Orders										1.0														1.0
Data										0.1														0.1
Training Equipment																								0.0
Support Equipment																								0.0
ILS										0.1														0.1
Other Support										0.2														0.2
Interim Contractor Support																								0.0
Installation Cost											3	0.2	19	1.2	21	1.4	21	1.4	6	0.3	0.0		70	4.5
TOTAL PROCUREMENT		**0.0**		**0.0**		**0.0**		**0.0**		**2.5**		**4.7**		**6.4**		**6.6**		**2.9**		**0.3**		**0.0**		**23.4**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **UC-12B/F/M, RC-12F/M**

MODIFICATION TITLE: Flight Safety Upgrade (OSIP-14-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Mod Team**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1997: FY 1998: Oct-97 FY 1999: Oct-98

CONTRACT DATES: FY 2000: Oct-99 FY 2001: Oct-00 FY 2002: Oct-01

DELIVERY DATE: FY 1997: FY 1998: Nov-98 FY 1999: Nov-99

DELIVERY DATE: FY 2000: Nov-00 FY 2001: Nov-01 FY 2002: Nov-02

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																							**0**	**0.0**
FY 1997 ( ) kits																							**0**	**0.0**
FY 1998 (3) kits											**3**	**0.2**											**3**	**0.2**
FY 1999 (19) kits													**19**	**1.2**									**19**	**1.2**
FY 2000 (21) kits															**21**	**1.4**							**21**	**1.4**
FY 2001 (21) kits																	**21**	**1.4**					**21**	**1.4**
FY 2002 (6) kits																			**6**	**0.3**			**6**	**0.3**
FY 2003 ( ) kits																							**0**	**0.0**
To Complete ( ) kits																							0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3	0.2	19	1.2	21	1.4	21	1.4	6	0.3	0.0	0.0	70	4.5

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0									3				4	5	5	5	6	5	5	5	6	5	5	5
Out	0									3				4	5	5	5	6	5	5	5	6	5	5	5

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	6				0	70
Out	6				0	70

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

APPROPRIATION/BUDGET ACTIVITY: **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**

P-1 ITEM NOMENCLATURE: **E-6A Series Modifications**

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	177.0		84.8	111.8	97.2	96.3	44.2	18.7	5.2	3.9	2.1		641.1

This line item funds modifications to E-6A TACAMO aircraft. The E-6A TACAMO is a manned airborne communications relay platform designed to provide a survivable communications link from the National Command Authority (NCA) to strategic forces. The Navy and Air Force have been directed to take actions necessary to incorporate Airborne Command Post (ABNCP) functions into the E-6A. The overall goal of the modifications budgeted in FY 1998 and FY 1999 is to continue MILSTAR and HPTS mission avionics upgrades and consolidation of JCS strategic command and control tasking. OSIPs 24-92, Avionics Block Upgrade, and 32-93, Airborne Command Post, were combined in FY 1995 as the modifications had been fully integrated by the contractors. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
13-90	Corrections to Deficiencies	34.3	22.3	10.9	4.2								71.7
32-93	E-6B Mod	142.7	60.9	100.1	92.9	96.3	44.2	18.7					555.8
3-95	Global Positioning System		1.6	0.8									2.4
XX-01	E-6B Modified Mini Rcv Terminal								5.2	3.9	2.1		11.2
TOTAL		**177.0**	**84.8**	**111.8**	**97.2**	**96.3**	**44.2**	**18.7**	**5.2**	**3.9**	**2.1**		**641.1**

NOTE: Totals do not add due to rounding.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Corrections to Deficiencies (OSIP 13-90)

MODELS OF SYSTEM AFFECTED: E-6A

TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

The Take Charge and Move Out (TACAMO) E-6A is a manned airborne communicaitons relay platform that is an element of the minimum essential emergency communications network. This aircraft weapon system provides survivable communications connectivity between the National Command Authority and the Fleet Ballistic Missile Submarines. The E-6A buy was based on the minimum number of aircraft required to meet the 100% on-station requirements for both the Atlantic and Pacific Oceans. Timely modifications to mission avionics systems and/or airframes are mandated by the need to maintain force levels sufficient to meet operational requirements. Although the concept for the E-6A is to provide a low-risk, cost effective platform, equipment discrepancies have surfaced which require immediate correction to maintain necessary force levels. The enhanced verdin system (EVS), procured for the EC-130, will be installed in the E-6A mission avionics system.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Modifications are required due to airplane control problems during TACAMO orbit maneuvers (Autopilot), drift rate discrepancies in the Inertial Reference System (IRS), insufficient roll data display to pilots during TACAMO orbit (Altitude Director Indicator/Digital Roll Angle Indicator), alter elevator torque to reduce diverging pitch oscillators during heading changes (Altitude Hold Functions), and inaccessibility to operating Intercom System (ICS) components. Existing AN/ALR-66(V)4 requires modification of volume control to reduce personnel hazards due to uncontrollable high volume of the Audio Alarm System. AutoThrottle and Flight Management Computer System (FMCS) modifications correct OT-III discrepancies for orbit control and Long Trailing Wire Antenna (LTWA) wire/tail contact problems. ICS modifications correct numerous OT-III deficiencies and provide new capabilities. FMCS will be modified to employ Global Positioning System (GPS) inputs as sole source of navigation data. Inconsistent configuration between aircraft and supporting trainers will also be corrected by this OSIP. Modifications commenced in FY 1996 and completed in FY 1997.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		19.0	1	11.8																				30.8
PROCUREMENT																								
Installation Kits	120	5.0	40	2.2	16	1.3																	176	8.5
Installation Kit - Unit Price		0.0		0.1		0.1																		
Installation Kits N/R		13.0																						13.0
Installation Equipment	16	2.7	40	2.5	21	3.0	4	0.8															81	9.0
Installation Equipment N/R						1.0																		1.0
Engineering Change Orders																								
Data		2.4		5.0		0.7		0.6																8.7
Training Equipment	5	1.6	4	4.3	1	0.4																	10	6.3
Support Equipment		0.2		0.8		0.2																		1.2
ILS		1.2		0.2				0.2																1.6
Other Support		7.3		6.7		2.0		1.2																17.2
Interim Contractor Support																								
Installation Cost	11	0.9	8	0.6	31	2.3	32	1.4															82	5.2
TOTAL PROCUREMENT		**34.3**		**22.3**		**10.9**		**4.2**																**71.7**

* Indicates amounts less than $51.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **E-6A**

MODIFICATION TITLE: Correction to Deficiencies (OSIP 13-90)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field Modification**

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 18 Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (82) kits	**11.0**	**0.9**	**8.0**	**0.6**	**31.0**	**2.3**	**32.0**	**1.4**															**82**	**5.2**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	11.0	0.9	8.0	0.6	31.0	2.3	32.0	1.4															82	5.2

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	168	*6	*2																						
Out	168	6	2																						

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						176
Out						176

* Each installation installs 4 kits

Corrections to Deficiencies

OSIP 13-90

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
OIS		**2,211**	**1,336**									**3,547**
Proc. Qty.		40	16									56
Proc. Unit Cost		55	84									
Installation Cost			1,434	1,369								2,803
Install Qty			24	32								56
AUTOPILOT	**126**											**126**
Proc. Qty.	16											16
Proc. Unit Cost	8											
Installation Cost	747	576										1,323
Install Qty	8	8										16
TRAINING	1,547	4,320	400									**6,267**
Proc. Qty.	5	4	1									10
Proc. Unit Cost	309	1,080	400									
Installation Cost	164		888									1,052
Install Qty	3		7									10
TOTAL Procurement Cost	1,673	6,531	1,736									9,940
TOTAL Proc. Qty.	21	44	17									82
TOTAL Installation Cost	**911**	**576**	**2,322**	**1,369**								**5,178**
Total Install Qty.	11	8	31	32								82

CLASSIFICATION: **UNCLASSIFIED**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: E-6B Mods (OSIP 32-93)

MODELS OF SYSTEM AFFECTED: E-6A

TYPE MODIFICATION: Public Law

DESCRIPTION/JUSTIFICATION:

The E-6A ABNCP Upgrade provides for the transfer of avionics equipment from the Air Force EC-135 Airborne Command Post platform to the Navy's E-6A TACAMO aircraft. This program constitutes a consolidation of JCS strategic command and control tasking. It utilizes existing equipments and personnel to achieve significant operations and maintenance savings while more efficiently executing existing missions. The current E-6A TACAMO mission consists of relaying emergency actions messages from the National Command Authorities to U.S. Strategic Forces. With the addition of limited ABNCP functions aboard the E-6A, CINCSTRAT will be able to execute direct command and control of strategic forces through the use of one vice two airborne platforms. The first five modifications are to be completed by the end of FY 1998. This modification also installs a High Power Transmitter Set (HPTS) and an Avionics Block Upgrade.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

A Milestone III decision was granted in January 1995 for the ABNCP portion of this modification. A Milestone III decision for the Avionics Block Upgrade and High Power Transmit Set was granted in December 1995.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		25.6	1	61.3		20.4																		107.3
PROCUREMENT																								
Installation Kits	3	2.2	2	3.3	8	12.4	8	16.7	7	15.3	3	8.8											31	58.7
Installation Kit - Unit Price		0.7		1.7		1.6		2.1		2.2		2.9												
Installation Kits N/R		6.2		9.5		19.6																		35.3
Installation Equipment	11	68.6	11	22.8	19	42.0	9	41.1	11	31.2	3	2.1											64	207.8
Installation Equipment N/R		10.9		7.7																				18.6
Engineering Change Orders																								
Data		12.6		1.6		2.4		4.5		0.6		0.4		0.2										22.3
Training Equipment		9.6		4.2		6.8		2.9		19.1		6.7		1.5										50.8
Support Equipment		1.7		1.5		1.1		1.4		1.2		0.5												7.4
ILS		3.0		1.6		3.4		3.1		1.6				0.8										13.5
Other Support		26.8		7.8		6.0		14.1		11.6		12.7		5.3										84.3
Interim Contractor Support						0.2		0.9				0.4												1.5
Installation Cost	2	1.1	1	0.9	2	6.2	6	8.2	6	15.7	4	12.6	3	10.9									24	55.6
TOTAL PROCUREMENT		**142.7**		**60.9**		**100.1**		**92.9**		**96.3**		**44.2**		**18.7**										**555.8**

* Includes trainer installations 1 in FY95, 2 in FY 97, and 2 in FY98. Aircraft installs in FY97 and out are combined ABNCP and HPTS.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **E-6A**

MODIFICATION TITLE: E-6B Mods (OSIP 32-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Drive-in Modification**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 15 Months

CONTRACT DATES: FY 1997: Nov-96 FY 1998: Nov-97 FY 1999: Nov-98

DELIVERY DATE: FY 1997: Feb-98 FY 1998: Feb-99 FY 1999: Feb-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (8) kits	**2.0**	**1.1**			**2**	**6.2**	**4**	**8.2**															**8**	**15.5**
FY 1997 (4) kits									**4**	**15.7**													**4**	**15.7**
FY 1998 (4) kits											**4**	**12.6**											**4**	**12.6**
FY 1999 (3) kits													**3**	**10.9**									**3**	**10.9**
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	2.0	1.1			2	6.2	4	8.2	4	15.7	4	12.6	3	10.9									19	54.7

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	4		2	1	1	1	1	1	1	1	1	1	1	1	1	1									
Out	3				2	1	1	1	1	1	1	1	1	1	1	1	1	1							

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						15
Out						15

E-6 Series Mod

OSIP 32-93

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ABNCP Kit			**6,128**	**12,192**	**11,936**	**8,835**						**39,091**
Proc. Qty.			4	4	4	3						15
Proc. Unit Cost			1,532	3,048	2,984	2,945						
Installation Cost			4,118	8,162	15,684	12,586	10,888					51,438
Install Qty			1	6	6	4	3					20
HPTS Kit	**2,173**	**3,287**	**6,317**	**4,516**	**3,366**							**19,659**
Proc. Qty.	3	2	4	4	3							16
Proc. Unit Cost	724	1,644	1,579	1,129	1,122							
Installation Cost	1,102	857	2,131									4,090
Install Qty	2	1	1									4
Note: After FY96 HPTS installations are combined with ABNCP for a single install												
TOTAL Procurement Cost	**2,173**	**3,287**	**12,445**	**16,708**	**15,302**	**8,835**						**58,750**
TOTAL Proc. Qty.	3	2	8	8	7	3						31
TOTAL Installation Cost	**1,102**	**857**	**6,249**	**8,162**	**15,684**	**12,586**	**10,888**					**55,528**
Total Install Qty.	2	1	2	6	6	4	3					24

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Global Positioning System (OSIP 3-95)

MODELS OF SYSTEM AFFECTED: E-6A TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

GPS is a space-based radio positioning and navigation system that will provide three dimensional positions, velocity and time information to suitably equipped users anywhere on or near the earth. The GPS system will interface with communication, navigation and weapon system equipments, i.e., Automatic Heading Reference Systems, Inertial Navigation Systems, on board computers, etc, on selected applications. Space and Naval Warfare Systems Command is the primary development agency to GPS and has agreed to fund research and development costs to design, prototype, install, and test the integrated system in the first of each aircraft type.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Milestone IIIB approval for full rate production was completed in January 1992.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			10	0.5	6	0.3																	16	0.8
Installation Kit - Unit Price				*0.1*		*0.1*																		
Installation Kits N/R				0.1																				0.1
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.1																				0.1
Training Equipment																								
Support Equipment																								
ILS				0.3		0.1																		0.4
Other Support				0.1		0.1																		0.2
Interim Contractor Support																								
Installation Cost			10	0.5	6	0.3																	16	0.8
TOTAL PROCUREMENT				**1.6**		**0.8**																		**2.4**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **E-6A**

MODIFICATION TITLE: Global Positioning System (OSIP 3-95)

INSTALLATION INFORMATION:
METHOD OF IMPLEMENTATION: **Contractor Field Modification**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 7 Months

CONTRACT DATES: FY 1997: N/A FY 1998: N/A FY 1999: N/A

DELIVERY DATE: FY 1997: N/A FY 1998: N/A FY 1999: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (16) kits			**10**	**0.5**	**6**	**0.3**																	**16**	**0.8**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL			10	0.5	6	0.3																	16	0.8

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	8	4	4																						
Out	8	4	4																						

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						16
Out						16

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: E-6B Modified Mini Rcv Terminal

MODELS OF SYSTEM AFFECTED: E-6A TYPE MODIFICATION: Obsolescense

DESCRIPTION/JUSTIFICATION:

The Air Force E-4B and the Navy E-6B comprise the World Wide Military Command and Control System (WWMCCS) Airborne Resources (WABNRES). They operate within the Nuclear Command and Control System (NCSS) serving principally as a survivable command and control communications link between the National Command Authorities (NCA) and U.S. strategic forces. The WABNRES assets have a requirement to receive very low frequency/low frequency (VLF/LF) Emergency Action Messages (EAMs) and to communicate with one another in a nuclear jamming stressed environment.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The OSD Strategic C3 Review of 3 September 1991 outlined a new strategic airborne command and control architecture. Key to this revised architecture is a modernization of the E-4B/E-6B VLF/LF capability to include the implementation of the High Data Rate (HIDAR) mode. As stated in the Joint Mission Need Statement for Very Low Frequency/Low Frequency (VLF/LF) receive capability for Strategic Command, Control, and Communications, CAF 330-92, the current VLF/LF receivers (R-2141) on the E-6B are outdated and the R-616A cannot be modified to incorporate the HIDAR mode. The Modified Miniature Receive Terminal (MMRT) provides the E-6B with reliable VLF/LF receive capability that will insure interoperability and connectivity with the forces in support of the new C3 architecture.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits															12	1.4	4	0.4					16	1.8
Installation Kit - Unit Price																0.1		0.1						
Installation Kits N/R																2.8								2.8
Installation Equipment															12	0.2	4	0.1					16	0.3
Installation Equipment N/R																								
Engineering Change Orders																								
Data																0.1		0.1		0.1				0.3
Training Equipment															2	0.3		0.1		0.1				0.5
Support Equipment																								
Other Support																0.2		0.1		0.1				0.4
ILS																0.1		0.1						0.2
Interim Contractor Support																0.1		0.1						0.2
Installation Cost																	9	2.9	9	1.8			18	4.7
TOTAL PROCUREMENT																**5.2**		**3.9**		**2.1**				**11.2**

* Installation includes trainer installations - 2 in FY02 and 1 in FY03.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **E-6A**

MODIFICATION TITLE: E-6B Modified Mini Rcv Terminal (OSIP XX-01)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **TBD**

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 2001: Nov-01 FY 2002: Nov-02 FY 2003:

DELIVERY DATE: FY 2001: Mar-02 FY 2002: Mar-03 FY 2003:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 (11) kits															**11**	**1.4**							**15.0**	**1.8**
FY 2002 (4) kits																	**4**	**0.4**					**4.0**	**0.4**
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL															11	1.4	4	0.4					19.0	2.2

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																								1	5
Out																									5

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	4	3	2			15
Out	4	3	3			15

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: September 1997

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
Executive Helicopters Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	111.1		35.3	42.6	20.6	22.8	11.6	6.0	6.0	14.2	22.2	42.0	334.2

This line item funds modifications to the (11) VH-3D and (8) VH-60N Executive Helicopters. These aircraft are assigned to Marine Helicopter Squadron One to support the President of the United States. The VH-3D Service Life Extension Program (SLEP) consists of airframe, mechanical, and electrical upgrades which will increase the service life from 7,500 to 14,000 hours and thereby extend the executive mission life past the year 2010. The VH-60N mid-life upgrade will provide improved mission performance. The Communications/Navigation/Survivability modification to both the VH-3D and VH-60N consists of a communications system upgrade to provide communications commonality between Executive Helicopters, Air Force One, and N-Cap; a Miniaturized Airborne GPS Receiver (MAGR); and a tailored electronic warfare (EW) suite. The overall goal of modifications budgeted in FY 1999 is to continue procurement efforts in accordance with the planned procurement strategy implemented during FY 1993.

The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
7-89	VH-60 NAVSTAR GPS	4.9	0.4	0.8	0.4	0.3	0.2	0.1	0.1				7.1
25-90	VH-3D SAFETY, RELIABILITY, AND SLEP	67.6	20.0	14.1	4.9	6.4	3.2	1.4	1.9	0.1			119.5
27-92	VH-3D NAVSTAR GPS	0.7	2.1	0.6	0.3	0.4	0.1	0.1	0.1				4.3
22-93	VH-3D/VH-60N EXE HELO SURV. IMPRO	25.5	9.3	17.2	10.7	11.9	5.8	3.7	3.1	0.3			87.5
23-93	VH-60N MID-LIFE UPGRADE	12.5	3.5	10.0	4.3	3.7	2.3	0.7	0.9				37.9
-02	VH-3D/VH-60N COCKPIT UPGRADE									13.8	22.2	42.0	78.0
TOTAL		111.1	35.3	42.6	20.6	22.8	11.6	6.0	6.0	14.2	22.2	42.0	334.2

NOTE: TOTALS DO NOT ADD DUE TO ROUNDING.

CLASSIFICATION: UNCLASSIFIED

DD Form 2454, JUN 86

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE NAVSTAR Global Positioning System (GPS) (OSIP 7-89)

MODELS OF SYSTEM AFFECTED: VH-60 TYPE MODIFICATION SAFETY

DESCRIPTION/JUSTIFICATION:
The NAVSTAR GPS is a space-based radio positioning and navigation system that will provide three dimensional position, velocity and time information to suitably equipped users anywhere on or near the earth. The GPS system will interface with communication, navigation and weapon systems equipment such as Automatic Heading Reference System (AHRS), Inertial Navigation System (INS), on board computers, etc., on selected applications. Space and Naval Warfare Systems Command is the primary development agency for GPS and has agreed to fund research and development costs to design, prototype, install and test the integrated system on the first of each aircraft type. IIIA receiver install kits were procured in FY 1990. One Miniaturized Airborne GPS Receiver (MAGR) was provided June 1994. Seven MAGRs will be provided FY 1996 through FY 1998. MAGR is required for the VH-60N to conserve weight increases and provide space for future White House directed requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
The NAVSTAR GPS IIIA Receiver program has completed Phase II Full Scale Engineering Development. Milestone IIA, Approval for Limited Production, was completed in June 1986. Milestone IIIB, Approval for Full Production, was completed in January 1992. The first production contract for MAGR was let in March 1993 with Rockwell. First MAGR deliveries were in FY 1994. Prototype GPS MAGR installations began in May 1995 and completed in June 1997.

NOTE: Procured 2 III A Receivers that will not be installed.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	10	0.2			2	0.1	3	0.3	2	0.2													17	0.8
Installation Kit - Unit Price		*				0.1		0.1		0.1														
Installation Kits N/R		1.7				0.3																		2.0
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.7				*																		0.7
Training Equipment						*																		*
Support Equipment		*																						*
ILS		*				0.1																		0.1
Other Support		1.9		0.2		0.1		0.1		0.1														2.5
Interim Contractor Support																								
Installation Cost	6	0.4	2	0.2	2	0.1					3	0.2	1	0.1	1	0.1							15	0.9
TOTAL PROCUREMENT		**4.9**		**0.4**		**0.8**		**0.4**		**0.3**		**0.2**		**0.1**		**0.1**								**7.1**

Note: See attached addendum sheet.
Asterisk represents value less than $51K.
Totals do not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: VH-60

MODIFICATION TITLE: VH-60N NAVSTAR GPS (OSIP 7-89)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation of MAGR GPS by SPAR (turn-key in FY 1996 and prior fiscal years only).**

ADMINISTRATIVE LEADTIME: 8 Months

PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 1997: **5/97** FY 1998: 5/98 FY 1999:

DELIVERY DATE: FY 1997: **9/98** FY 1998: 9/99 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (*) kits	**6**	**0.4**	**2**	**0.2**	**2**	**0.1**																	**10**	**0.7**
FY 1997 (*) kits											**3**	**0.2**											**3**	**0.2**
FY 1998 (*) kits													**1**	**0.1**	**1**	**0.1**							**2**	**0.1**
FY 1999 (*) kits (see below)																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**6**	0.4	**2**	0.2	**2**	0.1					**3**	0.2	**1**	0.1	**1**	0.1							**15**	0.9

Installation Schedule -VH60N MAGR

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	3											1	2	1				1							
Out	2	1													1	2		1			1				

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						8
Out						8

Installation Schedule - 3A Receiver

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	4	1		2																					
Out	4			1		2																			

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						7
Out						7

EXECUTIVE HELICOPTER SERIES MOD

OSIP 07-89

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
3A Receiver Kits	**189**											**189**
Proc. Qty.	(9)											(9)
Proc. Unit Cost	21											
Installation Cost	330	165										495
Install Qty	(5)	(2)										(7)
	NOTE: Only (5) were installed due to the change to MAGR Receivers.											
MAGR Receivers Kits	**Part of NRE**		**149**	**279**	**195**							**623**
Proc. Qty.	(1)		(2)	(3)	(2)							(8)
Proc. Unit Cost			75	76	78							
Installation Cost	46		87			157	55	58				403
Install Qty	(1)		(2)			(3)	(1)	(1)				(8)
TOTAL Procurement Cost	**189**		**149**	**279**	**195**							**812**
TOTAL Proc. Qty.	(10)	(0)	(2)	(3)	(2)	(0)	(0)	(0)				(17)
TOTAL Installation Cost	**376**	**165**	**87**			**157**	**55**	**58**				**898**
Total Install Qty.	(6)	(2)	(2)	(0)	(0)	(3)	(1)	(1)				(15)
Other Support	**4352**	**245**	**483**	**59**	**130**							
TOTAL APN-5 COSTS	**4,917**	**410**	**719**	**338**	**325**	**157**	**55**	**58**				

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE VH-3D SAFETY,RELIABILITY, AND SERVICE LIFE EXTENSION PROGRAM (SLEP) (OSIP 25-90)

MODELS OF SYSTEM AFFECTED: VH-3D TYPE MODIFICATION SAFETY

DESCRIPTION/JUSTIFICATION: The VH-3D is assigned to Marine Helicopter Squadron One to support the President of the United States. The VH-3D was delivered in 1975. The original airframe life, based on the SH-3 and White House half life requirements, was 5000 hours. An analytic study using SH-3 and VH-3D usage data increased that life to 8500 hours. At the current usage (30-35 hrs/month), the VH-3D will reach its Executive mission life in FY 1997-1999. With the cancellation or delay of the MV-22 there is no apparent replacement for the VH-3D. A Service Life Extension Program (SLEP) (for 11 aircraft) is necessary to increase VH-3D service life from 8,500 hours to 14,000 hours, extend Executive mission life to the year 2017, and qualify the VH-3D (11 aircraft) at a higher maximum gross weight (max. G. W.) using off the shelf components. Growth in the empty weight of the VH-3D, since initial procurement, has reduced the number of passengers and quantity of fuel carried on White House missions and decreased the safety margin. Increasing the amount of usable engine power will provide a greater margin of safety. Newer components will be more reliable. Mission communications will become more reliable with the addition of a Communication Systems Upgrade (CSU) as directed by the White House.

Modifications will include:

(1) Procurement of 11 Incockpit Blade Indicating Systems (IBIS) and Overtorque Warning System (OWS) install kits in FY 1992. The VH-3D has a higher forward airspeed than the SH-3 (140 Knots Indicated Air Speed (KIAS) vice 120 KIAS) and flies close to max. G.W. (20500 lbs) on most flights. IBIS will provide real time indication of rotor blade crack inception to the pilots in flight. OWS is a torque counter to monitor the power delivered from the main gearbox at higher shaft horsepower requirements.

(2) Procurement of 11 Strakes in FY 1993. The Strake provides increased tail rotor authority for the VH-3D.

(3) SLEP nonrecurring design engineering to integrate airframe and component replacement due to fatigue or obsolescence was initiated in FY 1990 to support a FY 1993 prototype kit/installation and validation buy, with production kit procurement in FY 1995, FY 1996, FY 1997 and FY 1998. SLEP kits are identified by Phase kits (I, and II). Phase I is the core kit and comprises all required component and structural changes to extended the VH-3D service life. Portions of the Phase I kit will be installed on the VH-3D SLEP/CNSU Prototype. The remainder will be installed during an FY 1998 update. Phase II incorporates cockpit sliding windows and will be installed at the O-Level.

(4) Communication System Upgrade (CSU) will ensure communications commonality between Air Force One, the National Emergency Airborne Command Post (NEACP), White House Communications Agency (WHCA), and Marine One. This commonality, as directed by the White House, will guarantee communication links under any requirement and will comply with the National Security Directive for Executive Fleet Airborne Architecture. Systems include: 14 station ICS, HF radio with ALE and ANDVT, a fourth Executive FM radio, a full duplex SATCOM (MUST Radio), and an upgraded systems computer. To guarantee avionics commonality between AF-1, NEACP, and Marine One, it is imperative all CSU avionics be procured in FY 1994. All proposed CSU avionics are NDI from various on going programs. Due to this program's small order quantities, future production or modification cannot be assured. All Executive FM radios were procured in FY 1992 to ensure commonality and facilitate economic ordering quantities. One prototype kit was procured in FY 1994 with the remaining production kits procurements in FY 1995 through FY 2001.

(5) Procurement of 8 ALQ-144 Phase Lock airframe change (AFC) kits in FY 1990. A prototype, 11 MOD kits, 3 AFC kits and 3 installations have been procured in previous years. An ALQ-144A Phase Lock system was evaluated in FY 1991 and FY 1992 for future change order incorporation.

(6) Reliability kits will improve mission availability, reduce maintenance manhours, and cut life-cycle costs. Reliability subkits include tailcone cooling, air conditioner disconnect, engine exhaust stack extension, APU Thermal Switches, and minor engineering change proposals identified during SLEP prototyping which will benefit aircraft reliability.

(7) Nonrecurring engineering to develop a night vision compatible cockpit in FY 1993. NAWC Indianapolis performed non-recurring engineering and kit development. Installs will be performed at the O-level.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: IBIS is an off the shelf system currently installed on Marine CH-53s, Coast Guard and USAF H-3s. Torque counters are installed on various helicopters and required nonrecurring engineering in FY 1992 to be incorporated in the VH-3D. Other H-3 series of helicopters are flying at higher gross weights. Qualification of the existing VH-3D airframe, including dynamic flight loads, at 21,500 lbs. (max. G.W. goal) occurred in FY 1992/1993/1994. Nonrecurring engineering (NRE) for SLEP started in FY 1990. Naval Air Warfare Center, Aircraft Division (NAWCAD), Warminster began developing CSU avionics and software integration in FY 1991 utilizing the VH-60 avionics as a baseline and NVH-3A as an integration platform. NAWCAD Warminster will modify off the shelf components for incorporation into the CSU kits. Sikorsky Aircraft developed the interior modifications as part of the nonrecurring engineering of SLEP. Prototype SLEP installation began in Oct. 1994 and completed in July 1997.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	32	2.5	17	4.8	7	7.0	4	4.1	4	4.3													64	22.7
Installation Kit - Unit Price		0.1		0.3		1.0		1.0		1.1														
Installation Kits N/R		33.2		4.4																				37.6
Installation Equipment	29	7.7	1	0.6																			30	8.3
Installation Equipment N/R		7.5																						7.5
Engineering Change Orders										0.2														0.2
Data		0.2		1.6																				1.7
Training Equipment		0.1								0.1														0.2
Support Equipment		0.6		0.3																				0.9
ILS		0.2		0.2										*										0.4
Other Support		14.2		4.5		2.7		0.7		1.8		0.5				0.4		0.1						25.0
Interim Contractor Support																								
Installation Cost	32	1.5	6	3.7	7	4.3					4	2.7	2	1.4	2	1.5							53	14.9
TOTAL PROCUREMENT		**67.6**		**20.0**		**14.1**		**4.9**		**6.4**		**3.2**		**1.4**		**1.9**		**0.1**						**119.3**

Asterisk represents values less than $51K.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: VH-3D

MODIFICATION TITLE: VH-3D SAFETY, RELIABILITY AND SLEP (OSIP 25-90)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation of IBIS, SLEP Phase I kits, Communications System Upgrade, and Strake will be at SPAR. Installation of ALQ-144 Phase Lock kit will be by Drive-in-Mod. (All turn-key in FY 1996 and prior fiscal years.)**

ADMINISTRATIVE LEADTIME: 5 Months

PRODUCTION LEADTIME: 20 Months

CONTRACT DATES: FY 1997: **4/97** FY 1998: 2/98 FY 1999:

DELIVERY DATE: FY 1997: **9/98** FY 1998: 11/99 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (*) kits **	**32**	**1.5**	**6**	**3.7**	**7**	**4.3**																	**45**	**9.5**
FY 1997 (*) kits											**4**	**2.7**											**4**	**2.7**
FY 1998 (*) kits													**2**	**1.4**	**2**	**1.5**							**4**	**2.8**
FY 1999 (*) kits (see below)																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	**32**	1.5	**6**	3.7	7	4.3					4	2.7	2	1.4	2	1.5							53	15.0

NOTE: 11 Sliding Windows installed at "O" Level at no cost to VH APN-5

Installation Schedule -Comm

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	8											1	1	1				1							
Out	8														1	1	1				1				

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						12 **
Out						12 **

** Includes update to the prototype to keep configuration consistent in all aircraft.

Installation Schedule - SLEP

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	8											1	1	1				1							
Out	8												1	1	1						1				

	FY 2003				To Complete	TOTAL	
	1	2	3	4			
In						12	**
Out						12	**

EXECUTIVE HELICOPTER SERIES MOD

OSIP 25-90

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
SLEP/CNSU	**1,120**	**4,751**	**7,019**	**4,117**	**4,323**							**21,330**
Proc. Qty.	(2)	(17)	(6+update)	(4)	(4)							(33)
Proc. Unit Cost	560	279	1,029	1,029	1,081							
Proc. Unit Cost (UPDATE)			843									
Installation Cost	854	3,680	4,335			2,658	1,375	1,466				14,368
Install Qty	(2)	(6)	(6+update)			(4)	(2)	(2)				(22)
	NOTE: One Proc Qty funded by NR line											
Reliability Kits	**836**											**836**
Proc. Qty.	(11)											(11)
Proc. Unit Cost	76											
Installation Cost	123											123
Install Qty	(11)											(11)
ALQ-144	**246**											**246**
Proc. Qty.	(8)											(8)
Proc. Unit Cost	31											
Installation Cost	250											250
Install Qty	(8)											(8)
IBIS	**309**											**309**
Proc. Qty.	(11)											(11)
Proc. Unit Cost	28											
Installation Cost	229											229
Install Qty	(11)											(11)
TOTAL Procurement Cost	**2,511**	**4,751**	**7,019**	**4,117**	**4,323**							**22,721**
TOTAL Proc. Qty.	(32)	(17)	(6 + UPDATE)	(4)	(4)	(0)	(0)	(0)				(64)
TOTAL Installation Cost	**1,456**	**3,680**	**4,335**			**2,658**	**1,375**	**1,466**				**14,970**
Total Install Qty.	(32)	(6)	(6 + UPDATE)	(0)	(0)	(4)	(2)	(2)				(53)
Other Support	**63589**	**11566**	**2733**	**733**	**2064**	502	25	410	127			
TOTAL APN-5 COSTS	**67,556**	**19,997**	**14,087**	**4,850**	**6,387**	**3,160**	**1,400**	**1,876**	**127**			

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: NAVSTAR GLOBAL POSITIONING SYSTEM (GPS) (OSIP 27-92)

MODELS OF SYSTEM AFFECTED: VH-3D TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:
The NAVSTAR GPS is a space-based radio positioning and navigation system that will provide three dimensional position, velocity and time information to suitably equipped users anywhere on or near the earth. The GPS system will interface with communication, navigation and weapon systems equipments such as Automatic Heading Reference System (AHRS), Inertial Navigation System (INS), on board computers, etc., on selected applications. Space and Naval Warfare Systems Command is the primary development agency for GPS and has agreed to fund research and development costs to design, prototype, install and test the integrated system on the first of each aircraft type. One Miniaturized Airborne GPS Receiver (MAGR) kit was procured in FY 1994 and 10 MAGR kits will be procured in FY 1995 through FY 1998 for incorporation in FY 1996 through FY 2000. MAGR is required for the VH-3D to minimize the increase in weight and conserve space for future White House directed requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:
The NAVSTAR GPS program has completed Phase II (full scale engineering development). Milestone IIIA (approval for limited production) was completed in June 1986; approval for full production, Milestone IIIB was completed in January 1992. The first production contract for MAGR was let in March 1993 with Rockwell. First MAGR deliveries were in FY 1994. Prototype MAGR installation began in October 1994 and completed in July 1997.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits (See Note)	1		7	0.7	3	0.4	2	0.3	2	0.3													15	1.6
Installation Kit - Unit Price		*		0.1		0.1		0.1		0.1														
Installation Kits N/R				0.1																				0.1
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data				*																				*
Training Equipment				*																				*
Support Equipment																								
ILS				*																				*
Other Support		0.7		0.5		0.1		0.1		0.2														1.4
Interim Contractor Support																								
Installation Cost	1		3	0.8	3	0.1					2	0.1	1	0.1	1	0.1							11	1.1
TOTAL PROCUREMENT		**0.7**		**2.1**		**0.6**		**0.3**		**0.4**		**0.1**		**0.1**		**0.1**								**4.3**

Note: FY-95 buy includes 4 accelerated GPS as interim fix until MAGR kits are installed as part of CNSU.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: VH-3D

MODIFICATION TITLE: VH-3D NAVSTAR GPS (OSIP 27-92)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor during SDLM (turn-key in FY 1996 and prior fiscal years).**

ADMINISTRATIVE LEADTIME: 5 Months

PRODUCTION LEADTIME: 20 Months

CONTRACT DATES: FY 1997: **2/97** FY 1998: 2/98 FY 1999:

DELIVERY DATE: FY 1997: **1/98** FY 1998: 11/99 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (7) kits	1		7	0.7	3	0.1																	11	0.8
FY 1997 (2) kits											2	0.1											2	0.1
FY 1998 (2) kits													1	0.1	1	0.1							2	0.1
FY 1999 ( ) kits																								
FY 2000 ( ) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	1		7	0.7	3	0.1					2	0.1	1	0.1	1	0.1							15	1.0

Installation Schedule

NOTE: 11 GPS MAGR were turnkey.

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	11											1	1	1				1							
Out	11														1	1	1				1				

	FY 2003				To		
	1	2	3	4	Complete	TOTAL	
In						15	**
Out						15	**

** Includes update to the prototype to keep configuration consistent in all aircraft.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: EXECUTIVE HELICOPTER SURVIVABILITY PROGRAM (OSIP 22-93)

MODELS OF SYSTEM AFFECTED: VH-3D /VH-60N TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION:

The VH-3D and VH-60N Executive Helicopters provide worldwide emergency evacuation and executive transport missions for the President of the United States. Missions include operations in areas subject to terrorist infiltrations, light anti-aircraft weapons, small arms, infrared seeking missiles, laser weapons, and other external threats. The proposed survivability improvements will provide mission aircraft with a tailored Electronic Warfare (EW) suite, including a full range of active and passive electronic countermeasures equipment. Certain systems in the suite can be mission configurable depending upon the threat. Other external threats include operations in air corridors with increasing air traffic. International and federal laws governing commercial air traffic require collision avoidance systems for certain aircraft which carry passengers. FAA requirements call for installation of a collision avoidance warning system no later than 1996 for most commercial aircraft. The collision warning system will give "Marine One" pilots a real time indication of proximity threat traffic. The system will augment radar tracking and provide traffic advisories when operating in areas with no radar coverage.

Modification will include:

(1) 19 ALQ-144A Phase Lock airframe change kits (11 VH-3D and 8 VH-60N) in FY 1994. The ALQ-144A Phase Lock is an active, continuously operating, electrically fired infrared (IR) jammer system designed to confuse or decoy threat IR missile systems. A prototype was evaluated in FY 1991 on the VH-60N and in FY 1992 on the VH-3D.

(2) 19 Survivability change kits and GFE (11 VH-3D and 8 VH-60N) in FY 1993 through FY 1998. One prototype kit was procured in FY 1993 for the VH-3D and one in FY 1994 for the VH-60N. 10 production kits will be procured for the VH-3D in FY 1995 through FY 1998, and 7 VH-60N production kits will be procured in FY 1996 through FY 1998. The Survivability kit consists of the APR-39 Radar Detector, the AAR-47 Missile Detector, the AVR-2 & AVR-2(A) Laser Detectors (providing real time laser illumination detection) and the ALE-47 Countermeasures Dispensing system. The ALE-47 will be utilized as a mission kit and will provide automatic active decoy for identified threats. Survivability Kits will provide pilots real time threat and relative position indications. Initial Radar Detector installations will use "on-loan" APR-39A(V)1 systems. Contract award for APR-39A(V)2 systems will occur in FY 1998. Survivability Kits will be installed on the NVH-3A Testbed prior to install on the VH-3D and VH-60N prototypes to reduce risk and decrease time required for testing on the prototypes.

(3) Traffic Alert and Collison Avoidance System (TCAS) install kits (8 VH-60N), including IFF in FY 1996 through FY 2000. 3 VH-60N Kits in FY 1996, 2 VH-3D and 3 VH-60N kits will be procured in FY 1997 with the remainder procured in FY 1998 through FY 2001. Mode "S" update will follow as technology matures.

(4) An interim Auto Ignition system was developed and installed on the VH-60N aircraft in FY 1994. Permanent systems will be installed coincident with the VH-60N survivability mod installations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Integration efforts to the airframes will be performed by either Sikorsky Aircraft or the individual kit manufacturer. Software integration, which started in FY 1993, is being developed by NAWC AD Warminster. APR-39 Missile Detector, AAR-47 Radar Warning Receiver, ALE-47 chaff and flare dispenser and the AVR-2 & AVR-2(A) Laser Detectors are undergoing evaluation on Black Hawk and Sea Hawk (AVR-2) aircraft. Collision avoidance warning systems are being evaluated by HMX-1. The VH-3D survivability prototype installation commenced in October 1994 and completed in July 1997.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	29	1.1	3	2.5	7	5.9	5	5.0	25	5.2	3	0.2	2	0.1	4	0.3							78	20.4
Installation Kit - Unit Price		*		0.8		0.8		1.0		0.2		0.1		0.1		0.1								
Installation Kits N/R		13.8		1.6		3.7				1.8														20.9
Installation Equipment	26	3.1	6	0.3			3	0.3	5	0.4	3	0.3	3	0.2	4	0.4							50	5.1
Installation Equipment N/R				*																				*
Engineering Change Orders		*								0.6														0.7
Data		0.8		0.9		0.1		1.8		0.6														4.2
Training Equipment		0.1		0.4		*				0.3														0.8
Support Equipment		1.2																						1.2
ILS		0.3		0.1		0.6				0.3														1.3
Other Support		2.4		1.4		3.2		3.6		2.8		2.1		1.8		0.8								18.1
Interim Contractor Support																								
Installation Cost	29	2.6	3	2.1	7	3.6					7	3.3	5	1.6	4	1.6	4	0.3					59	15.0
TOTAL PROCUREMENT		**25.5**		**9.3**		**17.2**		**10.7**		**11.9**		**5.8**		**3.7**		**3.1**		**0.3**						**87.6**

Totals do not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: VH-3D and VH-60N

MODIFICATION TITLE: VH-3D/VH-60N EXECUTIVE HELICOPTER SURVIVABILITY IMPROVEMENT PROGRAM (OSIP 22-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: ALQ-144A Phase Lock kits will be installed as Contractor Drive-in-Mod. Survivability kits (AAR-47, AVR-2, and ALE-47) will be installed on VH-3D and VH-60N aircraft during SPAR. Collision avoidance warning systems are currently being evaluated and will be incorporated during SPAR. (All turn-key in FY 1996 and prior fiscal years.)

ADMINISTRATIVE LEADTIME: 4 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1997: **4/97** FY 1998: 2/98 FY 1999: 2/99

DELIVERY DATE: FY 1997: **9/98** FY 1998: 11/99 FY 1999: 12/00

($ in Millions)

Cost	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (*) kits	**29**	**2.6**	**3**	**2.1**	**7**	**3.6**																	**39**	**8.2**
FY 1997 (*) kits											**5**	**3.1**											**5**	**3.1**
FY 1998 (*) kits											**2**	**0.1**	**2**	**1.4**									**4**	**1.5**
FY 1999 ( ) kits													**3**	**0.2**	**2**	**1.5**							**5**	**1.6**
FY 2000 ( ) kits															**2**	**0.1**							**2**	**0.1**
FY 2001 (*) kits																	**4**	**0.3**					**4**	**0.3**
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	29	2.6	3	2.1	7	3.6					7	3.2	5	1.6	4	1.6	4	0.3					59	14.9

* Quantity varies depending on kits being procured each year. Total number of aircraft being modified is 19 (8 VH-60N/ 11 VH-3D).

Installation Schedule VH-3D Survivability

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	8											1	1	1				1							
Out	8														1	1	1				1				

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						12
Out						12

Installation Schedule - VH-3D TCAS

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													2	2		1		2				1	1	1	1
Out																1	1	2		1	1	1			1

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						11
Out	1	1	1			11

Installation Schedule - VH-60N SURVIVIABILITY

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	4											1	2	1				1							
Out				1						1	1	1			1	2		1			1				

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						9
Out						9

EXECUTIVE HELICOPTER SERIES MOD

OSIP 22-93

ECP#/Name	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
VH-3D Surviviability	*	**2,493**	**4,079**	**2,649**	**2,781**							**12,002**
Proc. Qty.	(1)	(3)	(3+update)	(2)	(2)							(12)
Proc Unit Cost		831	1,987	1,325	1,391							
Proc Unit Cost (Update)			105		1,000							
Installation Cost	795	1,988	2,479			1,682	883	927				8,754
Install Qty	(1)	(3)	(3+update)			(2)	(1)	(1)				(12)
	* Funded under Install Kits N/R											
VH-60N Survivability	*		**1,856**	**2,362**	**1,794**							**6,012**
Proc. Qty.	(1)		(2+update)	(3)	(2)							(9)
Proc. Unit Cost			928	787	897							
Proc. Unit Cost(Update)			488									
Installation Cost	463		1,089			1,440	504	529				4,025
Install Qty	(1)		(2+update)			(3)	(1)	(1)				(9)
	* Funded under Install Kits N/R											
3D TCAS					115	176	120	270				**681**
Proc. Qty.					(2)	(3)	(2)	(4)				(11)
Proc. Unit Cost					58	59	60	68				
Installation Cost						114	175	119	259			667
Install Qty						(2)	(3)	(2)	(4)			(11)
APR-39					494							**494**
Proc. Qty.					(19)							(19)
Proc. Unit Cost					26							26
Installation Cost												
Install Qty												
	* O-Level Install											
ALQ-144A	*											
Proc. Qty.	(19)											(19)
Proc. Unit Cost												
Installation Cost	878											878
Install Qty	(19)											(20)
	* Funded under NR line											

VH-60N Auto Ignition	1,144									**1,144**
Proc. Qty.	(8)									(8)
Proc. Unit Cost	143									
Installation Cost	438									**438**
Install Qty	(8)									(8)
Litton AHRS										
Proc. Qty.										(8)
Proc. Unit Cost										
Installation Cost		77								**77**
Install Qty										(8)
TOTAL Procurement Cost	**1,144**	**2,493**	**5,935**	**5,011**	**5,184**	**176**	**120**	**270**		**20,333**
TOTAL Proc. Qty.	(29)	(3)	(7)	(5)	(25)	(3)	(2)	(4)	(0)	(78)
TOTAL Installation Cost	**2,574**	**2,065**	**3,568**			**3,236**	**1,562**	**1,575**	**259**	**14,839**
Total Install Qty.	(29)	(3)	(7)	(0)	(0)	(7)	(5)	(4)	(4)	(59)
Other Support	**21763**	**4761**	**7686**	**5761**	**6729**	**2454**	**2077**	**1237**	**0**	
TOTAL APN-5 COSTS	**25,481**	**9,319**	**17,189**	**10,772**	**11,913**	**5,866**	**3,759**	**3,082**	**259**	

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Mid-Life Upgrade (MUG) (OSIP 23-93)

MODELS OF SYSTEM AFFECTED: VH-60N TYPE MODIFICATION: SAFETY

DESCRIPTION/JUSTIFICATION: The VH-60N is assigned to Marine Helicopter Squadron One (HMX-1) to support the President of the United States. This planned upgrade will correct identified deficiencies in aircraft performance and mission capabilities. Upgrades are required in system areas pertaining to environmental issues, communication and navigation. White House operational requirements for the VH-60N designate specific communication and mission improvement requirements.

Modifications will include:

(1) Incorporation of a Communications System Upgrade. One prototype Communications System Upgrade kit was procured in FY 1994. Seven production communications system upgrade kits will be procured in FY 1996 through FY 1998. The upgrade will provide communication system commonality between the VH-60N and VH-3D, Air Force One, National Emergency Airborne Command Post (NEACAP), and the White House Communications Agency (WHCA). Specifically the CSU will include the following:

(a) Addition of a fourth VHF/FM radio. This enhances system capability to one full duplex and two half duplex channels capable of secure and clear voice operation.

(b) HF Radio system capable of half duplex secure and clear voice operation. Must have embedded Automatic Link Establishment (ALE) capability and operationally securable with Advance Narrow Band Digital Voice Terminal (ANDVT).

(c) Full duplex SATCOM capability (25 Khz channel spacing (MUST Radio)).

(2) Incorporation of MUG kit. Procurement of eight production MUG kits commenced in FY 1996 and will be completed in FY 1998. The MUG kit will consist of:

(a) New displays, which will allow complete flight plans to be seen by the crew. The new displays will replace current display units which allow only a limited number of way points.
(b) Aircraft modifications to improve aircraft performance and reliability. Airframe modifications are as follows:
(1) A rotor brake system capable of stopping the rotor head while both engines are operating.
(2) New APU components to improve reliability.
(3) Improved tail landing gear to absorb greater stress and impact landings due to stress from increase operating weight.

(c) Cockpit improvements to enhance safety and operational capabilities.

(d) Vibration absorbers to enhance crew and passenger comfort.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES: Non-recurring engineering (NRE) for the Mid-Life Upgrade began in 1993. CSU software integration, which started in FY 1992, is being developed by NAWC AD Warminster using the NVH-3A Testbed as an integration platform. Warminster is modifying off-the-shelf components for incorporation into Communications System Upgrade kits. Sikorsky Aircraft is developing the interior and structural modifications as part of the NRE. The prototype aircraft for the Communications System Upgrade Kit was inducted in May 1995 and completed in June 1997.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits	1*				3	2.0	3	2.3	2	1.9													9	6.2
Installation Kit - Unit Price						0.7		0.8		1.0														
Installation Kits N/R		5.0				3.6																		8.7
Installation Equipment	8	3.5	10	0.5																			18	4.0
Installation Equipment N/R																								
Engineering Change Orders										0.2														0.2
Data		0.5				0.1				0.1														0.7
Training Equipment						0.1				0.2		0.1												0.4
Support Equipment		0.4		0.5																				1.0
ILS				0.1		0.7				*				*										0.8
Other Support		2.6		2.5		2.4		2.0		1.3		0.8		0.2		0.3								12.0
Interim Contractor Support																								
Installation Cost	1	0.4			3	1.2					3	1.5	1	0.5	1	0.6							9	4.2
TOTAL PROCUREMENT		**12.5**		**3.5**		**10.0**		**4.3**		**3.7**		**2.3**		**0.7**		**0.9**								**38.1**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: VH-60N

MODIFICATION TITLE: VH-60N MUG (OSIP 23-93)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Installation of Communication System Upgrade and Mid-Life Upgrade kits will occur during SPAR (All-turn key in FY 1996 and prior fiscal years).**

ADMINISTRATIVE LEADTIME: 8 Months

PRODUCTION LEADTIME: 16 Months

CONTRACT DATES: FY 1997: **5/97** FY 1998: 5/98 FY 1999:

DELIVERY DATE: FY 1997: **9/98** FY 1998: 9/99 FY 1999:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (4) kits	**1**	**0.4**			**3**	**1.2**																	**4**	**1.6**
FY 1997 (3) kits											**3**	**1.5**											**3**	**1.5**
FY 1998 (2) kits													**1**	**0.5**	**1**	**0.6**							**2**	**1.1**
FY 1999 (*) kits																								
FY 2000 (*) kits																								
FY 2001 ( ) kits																								
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL	1	0.4			3	1.2					3	1.5	1	0.5	1	0.6							9	4.2

* Quantiry varies depending on kits being procured each year. Total number of aircraft being modified is 8.

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	1						1	1	1			1	2	1				1							
Out				1						1	1	1			1	2		1			1				

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						9
Out						9

NOTE: PROTOTYPE AIRCRAFT GOES IN TWICE SO THAT THE CONFIGURATION IS CONSISTENT WITH THE OTHER VH-60N'S.

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
Special Project Aircraft

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)					13.5	16.5	6.4	16.3	5.0	5.5			63.3

This Defense Airborne Reconnaissance Office (DARO) program modifies or replaces obsolete intellignece collection equipment in FY 1999 in four P-3 specia project aircraft. Procurements vary in each fiscal year and include common Navy systems for increased capability, reduced operator workload and common logistics. Active PAA inventory is 4. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
18-97	P-3 Special Project Aircraft				5.0	13.4	3.5	13.4	3.9	4.4			43.7
19-97	P-3 Intelligence Sensors/Systems				8.4	3.1	2.9	2.9	1.1	1.1			19.7
TOTAL					13.5	16.5	6.4	16.3	5.0	5.5			63.3

Totals may vary due to rounding

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **P-3 Special Project Aircraft (OSIP 18-97)**

MODELS OF SYSTEM AFFECTED: **P-3B/C** TYPE MODIFICATION: **Operational Improvement**

DESCRIPTION/JUSTIFICATION:

This modification replaces obsolete intelligence collection equipment in four P-3 Special Project aircraft by:

1. **Procurement of common Navy systems for increased capability, reduced operator workload and common logistics.**
2. **Update of radio frequency distribution hardware for selected sensors.**
3. **Conversion of interior and exterior of aircraft for future operations.**

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Approval for full production is not required.

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																		
PROCUREMENT																		
Installation Kits		0.9	4	0.3		0.5		6.5				0.1					4	8.4
Installation Kit - Unit Price				0.1														0.1
Installation Kits N/R				1.0		2.0												3.0
Installation Equipment		1.6		4.1				0.1		0.9		2.6						9.3
Installation Equipment N/R				3.7				0.2		1.4								5.3
Engineering Change Orders																		
Data		0.3		0.6				1.6		0.2		0.3						3.0
Training Equipment																		
Support Equipment																		
ILS		0.3		0.7						0.3								1.3
Other Support		2.0		2.0		1.0		1.1		1.1		1.0						8.2
Interim Contractor Support																		
Installation Cost			4	1.0				3.7				0.4					4	5.2
TOTAL PROCUREMENT		5.0		13.4		3.5		13.4		3.9		4.4						43.7

*** Indicates value less than $51,000.**

**** Funding is required to replace P-3 Special Projects aircraft BUNO 154577 which will have expended 100% fatigue life in Jan 2001.**

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3B/C

MODIFICATION TITLE: **P-3 Special Project Aircraft (OSIP 18-97)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Drive In.**

ADMINISTRATIVE LEADTIME: **5** Months

PRODUCTION LEADTIME: **5** Months

CONTRACT DATES: FY 1998: 3/98

DELIVERY DATE: FY 1998: 8/98

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1998 (4) kits			4	1.0								.4					4	1.4
FY 2000 () kits							**	3.7									**	3.7
TOTAL			4	1.0			**	3.7				.4					4	5.2

* **Indicates value less than $51,000**

** **Cross decking equipment for replacement aircraft.**

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								4																
Out								4																

	FY 2003				TO	
	1	2	3	4	COMPLETE	TOTAL
In						4
Out						4

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: **P-3 Intelligence Sensors and Systems (OSIP 19-97)**

MODELS OF SYSTEM AFFECTED: P-3B/C

TYPE MODIFICATION: **Operational Improvement**

DESCRIPTION/JUSTIFICATION:

This modification replaces obsolete intelligence collection equipment in four P-3 Special Project aircraft by:

1. **Installation and support of special mission equipment provided by Other Agencies**
2. **Procurement of special mission equipment as directed by the Chief of Naval Operations.**

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Approval for full production is not required.

FINANCIAL PLAN (TOA, $ in Millions):

	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																		
PROCUREMENT																		
Installation Kits			4	*		*		0.1		*							4	0.2
Installation Kit - Unit Price																		
Installation Kits N/R																		
Installation Equipment		6.4		1.9		2.7		2.6		1.1		0.8						15.5
Installation Equipment N/R		1.7		0.3														2.0
Engineering Change Orders																		
Data				0.3														0.3
Training Equipment																		
Support Equipment																		
ILS		0.3																0.3
Other Support				0.1		0.2		0.2										0.5
Interim Contractor Support																		
Installation Cost			4	0.5								0.3					4	0.8
TOTAL PROCUREMENT		8.4		3.1		2.9		2.9		1.1		1.1						19.6

Totals may vary due to rounding

Asterick indicates a value of less than $51,000.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: P-3B/C

MODIFICATION TITLE: **P-3 Intelligence Sensors and Systems (OSIP 19-97)**

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Drive-in Modification**

ADMINISTRATIVE LEADTIME: **6** Months

PRODUCTION LEADTIME: **1** Months

CONTRACT DATES: FY 1998: **1/98**

DELIVERY DATE: FY 1998: **6/98**

($ in Millions)

Cost:	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1998 (4) kits			4	0.5								0.3					4	0.8
TOTAL			4	0.5								0.3					4	0.8

*** Indicates value less than $51,000**

Installation Schedule

	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In							4																	
Out							4																	

	FY 2003				TO COMPLETE	TOTAL
	1	2	3	4		
In						4
Out						4

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **SEPTEMBER 1997**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
T-45 Series Modifications

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)		A	2.9	14.7	5.5	5.4	8.7	29.4	30.8	27.0	35.6	57.7	217.6

This line item funds modifications to T-45A aircraft. The T-45A Goshawk is a tandem-seat, carrier capable derivative of the existing British Aerospace Hawk aircraft powered by a single Rolls Royce Adour engine. It serves as the aircraft component of the T45TS integrated jet pilot training system which replaces the three decade old TA-4 and T-2 technology. The overall goal of the modifications budgeted in FY 1999 is to correct discrepancies and deficiencies discovered after delivery of the aircraft and to commence major upgrades to the aircraft cockpit, navigation system, and aircrew ejection seats.

The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
08-95	T-45TS Correction to Deficiencies		2.9	10.8	5.5	5.4	5.9	7.3	7.3	6.6	6.4	7.7	65.7
16-96	T-45TS Digital Cockpit			3.8				18.6	19.9	19.1	28.0	46.7	136.1
04-99	T-45TS NACES P3I						2.8	2.7	2.7	*			8.3
-00	T-45TS GPS							0.7	1.0	1.2	1.2	3.4	7.5
TOTAL			**2.9**	**14.7**	**5.5**	**5.4**	**8.7**	**29.4**	**30.8**	**27.0**	**35.6**	**57.7**	**217.6**

* Dollars less than 51K
NOTE: Numbers do not add due to rounding

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: T45TS Correction of Deficiencies (OSIP 8-95)

MODELS OF SYSTEM AFFECTED: T-45 Training System (T45TS) TYPE MODIFICATION: RELIABILITY

DESCRIPTION/JUSTIFICATION:

The T45TS, consisting of the aircraft, aircraft simulators, computer aided academics and a computer based Training Integration System (TIS) is replacing the aging T-2C and TA-4J aircraft for Undergraduate Jet Pilot Training. Each Individual component of the "System" has been designed from the "ground up" as part of a fully integrated, state-of-the art training package. Currently, the T-45TS is in the Full Rate Production phase. Aircraft fatigue testing has begun and will continue for the foreseeable future. Initial testing/operations have identified various discrepancies and deficiencies that are being corrected for production aircraft; however, retrofit of these corrections for previously delivered aircraft requires funding through the Aircraft Modification Program. Additional deficiencies and cost effective changes discovered during future testing and Undergraduate Jet Pilot Training require correction to ensure personnel safety and avoid a myriad of maintenance and supply problems created by multiple configurations. Affected systems include the aircraft, as well as all of the associated training systems (e.g., airframe, landing gear, brake system, fuel system, avionics , engine, and environmental control system), simulators, Training Integration System, and academics.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Modifications have been identified by McDonnell Douglas Aircraft Company (MDA) ECPs 0019 and 0137 to provide structural monitoring and the development of software for processing of fatigue data. MDA ECPs 0065, 0094, 0095, 0102, 0108, 0109, 0122, 0132, and 0133 are modifications being incorporated to meet structural requirements. MDA ECPs 0013, 0121, 0128, 0134, and 0135 are being developed to correct deficiencies with the simulators, interchangeability, gas turbine starter, and flight controls. ECPs 0002, and 0136 have been developed to correct deficiencies in the fuel system and the engine. Other ECPs are being developed to correct deficiencies in the aircraft environmental control system, electrical and hydraulic systems, hardware/software academics, the Training Integration System, and simulators. These ECPs are being incorporated at NAS Kingsville via an ongoing modification program utilizing contractor labor.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits			46	0.3	91	7.2	431	1.6	77	1.0	66	1.7	51	2.1	398	2.2	676	1.9	220	1.5	650	7.7	2,706	27.2
Installation Kit - Unit Price				*		0.1		*		*		*		*		*		*		*		*		
Installation Kits N/R				*		0.2		0.5		0.6		0.7		1.0		0.9		0.3		0.2				4.5
Installation Equipment				*		0.1		0.3		0.2		0.1		0.1		0.1		0.1		0.1				1.1
Installation Equipment N/R				*		0.1		0.1		0.2		0.1		0.1		0.1		0.1		0.1				0.8
Engineering Change Orders																								
Data				*		0.1		0.2		0.1		0.1		0.1		0.1		0.1		0.1				0.9
Training Equipment				0.1		0.4		0.8		0.5		0.6		1.4		1.2		1.0		1.2				7.2
Support Equipment				*		0.1		0.1		0.1		0.1		*		0.1		0.1		0.1				0.7
ILS																								
Other Support				*		*		*		0.2		0.1		*		*		*		*				0.4
Interim Contractor Support																								
Installation Cost				2.4		2.5		1.9		2.5		2.4		2.6		2.8		2.9		3.0				22.9
TOTAL PROCUREMENT				**2.9**		**10.8**		**5.5**		**5.4**		**5.9**		**7.3**		**7.3**		**6.6**		**6.4**		**7.7**		**65.7**

* Dollars less than 51K
NOTE: Numbers do not add due to rounding

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **T45TS**

MODIFICATION TITLE: MDA-041R1, DUAL BUST PUMP, OSIP 8-95

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR**

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1995: Nov-94 FY 1999: FY 2000:

DELIVERY DATE: FY 1995: Nov-94 FY 1999: FY 2000:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (8) kits			**8.0**	**0.5**		**0.2**		**0.0**															**8.0**	**0.7**
FY 1997 ( ) kits																							**0.0**	**0.0**
FY 1998 ( ) kits																							**0.0**	**0.0**
FY 1999 ( ) kits																							**0.0**	**0.0**
FY 2000 ( ) kits																							**0.0**	**0.0**
FY 2001 ( ) kits																							**0.0**	**0.0**
FY 2002 ( ) kits																							**0.0**	**0.0**
FY 2003 ( ) kits																							**0.0**	**0.0**
To Complete () kits																							**0.0**	**0.0**
TOTAL	0.0	0.0	8.0	0.5	0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.7

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	8																								
Out	8																								

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						8
Out						8

Total does not include installations costs incurred for ECP's completed with ship sets, material locally procured from supply and locally manufactured material. No APN-5 kit charge, only installation charges. Cost incurred on Firm Fixed Price contracts. See Attachment.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **T45TS**

MODIFICATION TITLE: MDA-0122, SLAT O/C LOCK MECH CRADLE OSIP 8-95

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **CONTRACTOR**

ADMINISTRATIVE LEADTIME: N/A Months

PRODUCTION LEADTIME: N/A Months

CONTRACT DATES: FY 1996: Jan-96 FY 1999: FY 2000:

DELIVERY DATE: FY 1996: Jan-96 FY 1999: FY 2000:

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																							**0.0**	**0.0**
FY 1997 (34) kits							**15.0**	**0.2**	**19.0**	**0.2**													**34.0**	**0.4**
FY 1998 ( ) kits																							**0.0**	**0.0**
FY 1999 ( ) kits																							**0.0**	**0.0**
FY 2000 ( ) kits																							**0.0**	**0.0**
FY 2001 ( ) kits																							**0.0**	**0.0**
FY 2002 ( ) kits																							**0.0**	**0.0**
FY 2003 ( ) kits																							**0.0**	**0.0**
To Complete () kits																							**0.0**	**0.0**
TOTAL	0.0	0.0	0.0	0.0	0	0.0	15.0	0.2	19.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.0	0.4

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	0	3	4	4	4	4	5	5	5																
Out	0	3	4	4	4	4	5	5	5																

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						34
Out						34

Total does not include installations costs incurred for ECP's completed with ship sets, material locally procured from supply and locally manufactured material. No APN-5 kit charge, only installation charges. Cost incurred on Firm Fixed Price contracts. See Attachment.

T-45 Series Mod

OSIP 8-95: Correction Of Deficiencies

ECP#/Name	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
Wing Dolly (0114)	**31**										**31**
Proc Qty	3										3
Proc Unit Cost	10.3										
Install Qty	1	2									3
Flap Actuation System (013R3)	**198**										**198**
Proc Qty	8										8
Proc Unit Cost	22										
Install Qty	8										8
Touch & Go Eng Surge (033R2)	**91**										**91**
Proc Qty	8										8
Proc Unit Cost	11.4										
Install Qty	8										8
Dual Bost Pump (041R1)	**41**										**41**
Proc Qty	8										8
Proc Unit Cost	5.1										
Install Qty	8										8
Fatigue Life Tracking (019R1)		**336**									**336**
Proc Qty		28									28
Proc Unit Cost		12									
Install Qty		14	14								28
Fatigue Life Tracking (019R2)			**50**								**50**
Proc Qty			6								6
Proc Unit Cost			8.3								
Install Qty			6								6
SS 02 Montor Bracket (0050R1)	**103**		**149**								**252**
Proc. Qty.	19		27								46
Proc. Unit Cost	5.5		5.5								
Install Qty	11	8	20	7							46
Simulator Upgrade (0121)		**1,627**									**1,627**
Proc Qty		8									8
Proc Unit Cost		171									
Install Qty		8									8
LPNGV (R/R-1530R1)		**270**									**270**
Proc Qty		18									18
Proc Unit Cost		15									
Install Qty		3	15								18
Horz Stab (0102)		**6,149**	**1,882**	**2,089**	**1,458**	**1134**					**12,712**
Proc Qty		38	11	13	9	7					78
Proc Unit Cost		162	162	162	162	162				162	
Install Qty		5	12	13	9	17				22	78

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T-45 Series Mod

OSIP 8-95: Correction Of Deficiencies

ECP#/Name	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
Eject Seat handle (PMA-202)			**40**								**40**
Proc Qty			154								154
Proc Unit Cost			0.26								
Install Qty			66	88							154
Slat O/C Lock Mech, Cradle **(0122)(Omnibus)**			**680**								**680**
Proc Qty			34								34
Proc Unit Cost			20								
Install Qty			15	19							34
Wing Leading Edge (0127)(OMNIBUS)			**67**								**67**
Proc Qty			33								33
Proc Unit Cost			2.1								
Install Qty			15	18							33
Longitudial System Viscous (0135)			**121**								**121**
Proc Qty			14								14
Proc Unit Cost			8.7								
Install Qty				14							14
Frame 21 Structure (0144)(OMNIBUS)			**47**								**47**
Proc Qty			33								33
Proc Unit Cost			1.4								
Install Qty			15	18							33
Frame 29 Lower Flange (0145)(OMNIBUS)			**10**								**10**
Proc Qty			33								33
Proc Unit Cost			0.3								
Install Qty			15	18							33
Frame 28-32 Boundary/Vert Fin (0155)(Omnibus)			**102**								**102**
Proc Qty			33								33
Proc Unit Cost			3.1								
Install Qty			15	18							33
NLG Trunnion Beam (0158)(OMNIBUS)			**59**								**59**
Proc Qty			33								33
Proc Unit Cost			3.1								
Install Qty			15	18							33
Front Combustion Liner (1548)(OMNIBUS)			**414**	**629**	**814**	**506**					**2,363**
Proc Qty			19	29	37	23					108
Proc Unit Cost			22	22	22	22					
Install Qty			19	29	37	23					108
Wing, Inboard Track Rib **(0108R1)(OMNIBUS)**				72							**72**
Proc Qty				33							33
Proc Unit Cost				2.2							
Install Qty				15	18						33
Airframe Engine Mount (0142)(OMNIBUS)				**138**	**1,190**	**1374**					**2,702**
Proc Qty				2	20	21					43
Proc Unit Cost				65.4	65.4	65.4					
Install Qty				2	20	21					43

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T-45 Series Mod

OSIP 8-95: Correction Of Deficiencies

ECP#/Name	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
Fatigue ECPs (TBDs) (OMNIBUS)						**1672**	**1,500**	**1,840**	**800**	**2,600**	**8,412**
Proc Qty						235	214	264	162	373	1,248
Proc Unit Cost						7	7	7	5	7	
Install Qty							100	184	184	780	1,248
Simulator Upgrade (TBD)							**1,212**	**750**	**1,530**	**2,750**	**6,242**
Proc Qty							12	8	6	12	38
Proc Unit Cost (Soft Ware Update)											
Install Qty							12	8	6	12	38
Air Data Recorder (0137)							**30**	**60**			**90**
Proc Qty							100	200			300
Proc Unit Cost							0.3	0.3			
Install Qty							25	175	100		300
Fuel Transfer Valve (0139)							**35**	**35**			**70**
Proc Qty							50	50			100
Proc Unit Cost							0.7	0.7			
Install Qty							25	50	25		100
Gas Turbine Stater (0134)							**1000**	**288**	**360**	**1478**	**3,126**
Proc Qty								10	12	86	108
Proc Unit Cost								29	29	29	
Install Qty									18	90	108
Nose Wheel Steering (TBD)							**720**	**720**	**720**	**840**	**3,000**
Proc Qty							36	36	36	42	150
Proc Unit Cost							20	20	20	20	
Install Qty							10	36	36	68	150
Total Procurement Cost	**464**	**8,382**	**3,621**	**2,928**	**3,462**	**4,686**	**4,497**	**3,693**	**3,410**	**7,668**	**42,811**
Total Proc Qty	46	92	430	77	66	286	412	568	216	513	2,706
Total Install Cost (Depot Field Team)	**2,390**	**2,460**	**1,881**	**2,514**	**2,390**	**2,638**	**2,756**	**2,897**	**2,976**	***TBD**	**22,902**
Total Install Qty	41	35	230	277	84	61	172	453	369	950	2,672
Total	**2,854**	**10,842**	**5,502**	**5,442**	**5,852**	**7,324**	**7,253**	**6,590**	**6,386**	**7,668**	**65,713**

Note: The Contractor's Depot Field Mod Team (MDA) is a separate contract action which is not tied to individual ECP's.

* The Mod line is anticipated to go on well past the incorporation of Cockpit-21 aircraft. For future years escalation factors will be used.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: T45TS Digital Cockpit (OSIP 16-96)

MODELS OF SYSTEM AFFECTED: T-45 Training System (T45TS) TYPE MODIFICATION: PS SAFETY

DESCRIPTION/JUSTIFICATION:

The T45TS Digital Cockpit will add two multi-function displays (MFDs) per cockpit, associated cockpit controls, and a 1553 digital data bus, integrating them with the existing head-up display (HUD), the airborne data recorder (ADR), and a separately procured Global Positioning System/Inertial Navigation System (GINA). The development effort began in FY 1992. Following satisfactory test and evaluation of a prototype and ECP approval, forward fit procurement begins in FY 1996. A retrofit program will incorporate the digital cockpit in the existing analog aircraft. There are validation and verification retrofit kits procured FY 1996 that will be installed in March 1998. Retrofit of the remaining aircraft and simulators at NAS, Kingsville, TX will be completed by FY 2006.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

ECP approval for Digital Cockpit forward fit was received in the third quarter of FY 1996. Approval of retrofit is expected in the first quarter of FY 1999 following testing on the validation kit installation.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits					2	1.0							9	2.1	13	3.2	14	3.5	14	3.6	26	7.6	78	21.0
Installation Kit - Unit Price						0.5								0.2		0.2		0.3		0.3		0.3		
Installation Kits N/R														0.8										0.8
Installation Equipment						1.6								6.6		9.1		10.4		10.8		23.6		62.1
Installation Equipment N/R														0.4										0.4
Engineering Change Orders														0.1		0.2								0.3
Data						0.8								0.6		0.6								2.1
Training Equipment													1	4.7	1	3.6	1	3.6	3	10.8	2	7.2	8	29.9
Support Equipment														2.5		2.6				1.0				6.1
ILS														0.5		0.5				0.2				1.2
Other Support						0.2								0.3										0.5
Interim Contractor Support																								
Installation Cost					2	0.2											10.0	1.6	14.0	1.6	60.0	8.3	86	11.7
TOTAL PROCUREMENT						**3.8**								**18.6**		**19.9**		**19.1**		**28.0**		**46.7**		**136.1**

* Dollars less than 51K

NOTE: Numbers do not add due to rounding

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **T45TS**

MODIFICATION TITLE: T45TS Digital Cockpit (OSIP 16-96)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor field mod team (turn-key in FY 1996 only).**

ADMINISTRATIVE LEADTIME: 1 Months

PRODUCTION LEADTIME: 24 Months

CONTRACT DATES: FY 1996: Jun-96 FY 1999: N/A FY 2000: N/A

DELIVERY DATE: FY 1996: Jun-98 FY 1999: N/A FY 2000: N/A

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (2) kits					**2.0**	**0.2**																	**2.0**	**0.2**
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 ( ) kits																								
FY 2000 (10) kits																	**10.0**	**1.6**					**10.0**	**1.6**
FY 2001 (14) kits																			**14.0**	**1.6**			**14.0**	**1.6**
FY 2002 (15) kits																					**15.0**	**2.0**	**15.0**	**2.0**
FY 2003 (17) kits																					**17.0**	**2.0**	**17.0**	**2.0**
To Complete (28) kits																					**28.0**	**4.3**	**28.0**	**4.3**
TOTAL					2	0.2											10.0	1.6	14.0	1.6	60.0	8.3	86.0	11.7

NOTE: Quantities include trainers.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								1	1													2	3	2	3
Out									1	1													2	3	2

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	3	3	4	4	60	86
Out	3	3	3	4	64	86

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: T-45A NACES P3I (Navy Aircrew Common Ejection Seat Pre-Planned Product Improvement) (OSIP 4-99)

MODELS OF SYSTEM AFFECTED: T-45A NACES GFE EJECTION SEATS TYPE MODIFICATION: PS SAFETY

DESCRIPTION/JUSTIFICATION:

An average of 15 Naval Aircrew fatalities occur each year from in-flight mishaps. Nearly half result from the seat ejecting crewmembers into the ground or water at low altitude and adverse attitudes. Because of their lighter throw weight, women are particularly susceptible to this and other ejection risks. The NACES P3I program is divided into three phases of development and upon completion of each phase, existing aircraft seats will be modified with NACES retrofit kits.
Phase I - Current technology improvements to increase cockpit accommodation and reduce injury risk for all aircrew.
Phase II - Propulsion stability control to reduce the risk of major injury to less than 5% up to 600 knots.
Phase III - Stability control and surface avoidance capability for low altitudes, adverse attitudes, and out of control ejections.

Procurement of Phase I kits have been priced and are represented by this OSIP. Procurement costs for Phase II and III have not been determined.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Contract awarded third quarter FY 1997 for development and testing. Approval of the retrofit kits is expected by first quarter FY 1999 following testing on the validation/verification kit installs.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits											75	1.8	85	2.0	78	1.9							238	5.7
Installation Kit - Unit Price												0.0		0.0		0.0								
Installation Kits N/R												0.5		0.5										1.0
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data												0.1												0.1
Training Equipment											6	0.2											6	0.2
Support Equipment																								
ILS																								
Other Support																								
Interim Contractor Support																								
Installation Cost											18.0	0.2	87.0	0.2	79.0	0.8	60.0	*					244.0	1.3
TOTAL PROCUREMENT												**2.8**		**2.7**		**2.7**		*						**8.3**

* Dollars less than 51K
NOTE: Numbers do not add due to rounding

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: T-45A NACES GFE EJECTION SEATS

MODIFICATION TITLE: T-45A NACES P3I (OSIP 4-99)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: Contractor Installations

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 6 Months

CONTRACT DATES: FY 1999: Mar-99 FY 2000: Jan-00 FY 2001: Jan- 01

DELIVERY DATE: FY 1999: Sep-99 FY 2000: Jul-00 FY 2001: Jul-01

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 (81) kits											**18.0**	**0.2**	**63.0**										**81.0**	**0.2**
FY 2000 (85) kits													**24.0**	**0.2**	**61.0**								**85.0**	**0.2**
FY 2001 (78) kits															**18.0**	**0.8**	**60.0**	*					**78.0**	**0.9**
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL											18.0	0.2	87.0	0.2	79.0	0.8	60.0	*					244.0	1.3

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													18	20	23	24	20	20	20	19	20	20	20	20	
Out														18	20	23	24	20	20	20	19	20	20	20	20

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In						244
Out						244

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET P-40	DATE: September 1997
APPROPRIATION/BUDGET ACTIVITY Aircraft Procurement, Navy/APN-5 Aircraft Modifications	P-1 ITEM NOMENCLATURE Power Plant Changes
Program Element for Code B Items:	Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	153.9		14.5	22.2	15.1	14.0	15.6	15.2	15.6	13.9	14.3	31.1	325.2

This line item funds modifications to all in-service aircraft engines. Power plant changes are required throughout the service life of each aircraft to correct flight safety deficiencies and improve operational readiness while reducing engine operating costs. This program financesthe procurement and installation of retrofit kits for all Navy and Marine Corps aircraft engines and related propulsion hardware such as propellers, starters, and transmissions. The overall goal of the modifications budgeted in FY 1999 is to continue modification efforts previously initiated on the engines for the F/A-18, F-14, AV-8B, EA-6B, H-53, H-46, H-60, S-3, C-130, and P-3 aircraft. The following depicts the current funding levels budgeted and programmed for power plant changes:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
N/A	Power Plant Changes	153.9	14.5	22.2	15.1	14.0	15.6	15.2	15.6	13.9	14.3	31.1	325.2
TOTAL		**153.9**	**14.5**	**22.2**	**15.1**	**14.0**	**15.6**	**15.2**	**15.6**	**13.9**	**14.3**	**31.1**	**325.2**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Power Plant Changes (OSIP: N/A)

MODELS OF SYSTEM AFFECTED: All Active In-Service Navy and Marine Corps Aircraft

TYPE MODIFICATION: Approx. 65% Safety, 35% Reliability

DESCRIPTION/JUSTIFICATION:

This program corrects aircraft flight safety deficiencies, improves operational fleet readiness and reduces engine cost of ownership by incorporating approved power plant changes. Power plant changes are required throughout the aircraft service life as the engine ages and operationally revealed deficiencies are discovered, researched, and solutions engineered. The Component Improvement Program (CIP) which is funded in RDT&E,N develops and demonstrates engineering solutions to these deficiencies and through the Engineering Change Proposal (ECP) process, initiates power plant changes. The power plant change program procures the necessary power plant change retrofit kit, its installation, and technical data. This program provides retrofit kits for all Navy and Marine aircraft engines and propulsion related hardware such as propellers, starters, generators, and transmissions. Reliability Improvements are designed to increase Mean Time Between Failure and Mean Time Between Engine Removal by 30% on average and are expected to generate savings/cost avoidance in excess of $50 M annually.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

All engineering effort will be accomplished prior to procurement of kits.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E		160.6		54.9		46.8		39.2		46.6		49.1		53.4		45.6		47.4		54.1		CONT.		CONT.
PROCUREMENT																								
Installation Kits	4,959	120.7	1,533	11.8	6,399	18.5	3,102	12.1	6,623	12.6	6,711	14.1	5,409	13.5	5,414	13.8	4,917	11.7	3,403	12.6	5,533	29.8	54,003	271.2
Installation Kit - Unit Price		@		@		@		@		@		@		@		@		@		@		@		
Installation Kits N/R		*																						*
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.3		0.1		0.1		0.1		0.1		0.1		0.1		0.1		0.1		0.1				1.2
Training Equipment																								
Support Equipment		*																						0.0
ILS		*																						0.0
Other Support		14.2		1.2		2.2		2.2		0.3		0.2		0.3		0.2		0.3		0.3				21.4
Interim Contractor Support																								
Installation Cost	1,178	18.6	1,019	1.3	2,523	1.3	5,087	0.7	5,569	1.0	7,502	1.1	7,299	1.3	5,670	1.5	5,820	1.8	4,996	1.3	8,509	1.2	55,172	31.3
TOTAL PROCUREMENT		**153.9**		**14.5**		**22.2**		**15.1**		**14.0**		**15.6**		**15.2**		**15.6**		**13.9**		**14.3**		**31.1**		**325.2**

NOTE: @ See attached addendum sheet.
* Indicates amount less than 0.051 Million.
Totals may not add due to rounding.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: All Active In-Service Navy and Marine Corps Aircraft

MODIFICATION TITLE: Power Plant Changes (OSIP: N/A)

INSTALLATION INFORMATION: The tables below list the quantities, installation schedules, and costs for those ECPs for which there is an installation cost. Of those ECPs with installation costs, two are not shown as they are labor-only modifications and require no kit. The reason they are not shown in these tables is that the procurement quantity and installation quantities would not be equal. The schedule for these two are listed in the attached addendum sheet.

METHOD OF IMPLEMENTATION: Concurrent with engine/module repair (where installation cost is zero), or by forced retrofit (shown below).

ADMINISTRATIVE LEADTIME: Average of 6 months

PRODUCTION LEADTIME: Average of 15 months

CONTRACT DATES: FY 1997: Varies FY 1998: Varies FY 1999: Varies

DELIVERY DATE: FY 1997: Varies FY 1998: Varies FY 1999: Varies

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (1093) kits			1	*	85	0.1	397	0.3	286	0.3	320	0.4	4	*									1,093	1.0
FY 1997 (411) kits							7	*	259	0.2	145	0.1											411	0.3
FY 1998 (902) kits									65	*	490	0.4	347	0.4									902	0.7
FY 1999 (968) kits											189	*	455	0.9	324	0.3							968	1.2
FY 2000 (871) kits													188	*	459	1.1	224	0.2					871	1.4
FY 2001 (1250) kits															177	*	949	1.4	124	0.1			1,250	1.5
FY 2002 (1137) kits																	197	0.2	940	1.0			1,137	1.1
FY 2003 (567) kits																			117	0.1	450	0.4	567	0.5
To Complete (1036) kits																					1,036	0.9	1,036	0.9
TOTAL			1	*	85	0.1	404	0.3	610	0.5	1,144	0.9	994	1.3	960	1.5	1,370	1.8	1,181	1.2	1,486	1.2	8,235	8.7

NOTE: * Indicates amount less than 0.051 Million.
Totals may not add due to rounding.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In	86	100	100	102	102	150	150	160	150	225	300	300	319	260	250	244	240	250	240	240	230	350	350	340	330
Out	86	90	100	100	100	102	140	160	150	190	260	300	300	300	270	250	240	240	240	240	240	250	290	320	350

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	325	300	285	271	1486	8235
Out	350	350	320	300	1607	8235

Power Plant Changes

OSIP: N/A

($ in Thousands)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
F110 Engine - F-14B/D												
ECP T113 - Turbine Frame Forward Fairing Redesign			**303**	**404**	**824**	**851**	**875**	**559**				**3,816**
Proc. Qty.			35	36	72	72	72	50				337
Proc. Unit Cost			8.7	11.2	11.4	11.8	12.2	11.2				
Install Cost				0	0	0	0	0	0			0
Install Qty.				1	70	72	72	72	50			337
ECP T057 - HPT Shroud Cooling Mod	**38**		**69**	**70**	**69**							**246**
Proc. Qty.	46		96	96	91							329
Proc. Unit Cost	0.8		0.7	0.7	0.8							
Install Cost			0	0	0	0						0
Install Qty.			96	96	96	41						329
ECP T109 - Turbine Frame Oil Tube Bracket & Damper			**30**	**33**	**69**	**67**	**82**	**32**				**313**
Proc. Qty.			35	36	72	72	86	36				337
Proc. Unit Cost			0.9	0.9	1.0	0.9	1.0	0.9				
Install Cost				0	0	0	0	0	0			0
Install Qty.				1	70	72	72	86	36			337
ECP T119 - Exhaust Nozzle Hinge Joint Corrosion			**0**	**0**	**0**	**450**	**435**	**145**				**1,030**
Proc. Qty.			138	0	0	62	60	20				280
Proc. Unit Cost			*			7.3	7.3	7.3				
Install Cost			4	0	102	108	110	113	35			472
Install Qty.			2	0	66	66	66	60	20			280
ECP T146 - Combuster Joint Wear			**10**	**7**	**8**	**8**	**8**	**4**				**45**
Proc. Qty.			60	58	65	63	64	27				337
Proc. Unit Cost			0.2	0.1	0.1	0.1	0.1	0.1				
Install Cost				0	0	0	0	0	0			0
Install Qty.				60	58	65	63	64	27			337
ECP T121 - Nr. 2 Bearing Seal Drain Tube Redesign			**20**	**0**	**79**	**48**						**147**
Proc. Qty.			46	0	180	111						337
Proc. Unit Cost			0.4		0.4	0.4						
Install Cost				0	0	0	0					0
Install Qty.				1	45	165	126					337

* Indicates amount less than 0.051 Thousand.

Power Plant Changes

OSIP: N/A

($ in Thousands)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP T086 - Vented IDG Ejector Valve						**83**	**67**	**90**	**67**	**70**	**35**	**412**
Proc. Qty.						47	59	79	59	62	31	337
Proc. Unit Cost						1.8	1.1	1.1	1.1	1.1	1.1	
Install Cost							0	0	0	0	0	0
Install Qty.							47	59	79	59	93	337
ECP T130 - Master Chip Detector Relocation							**189**	**378**	**385**	**393**	**404**	**1,749**
Proc. Qty.							30	60	60	60	60	270
Proc. Unit Cost							6.3	6.3	6.4	6.6	6.7	
Install Cost								0	0	0	0	0
Install Qty.								40	60	60	110	270
ECP T135 - W6 Cable Chafing Improvement					**19**	**13**						**32**
Proc. Qty.					200	137						337
Proc. Unit Cost					0.1	0.1						
Install Cost					0	0	0					0
Install Qty.					60	160	117					337
ECP T142 - MEC RMA Throttle Improvement					**54**	**37**						**91**
Proc. Qty.					200	137						337
Proc. Unit Cost					0.3	0.3						
Install Cost					0	0	0					0
Install Qty.					60	160	117					337
ECP T144 - LPT Stg 1 Shroud Improvement						**120**	**240**	**245**	**251**	**257**		**1,113**
Proc. Qty.						30	60	60	60	60		270
Proc. Unit Cost						4.0	4.0	4.1	4.2	4.3		
Install Cost							0	0	0	0	0	0
Install Qty.							60	60	60	60	30	270
ECP T139 - Fuel Boost Pump Mod						**60**	**120**	**124**	**129**	**135**		**568**
Proc. Qty.						30	60	60	60	60		270
Proc. Unit Cost						2.0	2.0	2.1	2.2	2.3		
Install Cost							60	125	130	280		595
Install Qty.							30	60	60	120		270

* Indicates amount less than 0.051 Thousand.

Power Plant Changes

OSIP: N/A

($ in Thousands)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP T151 - Fuel Nozzle Moeller Fittings					**66**	**132**	**136**	**141**	**147**			**622**
Proc. Qty.					30	60	60	60	60			270
Proc. Unit Cost					2.2	2.2	2.3	2.4	2.5			
Install Cost						0	0	0	0	0		0
Install Qty.						60	60	60	60	30		270
EMSP IMPROVEMENTS						**75**	**150**	**150**				**375**
Proc. Qty.						30	60	60				150
Proc. Unit Cost						2.5	2.5	2.5				
Install Cost							0	0	0			0
Install Qty.							30	60	60			150
PYROMETER IMPROVEMENTS						**75**	**150**	**156**	**162**	**173**		**716**
Proc. Qty.						30	60	60	60	60		270
Proc. Unit Cost						2.5	2.5	2.6	2.7	2.9		
Install Cost							0	0	0	0	0	0
Install Qty.							45	60	60	60	45	270
CMC FLAMEHOLDER						**160**	**325**	**332**	**290**			**1,107**
Proc. Qty.						40	80	80	70			270
Proc. Unit Cost						4.0	4.1	4.2	4.1			
Install Cost							0	0	0	0		0
Install Qty.							80	80	80	30		270
MEC IMPROVEMENT						**150**	**310**	**318**	**326**			**1,104**
Proc. Qty.						30	60	60	60			210
Proc. Unit Cost						5.0	5.2	5.3	5.4			
Install Cost							0	0	0	0		0
Install Qty.							30	60	60	60		210
AFTC IMPROVEMENT							**165**	**340**	**352**	**365**		**1,222**
Proc. Qty.							30	60	60	60		210
Proc. Unit Cost							5.5	5.7	5.9	6.1		
Install Cost								0	0	0	0	0
Install Qty.								30	60	60	60	210
F402 Engine A/V-8B												
ECP 3641 - Improved Bearing Bolting			**10**	**17**	**17**	**18**	**3**					**65**
Proc. Qty.			68	61	68	68	11					276
Proc. Unit Cost			0.1	0.3	0.3	0.3	0.3					
Install Cost			23	76	90	92	94					375
Install Qty.			12	63	68	68	65					276

* Indicates amount less than 0.051 Thousand.

Power Plant Changes

OSIP: N/A

($ in Thousands)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP 3509 - Improved P3 Limiter Capsule	**279**	**0**	**225**	**0**	**226**	**76**	**33**					**839**
Proc. Qty.	100	0	73	0	70	24	10					277
Proc. Unit Cost	2.8		3.1		3.2	3.2	3.3					
Install Cost	0	0	0	0	0	0	0					0
Install Qty.		97	30	45	45	35	25					277
ECP 3525 - AGB Drive Shaft	**965**	**468**		**74**	**112**	**98**						**1,717**
Proc. Qty.	120	58		10	14	12						214
Proc. Unit Cost	8.0	8.1		7.4	8.0	8.2						
Install Cost	0		0	0	0	0	0					0
Install Qty.	100		50	28	15	15	6					214
ECP 3586 - Incipient Blockage Indicator on FMU			**159**	**160**	**164**	**172**	**178**	**183**	**186**	**174**		**1,376**
Proc. Qty.			46	46	46	48	48	48	48	43		373
Proc. Unit Cost			3.5	3.5	3.6	3.6	3.7	3.8	3.9	4.0		
Install Cost			0	0	0	0	0	0	0	0	0	0
Install Qty.			20	45	46	46	48	48	48	48	24	373
ECP 3578 - FMU Actuator Lever Clamp					**60**	**65**	**70**	**75**	**80**	**55**		**405**
Proc. Qty.					40	40	40	40	40	24		224
Proc. Unit Cost					1.5	1.6	1.8	1.9	2.0	2.3		
Install Cost						0	0	0	0	0	0	0
Install Qty.						40	40	40	40	40	24	224
ECP 3606 -					**15**	**16**	**17**	**18**	**19**			**85**
Proc. Qty.					40	40	40	40	40			200
Proc. Unit Cost					0.4	0.4	0.4	0.5	0.5			
Install Cost						60	66	70	75	80		351
Install Qty.						40	40	40	40	40		200
ECP 3682 -					**200**	**190**	**175**	**170**	**170**			**905**
Proc. Qty.					60	55	40	35	34			224
Proc. Unit Cost					3.3	3.5	4.4	4.9	5.0			
Install Cost						0	0	0	0	0		0
Install Qty.						50	60	50	30	34		224
ECP 3725 - Improved DECU Mounting Rails			**257**		**317**	**287**						**861**
Proc. Qty.			115		115	103						333
Proc. Unit Cost			2.2		2.8	2.8						
Install Cost				0	0	0	0					0
Install Qty.				65	70	103	95					333

* Indicates amount less than 0.051 Thousand.

Power Plant Changes

OSIP: N/A

($ in Thousands)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP 3709 - IGVC Redesigned Bushings					**78**	**109**	**149**	**149**	**149**	**159**		**793**
Proc. Qty.					25	35	48	48	48	50		254
Proc. Unit Cost					3.1	3.1	3.1	3.1	3.1	3.2		
Install Cost					0	0	0	0	0	0	0	0
Install Qty.					9	30	48	48	48	48	23	254
ECP F402-003 Encapsulated Wiring Harness						**150**	**158**					**308**
Proc. Qty.						70	70					140
Proc. Unit Cost						2.1	2.3					
Install Cost						0	0	0				0
Install Qty.							70	70				140
ECP 3699 Plau Rear Bearing						**160**	**48**					**208**
Proc. Qty.						100	30					130
Proc. Unit Cost						1.6	1.6					
Install Cost						0	0	0				0
Install Qty.							70	60				130
ECP 3763 FMU Mod								**377**	**500**	**525**	**425**	**1,827**
Proc. Qty.								27	35	35	27	124
Proc. Unit Cost								14.0	14.3	15.0	15.7	
Install Cost									0	0	0	0
Install Qty.									24	36	64	124
ECP - Various									**1,931**	**5,358**	**4,258**	**11,547**
Proc. Qty.									175	350	310	835
Proc. Unit Cost									11.0	15.3	13.7	
Install Cost										0	0	0
Install Qty.										130	705	835
F404 Engine F/A-18C/D												
ECP C63 - Steel Compressor Case Modification		**2,860**	**4,504**	**5,355**	**2,599**	**3,084**	**2,287**	**2,117**				**22,806**
Proc. Qty.		200	315	360	154	187	136	126				1,478
Proc. Unit Cost		14.3	14.3	14.9	16.9	16.5	16.8	16.8				
Install Cost		0	0	0	0	0	0	0	0			0
Install Qty.		0	200	300	360	155	180	145	138			1,478
ECP E32 - Main Fuel Control Block Change	**3,788**	**1,569**	**2,049**	**493**	**600**	**500**	**497**					**9,496**
Proc. Qty.	736	334	434	115	115	104	100					1,938
Proc. Unit Cost	5.1	4.7	4.7	4.3	5.2	4.8	5.0					
Install Cost	0	0	0	0	0	0	0	0				0
Install Qty.	250	45	419	360	360	250	150	104				1,938

* Indicates amount less than 0.051 Thousand.

Power Plant Changes

OSIP: N/A

($ in Thousands)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP A23 - VEN Acuator Seal	**705**	**0**	**256**	**128**	**125**							**1,214**
Proc. Qty.	2,177	0	814	400	400							3,791
Proc. Unit Cost	0.3		0.3	0.3	0.3							
Install Cost	0	0	0	0	0	0	0					0
Install Qty.	0	63	600	840	780	780	728					3,791
ECP E41 - ECU Tan-Tan Capacitor		**1,277**	**2,611**	**2,251**	**1,644**							**7,783**
Proc. Qty.		169	378	350	218							1,115
Proc. Unit Cost		7.6	6.9	6.4	7.5							
Install Cost			62	225	230	225	27					769
Install Qty.	0	1	71	340	340	330	33					1,115
ECP F12 - Improved Life Stage 1 Fan Disk	**53**		**90**	**73**	**78**	**82**	**86**	**27**				**489**
Proc. Qty.	193		310	300	300	300	300	90				1,793
Proc. Unit Cost	0.3		0.3	0.2	0.3	0.3	0.3	0.3				
Install Cost		0	0	0	0	0	0	0	0			0
Install Qty.		92	101	150	300	300	300	300	250			1,793
ECP E65 - Alternator Connector Redesign			**1,268**	**493**	**500**	**505**	**320**	**325**	**330**	**180**		**3,921**
Proc. Qty.			600	250	250	250	150	150	150	82		1,882
Proc. Unit Cost			2.1	2.0	2.0	2.0	2.1	2.2	2.2	2.2		
Install Cost				0	0	0	0	0	0	0	0	0
Install Qty.				600	250	250	250	150	150	150	82	1,882
ECP F11 - Redesigned Vapor Relay, Isolator & Bracket					**50**	**32**						**82**
Proc. Qty.					216	138						354
Proc. Unit Cost					0.2	0.2						
Install Cost					0	0	0					0
Install Qty.					1	179	174					354
ECP E78 - Main Fuel Control Selector Valve					**78**	**82**	**86**	**90**	**91**	**28**		**455**
Proc. Qty.					430	450	450	450	450	135		2,365
Proc. Unit Cost					0.2	0.2	0.2	0.2	0.2	0.2		
Install Cost					0	0	0					0
Install Qty.						430	450	450	450	450	135	2,365
ECP E79 - Power Lever Control Improvement					**7**	**13**	**13**	**14**	**15**	**3**		**65**
Proc. Qty.					176	300	300	300	300	57		1,433
Proc. Unit Cost					*	*	*	*	*	0.1		
Install Cost					4	27	23	23	24	14		115
Install Qty.					51	300	300	300	300	182		1,433

* Indicates amount less than 0.051 Thousand.

Power Plant Changes

OSIP: N/A

($ in Thousands)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP E80 - Improved Anti-Icing Valve Flow Indicator								**492**	**506**	**522**	**1,202**	**2,722**
Proc. Qty.								450	450	450	1,036	2,386
Proc. Unit Cost								1.1	1.1	1.2	1.2	
Install Cost									360	367	1,220	1,947
Install Qty.									450	450	1,486	2,386
ECP L15 - Nr. 4 Bearing Rotating Air Seal Damper						**80**	**84**	**88**	**92**	**76**		**420**
Proc. Qty.						400	400	400	400	313		1,913
Proc. Unit Cost						0.2	0.2	0.2	0.2	0.2		
Install Cost							0	0	0	0	0	0
Install Qty.							400	400	400	400	313	1,913
ECP A27 - VEN Position Transmitter Improvement			**223**	**243**	**246**	**258**	**271**	**284**	**219**			**1,744**
Proc. Qty.			300	300	300	300	300	300	220			2,020
Proc. Unit Cost			0.7	0.8	0.8	0.9	0.9	0.9	1.0			
Install Cost			0	0	0	0	0	0	0	0		0
Install Qty.			1	275	300	300	300	300	300	244		2,020
ECP C67 - MFC Manifold Redesign						**798**	**635**	**643**	**658**	**530**		**3,264**
Proc. Qty.						540	400	400	400	323		2,063
Proc. Unit Cost						1.5	1.6	1.6	1.6	1.6		
Install Cost						0	0	0	0	0	0	0
Install Qty.						120	400	400	400	400	343	2,063
ECP E70 - T1 Caution Capacitor Improvement			**510**		**613**	**624**	**470**	**485**	**435**			**3,137**
Proc. Qty.			340		400	400	300	300	255			1,995
Proc. Unit Cost			1.5		1.5	1.6	1.6	1.6	1.7			
Install Cost				2	92	355	412	425	432	435		2,153
Install Qty.				1	85	340	390	400	400	379		1,995
ECP E63 - Bay Fire Ignition Source Elimination			**592**	**0**	**1,720**	**740**						**3,052**
Proc. Qty.			250	0	684	300						1,234
Proc. Unit Cost			2.4		2.5	2.5						
Install Cost			0	0	0	0	0					0
Install Qty.			0	250	200	700	84					1,234
J52 Engine E/A-6B, A-6, A-4												
ECP 94XA170 - Ps4 Boss Diffuser Case Reoperation												
Proc. Qty.	This is a rework ECP, there is no hardware involved.											
Proc. Unit Cost												
Install Cost				19	52	55	59	61	64	66		376
Install Qty.				21	58	58	58	58	58	59		370

* Indicates amount less than 0.051 Thousand.

Power Plant Changes

OSIP: N/A

($ in Thousands)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP 92XA158C1 - Diffusion Bonded IGVs	**4,688**	**2,729**	**1,598**	**1,500**	**257**							**10,772**
Proc. Qty.	124	100	60	75	11							370
Proc. Unit Cost	37.8	27.3	26.6	20.0	23.4							
Install Cost			0	0	0	0						0
Install Qty.			13	121	122	114						370
ECP 95XA013 - Redesigned Pressure Ratio & Compressor Stator Controls					**89**	**91**	**93**	**94**	**95**	**94**		**556**
Proc. Qty.					62	62	62	62	62	60		370
Proc. Unit Cost					1.4	1.5	1.5	1.5	1.5	1.6		
Install Cost						0	0	0	0	0	0	0
Install Qty.						62	62	62	62	62	60	370
T58 Engine H-3, H-46												
ECP 58T-15 - Improved Nr.3 Bearing O-Ring	**2,356**		**935**	**83**								**3,374**
Proc. Qty.	510		202	18								730
Proc. Unit Cost	4.6		4.6	4.6								
Install Cost	0	0	0	0	0							0
Install Qty.	410	100	100	100	20							730
ECP 58N-17 T5 Thermocouple Harnesses	**1,717**	**733**	**991**	**389**	**463**							**4,293**
Proc. Qty.	331	160	192	85	100							868
Proc. Unit Cost	5.2	4.6	5.2	4.6	4.6							
Install Cost	0	0	0	0	0	0						0
Install Qty.	170	161	160	192	95	90						868
TF34 Engine S-3												
ECP GE23GG6531 - Piston Seals												
Proc. Qty.	This is a rework ECP, there is no hardware involved.											
Proc. Unit Cost												
Install Cost			287	400	400	225						1,312
Install Qty.			88	136	136	63						423
T64 Engine H-53												
ECP 64E-55 - Impr. Single Ring Carbon Seals	**295**		**108**	**145**	**145**	**150**	**150**	**160**	**160**	**170**	**150**	**1,633**
Proc. Qty.	120		60	60	60	60	60	60	60	60	44	644
Proc. Unit Cost	2.5		1.8	2.4	2.4	2.5	2.5	2.7	2.7	2.8	3.4	
Install Cost	0		0	0	0	0	0	0	0	0	0	0
Install Qty.	120		60	60	60	60	60	60	60	60	44	644

* Indicates amount less than 0.051 Thousand.

Power Plant Changes

OSIP: N/A

($ in Thousands)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
T700 Engine H-2, H-60, AH-1												
ECP 700117C1 Interstage Seal Improvement	**291**	**175**	**170**	**0**	**230**							**866**
Proc. Qty.	218	100	100	0	132							550
Proc. Unit Cost	1.3	1.8	1.7		1.7							
Install Cost	0	0	0	0	0	0						0
Install Qty.	14	200	90	80	96	70						550
ECP 121 - Nr.2 Bearing Housing & Damper Improvement						**1,040**	**1,057**	**1,086**	**1,110**	**1,135**	**5,780**	**11,208**
Proc. Qty.						130	130	130	130	130	648	1,298
Proc. Unit Cost						8.0	8.1	8.4	8.5	8.7	8.9	
Install Cost							0	0	0	0	0	0
Install Qty.							130	130	130	130	778	1,298
ECP 122 - Stage 3 Rotor Ring						**260**	**266**	**272**	**278**	**284**	**1,445**	**2,805**
Proc. Qty.						130	130	130	130	130	648	1,298
Proc. Unit Cost						2.0	2.0	2.1	2.1	2.2	2.2	
Install Cost							0	0	0	0		0
Install Qty.							130	130	130	130	778	1,298
ECP 123 - Stage 1 Blade Tip Corrosion Resistance								**585**	**598**	**611**	**10,955**	**12,749**
Proc. Qty.								39	39	39	657	774
Proc. Unit Cost								15.0	15.3	15.7	16.7	
Install Cost									0	0	0	0
Install Qty.									39	39	696	774
ECP 124 - Exhaust Frame Drain Hole							**130**	**133**	**136**	**139**	**864**	**1,402**
Proc. Qty.							130	130	130	130	778	1,298
Proc. Unit Cost							1.0	1.0	1.0	1.1	1.1	
Install Cost								0	0	0	0	0
Install Qty.								130	130	130	908	1,298
ECP 125 - HydroMechanical Unit (HMU) Improvements							**208**	**213**	**217**	**222**	**1,382**	**2,242**
Proc. Qty.							52	52	52	52	311	519
Proc. Unit Cost							4.0	4.1	4.2	4.3	4.4	
Install Cost								0	0	0	0	0
Install Qty.								52	52	52	363	519
ECP 126 - HMU O-Ring								**312**	**319**	**326**	**2,408**	**3,365**
Proc. Qty.								78	78	78	545	779
Proc. Unit Cost								4.0	4.1	4.2	4.4	
Install Cost									0	0	0	0
Install Qty.									78	78	623	779

* Indicates amount less than 0.051 Thousand.

Power Plant Changes

OSIP: N/A

($ in Thousands)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
ECP 700132 - Digital Engine Control Unit Auto Ignition						**1,428**	**2,125**	**1,735**	**698**			**5,986**
Proc. Qty.						68	100	80	32			280
Proc. Unit Cost						21.0	21.3	21.7	21.8			
Install Cost							480	705	712	73		1,970
Install Qty.							70	100	100	10		280
TF30 Engine (F-14A)												
ECP 93XA008 - Automatic Restart Switch			**73**	**44**	**56**	**47**						**220**
Proc. Qty.			234	170	210	169						783
Proc. Unit Cost			0.3	0.3	0.3	0.3						
Install Cost			0	0	0	0						0
Install Qty.			1	211	220	224	127					783
ECP 95XA039 - LDCV Assembly					**39**	**35**	**31**	**31**	**20**			**156**
Proc. Qty.					168	170	158	177	110			783
Proc. Unit Cost					0.2	0.2	0.2	0.2	0.2			
Install Cost					0	0	0	0	0	0		0
Install Qty.					1	167	170	158	177	110		783
ECP 87XA046C1 - MGB Deaeration Carbon Seal		**21**	**58**	**19**	**17**	**18**	**11**					**144**
Proc. Qty.		132	208	136	114	120	73					783
Proc. Unit Cost		0.2	0.3	0.1	0.1	0.2	0.2					
Install Cost		0	0	0	0	0	0	0				0
Install Qty.		90	166	132	115	90	117	73				783
ECP 91XA093A - Nr.4 Bearing Seal Torque Pins		**48**	**42**	**57**	**81**	**49**						**277**
Proc. Qty.		210	181	105	200	87						783
Proc. Unit Cost		0.2	0.2	0.5	0.4	0.6						
Install Cost			0	0	0	0	0					0
Install Qty.			183	166	147	192	95					783
T56 Engine P-3, C-2, E-2, C-130												
ECP 2081 - Rub Tolerant Vanes	**10,183**	**1,948**	**451**									**12,582**
Proc. Qty.	284	70	18									372
Proc. Unit Cost	35.9	27.8	25.1									
Install Cost	0	0	0	0	0							0
Install Qty.	114	170	60	20	8							372
ECP 2112 - 15 Micron Oil Filter			**599**	**0**	**550**	**560**	**570**	**580**	**590**	**600**	**530**	**4,579**
Proc. Qty.			556	0	500	500	500	500	500	500	438	3,994
Proc. Unit Cost			1.1		1.1	1.1	1.1	1.2	1.2	1.2	1.2	
Install Cost				0	0	0	0	0				0
Install Qty.				272	500	500	500	500	500	500	722	3,994
ECP 2115			**57**	**55**	**55**							**167**
Proc. Qty.			35	35	35							105
Proc. Unit Cost			1.6	1.6	1.6							
Install Cost				0	0	0						0
Install Qty.				35	35	35						105
STARTERS												
ECP AYC 1078 - Cut-out Switch			**248**									**248**

* Indicates amount less than 0.051 Thousand.

Attachment to Exhibit P-3A

Power Plant Changes

OSIP: N/A

($ in Thousands)

	Prior Years	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	Total
Proc. Qty.			100									100
Proc. Unit Cost			2.5									
Install Cost				0	0							0
Install Qty.				1	99							100
PRIOR YEARS PROCUREMENT	**95,318**											**95,318**
Install Cost	18,601	1,316	958									20,875
Note: This line represents the costs associated with ECPs for which all procurement actions were completed in prior years												
TOTAL Other Costs	14,582	1,322	2,331	2,274	383	336	386	289	358	385		22,646
TOTAL Procurement Cost	**135,258**	**13,150**	**20,847**	**14,367**	**13,002**	**14,482**	**13,859**	**14,041**	**12,069**	**12,969**	**29,838**	**293,882**
TOTAL Proc. Qty.	**4,959**	**1,533**	**6,399**	**3,102**	**6,623**	**6,711**	**5,409**	**5,414**	**4,917**	**3,403**	**5,533**	**54,003**
TOTAL Installation Cost	**18,601**	**1,316**	**1,334**	**722**	**970**	**1,147**	**1,331**	**1,522**	**1,832**	**1,315**	**1,220**	**31,310**
TOTAL Install Qty.	**1,178**	**1,019**	**2,523**	**5,087**	**5,569**	**7,502**	**7,299**	**5,670**	**5,820**	**4,996**	**8,509**	**55,172**

* Indicates amount less than 0.051 Thousand.

CLASSIFICATION: UNCLASSIFIED

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

APPROPRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
Emergent Safety Changes

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	47.6		0.1	1.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.5

This line item funds modifications to various aircraft to correct flight safety deficiencies. These deficiencies are unpredictable since they are revealed during actual operation of aircraft in the fleet under diverse tactical and environmental conditions. These changes must be approved by the Chief of Naval Operations and the Naval Air Systems Command Safety Officer. The overall goal of the modifications budgeted in FY 1996/1997 is to have a line item available to fund such emergency requirements. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
--	NA	47.6	0.1	1.2	0.6								49.5
TOTAL		**47.6**	**0.1**	**1.2**	**0.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**49.5**

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Emergent Safety Changes

MODELS OF SYSTEM AFFECTED: Various

TYPE MODIFICATION: Safety

DESCRIPTION/JUSTIFICATION:

This item covers the procurement of kits to correct flight safety deficiencies. These deficiencies are unpredictable since they are revealed during actual operation of aircraft in the fleet under diverse tactical and environmental conditions. These changes must be approved by the Chief of Naval Operations and the Naval Air Systems Command Safety Officer.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Not Applicable.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits		46.2		0.1		1.2		0.6																48.1
Installation Kit - Unit Price																								
Installation Kits N/R		0.5																						0.5
Installation Equipment																								
Installation Equipment N/R																								
Engineering Change Orders																								
Data		0.4																						0.4
Training Equipment		0.1																						0.1
Support Equipment		0.4																						0.4
ILS																								
Other Support		*																						*
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT		**47.6**		**0.1**		**1.2**		**0.6**																**49.5**

* Indicates amounts less than 0.051 Million.

Exhibit P-3a

CLASSIFICATION: **UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

APPROPRIATION/BUDGET ACTIVITY: **Aircraft Procurement, Navy/APN-5 Aircraft Modifications**

P-1 ITEM NOMENCLATURE: **Common ECM Modifications**

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	398.6		12.5	35.4	61.9	32.9	41.2	62.8	76.6	72.5	68.2	487.6	1,350.2

This line item funds common equipment (B Kit) for multiple aircraft. The overall goal of the modifications budgeted in FY 1999 is to provide a reprogrammable radar and missile warning system, provide attacking missile declaration and sector direction finding, laser detection, and self-protection capability devices to applicable user aircraft.

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
114-85	AN/ALR-67RWR Hardware						11.5	27.3	15.6	20.0	19.6	110.5	204.5
	AN/ALR-67(V)2	198.4		3.7	0.1	0.9							203.1
72-88	AN/AAR-47 MAWS Hardware	111.3	8.1	1.6	6.6	14.4	12.1	5.7					159.8
14-90	AN/APR-39(V)2 RWR & AN/AVR-2 Hardware	53.5	4.4	30.1	10.6	17.6	5.0	14.0	15.0	15.7	15.0	130.2	311.1
30-92	BOL CHAFF	35.5			0.3								35.8
22-97	ASPJ				44.3								44.3
1-99	IDECM Systems						3.1	1.3	30.4	26.9	32.9	102.3	196.9
15-99	RFCM Upgrade						9.5	14.5	15.6	9.9	0.7	144.6	194.8
TOTAL		**398.6**	**12.5**	**35.4**	**61.9**	**32.9**	**41.2**	**62.8**	**76.6**	**72.5**	**68.2**	**487.6**	**1,350.2**

NOTE: Totals do not add due to rounding.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/ALR-67(V)2 Radar Receiving Set, Countermeasures/AN/ALR-67(V)3&4 Radar Receiving Set Countermeasures (OSIP 114-85)

MODELS OF SYSTEM AFFECTED: F/A-18, F-14, AV-8B TYPE MODIFICATION:

DESCRIPTION/JUSTIFICATION:

This Operational and Safety Improvement Program (OSIP) provides for the procurement of common equipment for the F/A-18, AV-8B and F-14 aircraft. Provisions, i.e., airframe changes needed for the installation of this equipment, are budgeted separately.

The AN/ALR-67 radar receiving set, countermeasures warning and control system is the radar and missile guidance warning system in advanced tactical aircraft (F/A-18, AV-8B and F-14). The AN/ALR-67(V)2 was first designed to counter the post Viet Nam threat. AN/ALR-67(V)2 ECP-510 is a significant, yet relatively quick and inexpensive computer improvement to the basic ALR-67 that allows it to operate effectively. The AN/ALR-67(V)2 provides detection and direction finding (DF) over the radio frequency spectrum of target tracking and mssile control systems. It provides full hemispherical coverage in all platform installations. The system is fully integrated, via the MIL-STD-1553 data bus, with other onboard electronic warfare equipments. ECP-51 provides improvements in computer processing power and quad throughput to allow effective operation in the presence of pulse dopplers.

Due to rapid spread of complex fourth generation radar controlled weapons systems in numerous countries throughout the world, AN/ALR-67(V)3&4 was started in parallel with AN/ALR-67(V)2 ECP-510 as the major long term redesnto the ALR-67 system. ALR-67(V)3 adds significant capability to the ALR-67 with major improvements in frequency sorting, sensitivity, response time, processing power and operating frequency range. ALR-67(V)3 is designed to handle all scenarios and increased fourth generation threat densities a Navy and/or USMC pilot might likely face in the mid 1990's and beyond.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

ALR-67(V)2 ECP-510 High Order Language software addresses a 1992 FOT&E deficiency, and provides the Navy an organically supportable Operational Flight Program and User Data File. Development and support of software will begin in second quarter FY 1997, with testing in third quarter FY 1998 and release scheduled for third quarter FY 1999.

The AN/ALR-67(V)3 system is in Engineering and Manufacturing Development. We conducted an OP Assessment in September 1994. A test asset procurement contract for 20 production representative systems to support OPEVAL/FOT&E was awarded in November 1994. These production representative systems are in test. An LRIP is planned for FY 1998 following TECHEVAL to prove contractor production capability. LRIP systems will be fielded after OPEVAL is complete. Until adequate quantities can be procured to meet the 1:1 inventory requirement for F/A-18, ALR-67(V)3 systems will be crossdecked to forward deployed units with ALR-67(V)3 A-kits installed.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E #0604270N		160.0				12.3		11.9		16.8		2.5												203.5
PROCUREMENT																								
Installation Kits	133	23.3																					133	23.3
Installation Kit - Unit Price		0.2																						
Installation Kits N/R																								
Installation Equipment	194	45.7									7	9.9	15	24.3	12	13.2	16	18.0	17	16.8	95	108.8	356	236.7
Installation Equipment N/R																								
Engineering Change Orders		72.1																0.1		0.2		0.2		72.6
Data		3.0										0.1		0.2		0.2		0.2		0.1		*		3.8
Training Equipment		0.8																						0.8
Support Equipment		11.6										0.4		0.8		0.2		0.2		0.2		0.2		13.6
ILS		2.8										0.1		0.3		0.1		0.1		0.1		0.1		3.6
Other Support		39.1				3.7				0.9		1.0		1.6		1.9		1.4		2.2		1.2		53.0
								0.1																0.1
Installation Cost																								
TOTAL PROCUREMENT		**198.4**				**3.7**		**0.1**		**0.9**		**11.5**		**27.2**		**15.6**		**20.0**		**19.6**		**110.5**		**407.5**

NOTE: FY 1999 procures the AN/ALR-67(V)3 for retrofit in the F/A-18E/F

FY 00-03 procures the AN/ALR-67(V)3 for retrofit in the F/A-18C/D

Totals do not add due to rounding.

* - Indicates value less than $0.05M

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/AAR-47 Missile Approach Warning System (MAWS) (OSIP 72-88)

MODELS OF SYSTEM AFFECTED: CH-46E, CH-53A/D/E, RH-53D, MH-53E, UH-1, AH-1, C-130, P-3, HH-60H, SH-60B, VH-3, VH-60, V-22

TYPE MODIFICATION:

DESCRIPTION/JUSTIFICATION:

The AN/AAR-47 warns of approaching missiles by detecting radiation associated with the rocket motor and automatically initiates flare ejection. Detection algorithms are used to discriminate against non-approaching radiation sources. The AN/AAR-47 is a passive, missile approach warning system consisting of four sensor assemblies housed in two or more sensor dome a central processor unit and a control indicator. The AN/AAR-47 provides attacking missile declaration and sector direction finding (DF) and will be interfaced directly to the ALE-39/47 countermeasures dispenser. Without the AAR-47, helicopters and Fixwing Aircraft have no capability to detect an infrared (IR) missile attack. Current defenses are flare decoys and evasive maneuvers, and depend on visual sighting of the attack.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Two advanced development systems were developed by the Army and jointly tested/evaluated by the Navy and Army. The Navy was designated lead service for a joint full scale development program. Engineering development model contract, with firm fixed price production options, was awarded in March 1983 with contractor/service testing beginning in the first quarter FY 1985 Operational evaluation on the CH-53E was completed in October 1986. Approval for full production for all H-53E series aircraft was received in May 1987. Extension of application to install the AAR-47 in all other platforms was granted May 1987. Production option was exercised in February 1988. Second production option was exercised in November 1988. Third production option was exercised in October 1989. The research development test and evaluation, Navy (RDT&E,N) program element number was changed in FY 1988 to 0604270N. Test and evaluation master plan number J543 applies. FY 1995 funds a software upgrade to increase system capability against current threat systems which were not in existance when the AAR-47 was developed. FY 1997 funds an upgrade to the Microprocessor (MP) circuit card assembly (CCA) and Backplane (BP) CCA to improve processing speed and memory and also to develop and test new software to enhance threat declaration and False-alarm control. In FY 1998 an Optical Sensor Converter hardware ECP will begin.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E #0604270N		24.0																						24.0
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment	882	86.3	38	2.9	12	1.0																	932	90.2
Installation Equipment N/R		1.4																						1.4
Engineering Change Orders		3.3						5.6		4.9		9.3		4.4										27.5
Data		0.3																						0.3
Training Equipment	4	0.6																						0.6
Support Equipment		4.3																						4.3
ILS		3.7				0.2		0.3		0.3		0.6		0.2										5.3
Other Support		11.4		5.2		0.4		0.7		9.2		2.2		1.0										30.1
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT		**111.3**		**8.1**		**1.6**		**6.6**		**14.4**		**12.1**		**5.6**										**159.7**

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/AVR-2/2A(V)/AN/APR-39A(V)2 Electronic Warfare (EW) Warning Receivers (OSIP 14-90)

MODELS OF SYSTEM AFFECTED: AN/AVR-2/2A(V), AH-1W, UH-1N, VH-3, VH-60, MV-22, HH-60H TYPE MODIFICATION:
AN/APR-39A(V)2, AH-1/W, UH-1N, HH-60, CH-53D/E, MH-53E, KC130F/R/T, VH-3D, VH-60N, SH-60B, MV-22

DESCRIPTION/JUSTIFICATION:

The AN/AVR-2/2A laser detection set is designed for use on U.S. Army and U.S. Marine Corps assault support aircraft. The AN/AVR-2/2A(V) reduces the susceptability of helicopters to attack from laser illumination by providing warning of laser guided and laser aided threats. The system consists of multiple sensor units and comparators. The system requires the APR-39A(V)2 pilot control unit for control power, BIT, and on/off function. Laser threat warnings are displayed on the APR-39A(V)2 cockpit display.

The AN/APR-39A(V)2 radar warning receiver is designed for use on U.S. Marine Corps and U.S. Army assault support aircraft to provide an airborne warning system against radar guided and radar aided threats. The AN/APR-39A(V)2 provides central control and display functions for the aircraft Electronic Warfare suite and is required for operation, control, and display of the AN/AVR-2 and the AN/AAR-47. The system consists of five antennas, one pilot control indicator, one display unit, two to four receivers, and one processor.

The AN/AVR-2 development test (DT) was completed in the second quarter of FY 1986. Operational test (OT) on the AH-1J was completed in the first quarter of FY 1988. Approval for full production on AH-1J was received in December 1989. Extension of application to install the AVR-2 on all other platforms was granted in November 1989. The U.S. Army awarded a production contract in January 1989 and another option in February 1990. Procurement will be via Military Interdepartmental Purchase Request (MIPR) to the U.S. Army.

The AN/APR-39A(V)2 is in the production phase of development. The U.S. Navy is the lead service of this joint service program. Delivery of full scale engineering development systems to the Navy was in January 1989. DT completed fourth quarter FY 1994 and OPEVAL was completed successfully in fourth quarter FY 1995. A Milestone III production decision occurred third quarter FY 1996. The U.S. Army awarded a production contract in the third quarter FY 1996. Procurement will be via MIPR to the U.S. Army. Contract mods to include Production Reliability Acceptance Testing (PRAT), engineering, along with the first of several planned delivery orders on this production contract are planned in 4th Quarter FY 1997.

Procurement of AN/AVR-2 and AN/APR-39A(V)2 systems for the additional requiring platforms will be by extension of application with the required fleet operational test and evaluation conducted on each platform type.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E #0604270N		6.8																						6.8
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment	304	32.5	19	1.6	55	9.6	47	7.6	94	13.9	0	0.0	70	10.8	72	13.4	72	14.1	70	13.3	491	129.4	1294	246.2
Installation Equipment N/R						16.7																		16.7
Engineering Change Orders		7.8		0.5						0.3		0.4		0.4		0.4		0.4		0.4				10.6
Data		0.5		0.4																		0.1		1.0
Training Equipment		0.5		0.1		*		*		0.2				*		*				0.1				0.9
Support Equipment		1.5		0.4																				1.9
ILS		3.5		0.9		0.1				0.4		0.5		0.3		0.3		0.3		0.3				6.6
Other Support		7.2		0.5		3.7		3.0		2.8		4.1		2.5		0.9		0.9		0.9		0.7		27.2
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT		**53.5**		**4.4**		**30.1**		**10.6**		**17.6**		**5.0**		**14.0**		**15.0**		**15.7**		**15.0**		**130.2**		**311.1**

* - Indicates value of $0.05M or less

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: BOL System (OSIP 30-92)

MODELS OF SYSTEM AFFECTED: F-14A, B, D, and Upgrade TYPE MODIFICATION:

DESCRIPTION/JUSTIFICATION:

This Operational, Safety and Improvement Program (OSIP) provides for the initial installment, procurement of common ECM equipment, logistics, etc. for 54 F-14D aircraft. Additionally, it provides common ECM equipment for 196 F-14A/B Upgrade aircraft. The BOL system is composed of an electro-mechnaical chaff dispenser (D-46/ALE-39), a modified "Sidewinder" guided missile launch rail (LAU-138/A), a Nitrogen Receiver, and an Interconnecting Box (J-4937/ALE-39). The system is procured on a basis of two systems per aircraft, but modified aircraft can operate: (1) without the system (by using the standard LAU-7A-6), or (2) with four systems. Additionally, the Nitrogen receiver is procured on a basis of three per system. The system increases the self-protection capability of the F-14 and functions through the present expendable countermeasures dispensing system (AN/ALE-39) and will be compatible with the proposed Joint USAF/USN ALE-47 Countermeasures Dispensing System. It requires minor electrical modification to the aircraft and substantial changes to the present "Sidewinder" missile launcher but without loss of functionality.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Under evaluation as a Foreign Weapons Evaluation with procurement to be as a Non-Development Item.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E #0604270N		2.8																						2.8
RDT&E #0605130D		3.0																						3.0
PROCUREMENT																								
Installation Kits	54	0.4																					54	0.4
Installation Kit - Unit Price		0.0																						
Installation Kits N/R		0.2																						0.2
Installation Equipment	326	24.8																					326	24.8
Installation Equipment N/R		0.1																						0.1
Engineering Change Orders		1.8																						1.8
Data		0.6																						0.6
Training Equipment		0.2																						0.2
Support Equipment		2.8																						2.8
ILS		3.0						0.1																3.1
Other Support		1.6						0.2																1.8
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT		**35.5**						**0.3**																**35.8**

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: ASPJ (OSIP 22-97)

MODELS OF SYSTEM AFFECTED: F/A-18C/D TYPE MODIFICATION:

DESCRIPTION/JUSTIFICATION:

The AN/ALQ-165 is a fully integrated internally mounted DECM system capable of detecting, identifying and countering modern land, sea, and airbased radar threats. Procurement of additional AN/ALQ-165 systems and racks are congressionally mandated for installation in F/A-18C/D aircraft to support emergent operational requirement

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Development of the system was completed and LRIP I procurement was approved by the DAB in June 1989. Production contracts were terminated in Dec 1992. Installation kits have been provisioned for all F/A-18C/D aircraft capable of AN/ALQ-165 installation. FY 1997 contract award is planned for the fourth quarter.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E #0604270N																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment							36	43.4															36	43.4
Installation Equipment N/R																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
ILS								0.4																0.4
Other Support								0.5																0.5
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT								**44.3**																**44.3**

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Integrated Defensive Electronic Countermeasures (IDECM) Systems (OSIP 1-99)

MODELS OF SYSTEM AFFECTED: F/A-18, AV-8B TYPE MODIFICATION:

DESCRIPTION/JUSTIFICATION:

This tri-service program develops a technique generator and fiber optic towed decoy, which is the Radio Frequency Countermeasures (RFCM) Subsystem and integrates RFCM, Common Missile Warning System (CMWS) and Advance Strategic and Tactical Expendables (ASTE) with Radar Warning Receiver (RWR), Countermeasures Dispensing Set (CMDS) and associated cockpit controls and displays to provide the lead aircraft (F/A-18E/F) with increased survivability against Infrared/Radio Frequency (IR/RF) threats.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The IDECM RFCM program is currently in E&MD. Milestone 0, I, II approval was granted 26 Oct 1995. The IDECM RFCM subsystem will conduct an OA in the fourth quarter of FY 1998 leading to an NPR and LRIP decision at the beginning of the third quarter of FY 1999. The IDECM RFCM Milestone III granting full rate production approval is scheduled for the second quarter of FY 2001. The IDECM CMWS program Milestone III is scheduled for the second quarter of FY 2000. The IDECM suite Milestone III decision is scheduled for the third quarter of FY 2002.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E #0604270N		5.1		19.2		52.4		52.3		60.9		51.7		27.5		23.0		9.7						301.8
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equip-CMWS*															2	0.6	36	9.9	63	16.6	201	66.5	302	93.6
Installation Equip-RFCM*															19	21.5	12	13.0	12	12.9	27	35.8	70	83.2
Install Equip N/R-CMWS*																1.3								1.3
Install Equip N/R-RFCM*												3.1												3.1
Engineering Change Orders**														0.3		4.4		2.2		1.8				8.7
Data														0.2		0.3		0.2		0.2				0.9
Training Equipment														0.1				0.1						0.2
Support Equipment														0.3		1.7		1.1		1.0				4.1
ILS																0.3		0.1		0.1				0.5
Other Support														0.4		0.3		0.3		0.3				1.3
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT												**3.1**		**1.3**		**30.4**		**26.9**		**32.9**		**102.3**		**196.9**

***Aircraft Group A-Kits to be addressed by platforms**

****Includes funding required to ECP all ALE-50 MPLC to IDECM compatible**

*** Funded at $.05M or less

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: RFCM Upgrade (OSIP 15-99)

MODELS OF SYSTEM AFFECTED: F/A-18C/D TYPE MODIFICATION:

DESCRIPTION/JUSTIFICATION:

This project is currently in the analysis phase. The analysis is focused on providing a survivability suite for the F/A-18C/D tactical aircraft against Radio Frequency (RF) threats. On-board RF Countermeasures systems are being compared in the aspect of providing the most cost effective self-protection for these aircraft. The outcome of this analysis will permit the selection of the best system for deployment onboard the F/A-18C/D.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The selected system and platform will be subjected to the necessary hardware and software modifications required for successful integration and testing in FY 1999. "A" kits will not be required, selected system will work with "as built aircraft". Selected system will utilize existing support equipment. Selected system will have ILS under development or in place. Procurements will begin in second quarter FY 1999.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E #0604270N																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment											4	4.8	12	13.9	13	14.9	8	9.2			113	135.6	150	178.4
Installation Equipment N/R												1.5												1.5
Engineering Change Orders												0.2												0.2
Data												0.1												0.1
Training Equipment																								
Support Equipment																								
ILS												0.4		0.1		0.1		0.1		0.1		1.0		1.8
Other Support												2.5		0.3		0.3		0.2		0.2		4.0		7.5
Interim Contractor Support														0.2		0.3		0.4		0.4		4.0		5.3
Installation Cost																								
TOTAL PROCUREMENT												**9.5**		**14.5**		**15.6**		**9.9**		**0.7**		**144.6**		**194.8**

* - Indicates value less than $0.05M

Exhibit P-3a

CLASSIFICATION: UNCLASSIFIED

TEM JUSTIFICATION SHEET
P-40

DATE: **September 1997**

PRIATION/BUDGET ACTIVITY
Aircraft Procurement, Navy/APN-5 Aircraft Modifications

P-1 ITEM NOMENCLATURE
Common Avionics

m Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
QUANTITY													
COST (In Millions)	118.3		94.0	81.2	96.4	131.6	116.2	79.3	68.6	56.8	48.9	40.9	932.2

This line item funds common avionics equipment for multiple aircraft. With the exception of OSIPs 43-94 (Flight Data Recorders), 14-97 (KC-130T GPWS), and 7-98 (Helo GPWS), the individual aircraft platforms fund the "A" kits and installation in the appropriate aircraft line.

The specific modifications budgeted and programmed are: (1) The NAVSTAR GPS (Global Positioning System) is designed to provide a highly accurate passive position (16 meters) velocity (0.1 meter/sec) and time to users worldwide in all weather conditions. The GPS will interface with communication, navigation, and weapon systems equipment (standard attitude heading reference systems, inertial navigation systems, on-board computers, etc.) in selected applications. GPS is a DoD mandated requirement for all aircraft operating in the National Air Space System after the year 2000. (2) The Structural Data Recording Set will record the flight parameters necessary to accurately determine, track, and manage the fatigue life of the aircraft and critical structural components. Fatigue life monitoring is the only means to ensure the structural life safety and to maximize the service life of fleet aircraft. (3) The AN/ARC-210 Electronic Protection (EP) Combination Radio provides dual UHF capability for CV based TACAIR; VHF AM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities. The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. (4) The Crash Survivable Flight Incident Recorder is a crash hardened recorder which will be used in support of aircraft mishap and incident investigations. (5) The Embedded Global Positioning System/Inertial Navigation System (EGI) contains full Precise Position Service GPS on a single standard electronic module, plus a state-of-the-art Ring Laser Gyro inertial navigation system. (6) The AN/ARC-182 Reuse Programs utilizes previously procured AN/ARC-182 systems which will become available as the AN/ARC-210 system is retrofitted into Navy aircraft. (7) The Ground Proximity Warning System provides visual and aural warnings to the pilot when the aircraft is in conditions that could result in a controlled flight into terrain accident. (8) The Collision Avoidance System (CAS) will provide a display of situation awareness to aid in the prevention of midair mishaps. The overall goal of the modifications budgeted in FY 1999 and FY 2000 are to procure the common equipment required for the individual aircraft platforms. The specific modifications budgeted and programmed are:

(TOA, $ in Millions)

OSIP No.	Description	Prior Years	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total
101-83	APN-171 Radar Altimeter		*										
71-88	NAVSTAR GPS (Hardware)	58.6	38.9	39.8	34.2	52.3	30.8	9.7	13.5	10.0	17.6	8.5	313.9
14-92	SDRS (Hardware)	15.7	4.8		1.0	0.4							21.8
4-94	AN/ARC-210 (Hardware)	34.6	31.8	21.8	26.7	30.5	37.2	25.8	18.9	17.2	9.1	17.7	271.4
43-94	Flight Incident Recorders	9.4	14.3	4.8	14.0	15.8	6.3	7.7	8.2	8.0	7.5	1.0	96.9
38-95	EGI (Hardware)		3.5	14.5	18.3	24.2	17.8	4.6	5.9	3.3	0.8	8.0	101.1
40-95	AN/ARC-182 Reuse Program		0.6	0.2	0.3	0.4	0.3	0.2	0.2	0.1	0.1	0.3	2.7
14-97	KC-130T GPWS				1.9	3.4	7.2	10.8	5.2	1.2	0.3		30.1
17-98	Helo GPWS					4.7	13.9	11.5	10.3	8.4	6.6	5.4	60.7
24-99	Collision Avoidance System						2.6	8.9	6.4	8.6	7.0		33.5
TOTAL		**118.3**	**94.0**	**81.2**	**96.4**	**131.6**	**116.2**	**79.3**	**68.6**	**56.8**	**48.9**	**40.9**	**932.2**

Note 1: Totals do not add due to rounding .
Note 2: The "*" represents any value under $50k.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 71-88)

MODELS OF SYSTEM AFFECTED: All aircraft

TYPE MODIFICATION: Common Avionics

DESCRIPTION/JUSTIFICATION:

The NAVSTAR GPS is designed to provide highly accurate passive position (16 meters), velocity (0.1 meter/sec) and time to users worldwide in all weather conditions. GPS will be integrated with communication, navigation, and weapon systems equipment (attitude heading reference systems, inertial navigation systems, mission computers, etc.). This OSIP procures only the GPS B-kit equipment (receiver, CDNU, DDS, SDC, etc.) as required for the above platforms. Hardware configuration varies depending on the TMS of the aircraft.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The NAVSTAR GPS program completed Phase II (Full Scale Engineering Development) and completed Milestone IIIA (Approval for Limited Production) in June 1986. Milestone IIIB (Approval for Full Production was completed in January 1992. Research, Development, Test and Evaluation, Navy (RDT&E,N) is funded under program element #0604777N.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment	581	45.9	353	28.5	369	28.6	262	24.2	330	29.8	254	22.2	43	3.2	29	6.8	14	9.0	14	16.6	101	7.0	2350	221.8
Installation Equipment N/R								1.8		9.1														10.9
Engineering Change Orders																								
Data		0.9		0.8		1.0		1.0		1.0		1.0		1.0		1.0								7.7
Training Equipment	28	2.0	29	1.8	10	0.8	9	0.7	31	2.5	3	0.1	5	0.1	2	0.1	2	0.1	2	0.1	1	0.1	122	8.4
Support Equipment		0.3																						0.3
ILS																								
Other Support		9.5		7.8		9.4		6.5		9.9		7.5		5.4		5.6		0.9		0.9		1.4		64.8
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT		**58.6**		**38.9**		**39.8**		**34.2**		**52.3**		**30.8**		**9.7**		**13.5**		**10.0**		**17.6**		**8.5**		**313.9**

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: **All aircraft**

MODIFICATION TITLE: Global Positioning System (GPS) (OSIP 71-88)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **This equipment is provided to the platform PMA and installed as per airframe OSIP/ECP.**

ADMINISTRATIVE LEADTIME: three to six Months

PRODUCTION LEADTIME: twelve to eighteen Months

CONTRACT DATES: FY 1997: Mar-97 FY 1998: Mar-98 FY 1999: Mar-99

DELIVERY DATE: FY 1997: Apr-98 FY 1998: Apr-99 FY 1999: Apr-00

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (1370) kits	**124**		**65**		**275**		**425**		**481**														**1370**	
FY 1997 (271) kits									**24**		**247**												**271**	
FY 1998 (361) kits											**158**		**203**										**361**	
FY 1999 (257) kits													**155**		**102**								**257**	
FY 2000 (48) kits															**4**		**44**						**48**	
FY 2001 (31) kits																	**23**		**8**				**31**	
FY 2002 (16) kits																			**14**		**2**		**16**	
FY 2003 (16) kits																					16		16	
To Complete (102) kits																					102		102	
TOTAL	124		65		275		425		505		405		358		106		67		22		120		2472	

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In																									
Out																									

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In						0
Out						0

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Structural Data Recording Set (SDRS), AN/ASH-37 (OSIP 14-92)

MODELS OF SYSTEM AFFECTED: F-14, C-130, P-3, S-3, AH-1W, ES-3

TYPE MODIFICATION: Common Avionics Modification

DESCRIPTION/JUSTIFICATION:

Fatigue life monitoring is the only means to ensure the structural life safety and to maximize the service life of fleet aircraft. Existing fatigue monitoring systems are limited to gathering a single flight parameter, vertical acceleration or "G's. Other flight parameters (such as airspeed, altitude, roll rate, and aircraft weight) which significantly affect aircraft loading severity are not recorded but are essential to accurately characterize individual aircraft fatigue life usage and, hence, maintain the highest level of fleet structural safety. The SDRS will record the flight parameters necessary to accurately determine, track and manage the fatigue life of the aircraft and critical structural components. This OSIP procures only the SDRS airborne hardware and ground station equipment.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The SDRS completed full scale engineering development in June 1989. Full rate production of both the airborne system and the ground station commenced in FY 1989 and is on going. Retrofit of the SDRS into the C-130 and F-14A is in process and should be completed by the end of FY 1997. Incorporation into the C-2 and the E-2C is scheduled to be completed by early FY 1998. Technical difficulties caused slippage in starting retrofit into the P-3C and S-3B. Validation/Verification installations and checkouts will occur in early FY 1998. Prototype installations have been completed on the P-3C and S-3B. Engineering changes to replace obsolescent components are in place.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment	736	12.3	141	4.4																			877	16.7
Installation Equipment N/R		1.6																						1.6
Engineering Change Orders				0.2				0.4	.															0.5
Data																								
Training Equipment																								
Support Equipment		1.0																						1.0
ILS																								
Other Support		0.7		0.2				0.6		0.4														1.9
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT		**15.7**		**4.8**				**1.0**		**0.4**														**21.8**

Note 1: Totals do not add due to rounding .

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/ARC-210 Electronic Protection (EP) Combination Radio (OSIP 04-94)

MODELS OF SYSTEM AFFECTED: AH-1W, AV-8B, CH-46E, C/MH-53D/E, EA-6B, KC-130F/R/T, F/A-18C/D, UH-1N, C-2 TYPE MODIFICATION: COMMON AVIONICS MODIFICATION

DESCRIPTION/JUSTIFICATION:

The AN/ARC-210 is a combination UHF/VHF, AM/FM jam-resistant radio that was developed to allow for EP interoperability with the Air Force, Army and NATO. The radio provides dual UHF capability for CV based TACAIR; VHF AM for close air support and maritime channels; VHF AM for air traffic control; and EP capabilities using the Air Force developed waveforms (UHF-AM HAVEQUICK I and II), and the Army developed waveform (VHF-FM SINCGARS). The AN/ARC-210 can be controlled by either a remote control unit or via a MIL-STD-1553 multiplex data bus. The EP parameters and single channel preset informatio can be loaded via a CYZ-10 Data Transfer Device (DTD). The fill information can consist of word-of-the-day for HAVEQUICK; the KGV-10 transec variable, hopsets and frequency lock-out tables for SINCGARS.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

The AN/ARC-210 Common OSIP provides B-kits and common logistics requirements to multiple aircraft. Individual platform OSIPs include non-recurring engineering, integration, A-kit manufacturing and unique aircraft logistic requirements. Full rate Production Decision was approved in May 1994. Corresponding platform OSIP numbers: C-2A OSIP 24-94; AH-1W OSIP 3-93; AV-8B OSIP 23-93; CH-46E OSIP 9-92; F/A-18C/D OSIP 39-92; K/C-103F/R/T OSIP 2-92; UH-1N OSIP 15-92; CH/MH-53D/E OSIP 11-92.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment	410	24.6	454	29.6	265	17.2	334	17.0	307	17.1	373	22.2	304	20.5	210	15.8	162	13.5	112	8.3	208	17.7	3,139	203.3
Installation Equipment N/R								1.3		0.5		2.0		0.1		0.1		0.1		0.1				4.3
Engineering Change Orders						0.2		0.8		6.7		6.6		1.8		0.6		0.8						17.7
Data		0.3		0.4		0.2		0.8		0.8		0.8												3.4
Training Equipment	16	1.2	2	0.1		*	2	0.1	2	0.1	2	0.3												1.9
Support Equipment		6.1		0.2		0.5		1.2		0.4		0.4												8.8
ILS		1.1		0.5		0.8		1.9		1.2		1.5		0.8		0.7		0.7						9.1
Other Support		1.3		0.9		2.9		3.7		3.6		3.5		2.6		1.7		2.1		0.7				22.9
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT		**34.6**		**31.8**		**21.8**		**26.7**		**30.5**		**37.2**		**25.8**		**18.9**		**17.2**		**9.1**		**17.7**		**271.4**

Note 1: Totals do not add due to rounding .

Note 2: The "*" represents any value under $50k.

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Crash Survivable Flight Incident Recorders (CSFIR) (OSIP 43-94)

MODELS OF SYSTEM AFFECTED: AV-8B, F/A-18, VH-3D/60N, C/T-130, C-2, C-12, T-39, U/VP-3 TYPE MODIFICATION: COMMON AVIONICS MODIFICATION

DESCRIPTION/JUSTIFICATION:

Chief of Naval Operations letter, Ser N8/5U640779 of 2 May 1995, directed the CSFIR implementation policy on Naval Aircraft. This modification will provide procurement and integrated logistics support of a Navy common CSFIR. The CSFIR will be a crash hardened recorder of selective aircraft systems and position parameters to be used in support of aircraft mishap and incident investigations.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Commercial off-the-shelf and non-developmental systems will be procured to the maximum extent feasible via open competition. Contract award is planned for Fiscal Year 1998 for the AV-8B and the F/A-18

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits (see note (3))	64	0.5	20	2.5			69	8.2			8	0.1	59	1.4	89	2.5	89	2.5	49	1.8			447	19.6
Installation Kit - Unit Price		*		0.1				0.1				*		*		*		*		*				
Installation Kits N/R	7	4.2		7.1		3.8		2.2	5	2.3		1.5											12	21.0
Installation Equipment	69	3.8	27	0.6					5	0.1	41	1.0	92	2.4	122	3.2	122	3.3	82	2.2			560	16.7
Installation Equipment N/R		0.4				0.4				7.4		0.3												8.5
Engineering Change Orders																								
Data		0.3						0.3		0.3		0.4		0.3										1.6
Training Equipment	2	0.1						0.1				0.5		0.4									2	1.1
Support Equipment		0.1		0.1		0.1		0.5				0.9		0.6		0.2		*		0.1				2.5
ILS								0.1		0.5		0.2		0.4		0.2		0.2		0.3				1.8
Other Support		*		0.3		0.5		1.3		1.7		1.4		2.1		1.3		0.5		1.6				10.7
Interim Contractor Support																								
Installation Cost	1	*	19	3.8			19	1.3	112	3.5			10	0.1	59	0.9	89	1.5	89	1.5	49	1.0	447	13.5
TOTAL PROCUREMENT		**9.4**		**14.3**		**4.8**		**14.0**		**15.8**		**6.3**		**7.7**		**8.2**		**8.0**		**7.5**		**1.0**		**96.9**

Note 1: Totals do not add due to rounding .

Note 2: The "*" represents any value under $50k.

Note 3: The A Kits and the B Kits are currently combined in A Kit line - contract is not definitized and breakout between two kits is not currently known.

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: AV-8B, F/A-18, VH-3D/60N, C/T-130, C-2, C-12, T-39, U/VP-MODIFICATION TITLE: Crash Survivable Flight Incident Recorders (CSFIR) (OSIP 43-94)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor or USN Depot Field Modification Team**

ADMINISTRATIVE LEADTIME: two months Months

PRODUCTION LEADTIME: 12 months ** Months

CONTRACT DATES: FY 1997: **3/97** FY 1998: 10/97 FY 1999: 10/98

DELIVERY DATE: FY 1997: **3/97** FY 1998: 10/98 FY 1999: 10/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY (91) kits	**1**	*	**19**	**3.8**			**10**	**0.3**	**52**	**1.3**			**2**	*									**84**	**5.4**
FY 1997 (69) kits							**9**	**1.0**	**60**	**2.2**													**69**	**3.2**
FY 1998 (5) kits (val/ver) (Note(1)																								
FY 1999 (8) kits													**8**	**0.1**									**8**	**0.1**
FY 2000 (59) kits															**59**	**0.9**							**59**	**0.9**
FY 2001 (89) kits																	**89**	**1.5**					**89**	**1.5**
FY 2002 (89) kits																			**89**	**1.5**			**89**	**1.5**
FY 2003 (49) kits																					49	1.0	**49**	**1.0**
To Complete ( ) kits																								
TOTAL	1	*	19	3.8		*	19	1.3	112	3.5			10	0.1	59	0.9	89	1.5	89	1.5	49	1.0	447	13.6

FY96 & prior kits do not equal total because quantity buy includes 82 "A" kits, 2 trainers & 7 val/ver kits (91) minus 7 val/ver kits which are not installed.

Note (1) Val/Ver kits - to be installed with NRE.

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In						37	38	38	38						4	3	3	14	15	15	15	22	22	22	23
Out						37	38	38	38						4	3	3	14	15	15	15	22	22	22	23

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	22	22	22	23	49	447
Out	22	22	22	23	49	447

Installation schedule quantities are not alligned in the same FY as funding since the CSFIR requirement was funded with prior year funds.

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Embedded Global Positioning System/Inertial Navigation System (EGI) (OSIP 38-95)

MODELS OF SYSTEM AFFECTED: AH-1W, EA-6B, F/A-18A/B/C/D, F-14A/B

TYPE MODIFICATION: COMMON AVIONICS MODIFICATION

DESCRIPTION/JUSTIFICATION:

EGI is a Tri-Service program. EGI is a small, reliable, light weight unit which contains full Precise Position Service GPS on a single standard electronic module, plus a state-of-the-art Ring Laser Gyro inertial navigation system. A single EGI unit replaces both an inertial system such as CAINS and a GPS receiver such as the 3A or MAGR, reducing weight, volume and power consumption. EGI shall provide three navigation solutions: GPS only navigation solution, inertial navigation solution, and a blended GPS/INS navigation solution. The blended solution shall not degrade the GPS only solution, nor shall the EGI performance be degraded below the inertial only performance.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

EGI is a non-developmental item. Milestone III was approved in March 1994..

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment			29	2.0	189	14.3	228	15.9	242	18.4	163	13.5	50	4.1	52	4.7	20	1.8			81	8.0	1,054	82.6
Installation Equipment N/R								0.2		0.3		0.5				0.3		0.3						1.6
Engineering Change Orders																								
Data				0.4				0.1		0.2		0.2		0.1		0.1		0.1						1.2
Training Equipment			2	0.2			1		1	0.1													4	0.2
Support Equipment																								
ILS				0.2				0.3		0.8		1.0		0.1		0.2		0.2		0.2				2.9
Other Support				0.9		0.2		1.8		4.5		2.6		0.2		0.6		1.0		0.7				12.4
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT		*		**3.5**		**14.5**		**18.3**		**24.2**		**17.8**		**4.6**		**5.9**		**3.3**		**0.8**		**8.0**		**101.0**

Note 1: Totals do not add due to rounding .

Note 2: The "*" represents any value under $50k.

Note 3: FY 97 trainer was NAVICP funded

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: AN/ARC-182 REUSE MODIFICATION PROGRAM (OSIP 40-95)

MODELS OF SYSTEM AFFECTED: P-3C, S-3B, SH-2G

TYPE MODIFICATION: COMMON AVIONICS MODIFICATION

DESCRIPTION/JUSTIFICATION:

The AN/ARC-182 Modification Program will utilize previously procured AN/ARC-182 systems which will become available as the AN/ARC-210 system is retrofitted into Navy aircraft. Thje replaced AN/ARC-182 will be upgraded to meet the configuration needs of current AN/ARC-182 users vice procurement of a new system. The AN/ARC-182 modification will include receiver-transmitter and remote control units. Mounts, filters, switching units, and antennas will be procured by the platform OSIP to complete the aircraft AN/ARC-182 configuration requirements.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

AN/ARC-182 is in production. Modified systems will be provided GFE to user platforms to meet aircraft installation requirements

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits																								
Installation Kit - Unit Price																								
Installation Kits N/R																								
Installation Equipment			33	0.2	30	0.2		*	14	*	21	*	6	*	10	*					110	0.3	224	0.8
Installation Equipment N/R																								
Engineering Change Orders																								
Data				0.1																				0.1
Training Equipment																								
Support Equipment																								
ILS																								
Other Support				0.3		0.1		0.3		0.3		0.2		0.2		0.2		0.1		0.1				1.8
Interim Contractor Support																								
Installation Cost																								
TOTAL PROCUREMENT		*		**0.6**		**0.2**		**0.3**		**0.4**		**0.3**		**0.2**		**0.2**		**0.1**		**0.1**		**0.3**		**2.7**

Note 1: Totals do not add due to rounding .

Note 2: The "*" represents any value under $50k.

Exhibit P-3a

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Ground Proximity Warning System (GPWS CAT I) (OSIP 14-97)

MODELS OF SYSTEM AFFECTED: KC-130T/F/R, VP-3, C-2A

TYPE MODIFICATION: COMMON AVIONICS MODIFICATION

DESCRIPTION/JUSTIFICATION:

The Ground Proximity Warning System (GPWS), is a low-cost, highly reliable stand-alone commercial set built to provide reliable integration of on-board sensor data and provides an aural warning for excessive descent rate, terrain closure rate, inadvertent descent below glideslope and descent below minimum. Commercial GPWS implementation has shown a demonstrated dramatic reduction in controlled flight into terrain incidents.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

GPWS CAT-I OPEVAL (P-3C) was successfully completed October 1993. USAF retrofitting all C-130 T/M/S with same unit as part of Autopilot Upgrade Program. USAF OPEVAL GPWS in C-130.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits							4	0.1	28	0.6	41	0.9	44	1.0	21	0.7							138	3.2
Installation Kit - Unit Price								*		*		*		*		*								
Installation Kits N/R								1.0		0.5		0.7		2.0		0.5								4.7
Installation Equipment							4	0.2	28	1.4	41	2.1	44	2.4	20	1.1	1	0.1					138	7.3
Installation Equipment N/R																								
Engineering Change Orders																								
Data								*		*		0.1		0.3										0.5
Training Equipment										0.4		0.4		1.0										1.8
Support Equipment																								
ILS										*		0.4												0.4
Other Support								0.5		0.3		1.8		3.0		1.6		0.4		0.2				7.8
Interim Contractor Support																								
Installation Cost									4	0.2	28	0.9	41	1.2	44	1.4	20	0.7	1	0.1			138	4.5
TOTAL PROCUREMENT								**1.9**		**3.4**		**7.2**		**10.8**		**5.2**		**1.2**		**0.3**				**30.1**

Note 1: Totals do not add due to rounding .

Note 2: The "*" represents any value under $50k.

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: KC-130T/F/R

MODIFICATION TITLE: Ground Proximity Warning System (GPWS) (OSIP 14-97)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION: **Contractor Field MOD Team.**

ADMINISTRATIVE LEADTIME: 3 Months

PRODUCTION LEADTIME: 11 Months

CONTRACT DATES: FY 1997: 1/97 FY 1998: **12/97** FY 1999: **12/98**

DELIVERY DATE: FY 1997: **12/97** FY 1998: **12/98** FY 1999: **12/99**

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 (4) kits									**4**	**0.2**													**4**	**0.2**
FY 1998 (28) kits											**28**	**0.9**											**28**	**0.9**
FY 1999 (41) kits													**41**	**1.2**									**41**	**1.2**
FY 2000 (44) kits															**44**	**1.4**							**44**	**1.4**
FY 2001 (21) kits																	**20**	**0.7**	**1**	**0.1**			**21**	**0.8**
FY 2002 ( ) kits																								
FY 2003 ( ) kits																								
To Complete ( ) kits																								
TOTAL		*		*		*		*	4	0.2	28	0.9	41	1.2	44	1.4	20	0.7	1	0.1		*	138	4.5

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In								2	2	7	7	7	7	10	10	10	11	11	11	11	11	5	5	5	5
Out								2	2	7	7	7	7	10	10	10	11	11	11	11	11	5	5	5	5

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	1					138
Out	1					138

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Ground Proximity Warning System (GPWS CAT III) (OSIP 17-98)

MODELS OF SYSTEM AFFECTED: C/MH-53, H-46

TYPE MODIFICATION: COMMON AVIONICS MODIFICATION

DESCRIPTION/JUSTIFICATION:

The Ground Proximity Warning System (GPWS), is a low-cost, highly reliable stand-alone commercial set built to provide reliable integration of on-board sensor data and provides an aural warning for excessive rate of descent, terrain closure rate, inadvertent descent below ILS glideslope and descent below minimum. Commercial GPWS implementation has demonstrated dramatic reduction in controlled flight into terrain (CFIT) accidents.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

GPWS CAT III completed Milestone II in July 1993. DT was fully successful in May 1996. OPEVAL was successfully completed in August 1996.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits									26	0.3	77	0.9	92	1.1	86	1.0	94	1.2	65	0.8	42	0.6	482	5.8
Installation Kit - Unit Price										*		*		*		*		*		*		*		
Installation Kits N/R										0.7		0.7		0.1										1.4
Installation Equipment									25	1.2	74	3.7	92	4.9	86	4.7	94	5.3	65	3.8	42	2.5	478	26.0
Installation Equipment N/R												4.7		3.4		2.5								10.6
Engineering Change Orders																								
Data										0.3		0.3		*										0.7
Training Equipment									1	0.3	3	0.9									.		4	1.2
Support Equipment										*														0.0
ILS										0.2		0.6		0.1		0.1								1.0
Other Support										1.7		1.7		0.7		0.3		0.4		0.2		0.2		5.2
Interim Contractor Support																								
Installation Cost											26	0.4	77	1.3	92	1.6	86	1.6	94	1.8	107	2.1	482	8.8
TOTAL PROCUREMENT										**4.7**		**13.9**		**11.5**		**10.3**		**8.4**		**6.6**		**5.4**		**60.7**

Note 1: Totals do not add due to rounding .

Note 2: The "*" represents any value under $50k

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C/MH-53, H-46

MODIFICATION TITLE: Ground Proximity Warning System (GPWS III) (OSIP 17-98)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

ADMINISTRATIVE LEADTIME: 2 Months

PRODUCTION LEADTIME: 12 Months

CONTRACT DATES: FY 1997: FY 1998: 12/97 FY 1999: 12/98

DELIVERY DATE: FY 1997: FY 1998: 12/98 FY 1999: 12/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 (26) kits											**26**	**0.4**											**26**	**0.4**
FY 1999 (77) kits													**77**	**1.3**									**77**	**1.3**
FY 2000 (92) kits															**92**	**1.6**							**92**	**1.6**
FY 2001 (86) kits																	**86**	**1.6**					**86**	**1.6**
FY 2002 (94) kits																			**94**	**1.8**			**94**	**1.8**
FY 2003 (65) kits																					65	1.3	**65**	**1.3**
To Complete ( ) kits																					42	0.9	42	0.9
TOTAL											26	0.4	77	1.3	92	1.6	86	1.6	94	1.8	107	2.1	482	8.8

Installation Schedule

	FY 1996	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In										6	6	7	7	17	20	20	20	23	23	23	23	21	21	22	22
Out										6	6	7	7	17	20	20	20	23	23	23	23	21	21	22	22

	FY 2003				To	
	1	2	3	4	Complete	TOTAL
In	23	23	24	24	107	482
Out	23	23	24	24	107	482

Exhibit P-3a **INDIVIDUAL MODIFICATION**

MODIFICATION TITLE: Collision Avoidance System (CAS)

MODELS OF SYSTEM AFFECTED: C-2, C-130T, VP-3, KC-130

TYPE MODIFICATION: COMMON AVIONICS MODIFICATION

DESCRIPTION/JUSTIFICATION:

CNO memorandum of 12 June 1997 directed CAS implementation policy on Naval Aircraft. This modification will provide procurement and logistics support of a Navy common CAS. The CAS will provide a display of situation awareness to aid in the prevention of midair mishaps.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Commercial off-the-shelf and non-developmental systems will be procured to the maximum extent feasible via the GSA schedule or open competition.

FINANCIAL PLAN (TOA, $ in Millions):

	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
RDT&E																								
PROCUREMENT																								
Installation Kits											1	*	11	0.2	34	0.7	50	1.1	47	1.0			143	3.0
Installation Kit - Unit Price												*		*		*		*		*				
Installation Kits N/R												1.3		2.6										3.9
Installation Equipment											1	0.1	11	1.0	34	3.0	50	4.6	47	4.4			143	13.0
Installation Equipment N/R												0.3		0.8										1.0
Engineering Change Orders																								
Data												0.2		0.7		0.2		0.1						1.2
Training Equipment												0.1		0.6		0.2		0.2						1.2
Support Equipment												*		0.5		0.2		0.2						0.9
ILS												0.1		0.7		0.2		0.2						1.2
Other Support												0.4		1.6		0.9		1.0		0.3				4.2
Interim Contractor Support																								
Installation Cost											1	*	11	0.3	34	0.9	50	1.3	47	1.3			143	3.8
TOTAL PROCUREMENT										*		**2.6**		**8.9**		**6.4**		**8.6**		**7.0**		*		**33.5**

Note 1: Totals do not add due to rounding .

Note 2: The "*" represents any value under $50k

Exhibit P-3a

Exhibit P-3a

MODELS OF SYSTEMS AFFECTED: C-2, C-130T, VP-3, KC-130

MODIFICATION TITLE: Collision Avoidance System (CAS)

INSTALLATION INFORMATION:

METHOD OF IMPLEMENTATION:

ADMINISTRATIVE LEADTIME: Months

PRODUCTION LEADTIME: ? Months

CONTRACT DATES: FY 1997: FY 1998: FY 1999: 12/98

DELIVERY DATE: FY 1997: FY 1998: FY 1999: 12/99

($ in Millions)

Cost:	Prior Years		FY 1995		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		To Complete		TOTAL	
	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$	Qty	$
FY 1996 & PY ( ) kits																								
FY 1997 ( ) kits																								
FY 1998 ( ) kits																								
FY 1999 (1) kits											1	*											1	0.0
FY 2000 (11) kits													11	0.3									11	0.3
FY 2001 (34) kits															34	0.9							34	0.9
FY 2002 (50) kits																	50	1.3					50	1.3
FY 2003 (47) kits																			47	1.3			47	1.3
To Complete ( ) kits																								
TOTAL											1	*	11	0.3	34	0.9	50	1.3	47	1.3		*	143	3.8

Installation Schedule

	FY 1996 & Prior	FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
In													1			5	6		11	11	12	12	12	12	14
Out													1			5	6		11	11	12	12	12	12	14

	FY 2003				To Complete	TOTAL
	1	2	3	4		
In	11	12	12	12		143
Out	11	12	12	12		143